

THEORY OF MIND AND PROSOCIAL SKILLS IN ADOLESCENTS IN PROTECTIVE CARE

KORUMA VE BAKIM ALTINDAKİ ERGENLERDE ZİHİN KURAMI VE PROSOSYAL BECERİLER

Duygu AKAGÜNDÜZ EĞRİKİLİNÇ

Ministry of Family and Social Services, Child Development Specialist,
duygu.egrikilinc@gmail.com

Selcuk University, Child Development, PhD candidate

İzmir / Türkiye

Konya / Türkiye

ORCID: 0000-0002-1545-4588

Professor Doctor Kezban TEPELİ

Selcuk University, Child Development, ktepel@selcuk.edu.tr

Konya / Türkiye

ORCID: 0000-0003-3403-3890

Abstract

Theory of Mind (ToM), in its most general form, can be defined as being aware that other people have feelings and thoughts that are different from one's own. Understanding the feelings and thoughts of others allows a person to interpret messages from them correctly, thus leading to socialization and positive interpersonal relations. All of this results in prosocial behaviors such as helping others and doing something for their benefit, mutual aid, sharing, solidarity, and cooperation because it is almost impossible to help the other person appropriately without understanding what they need.

The main purpose of this study is to examine what kind of relationship exists between the ToM and prosocial skills. Our goal with this study was to highlight how the social environment affects development by working with 100 children who were in protective care during adolescence, a time when they are experiencing many social and cognitive changes in their lives.

We collected the data using the Faux Pas Recognition Test (FPRT) and the Adolescent Prosociality Scale and concluded that there is a positive significant relationship between mind theory skills and prosocial skills and that mind theory skills are a significant predictor of prosocial skills.

The results we obtained also prove that mind theory skills are social skills as well as cognitive ones.

Keywords: Theory of Mind, Adolescence, Prosocial skills, Institutional care, Protective care

Özet

Zihin kuramı, en genel haliyle başkalarının duygu ve düşüncelerinin farkında olunması şeklinde tanımlanabilir. Başkalarının duygu ve düşüncelerinin anlaşılması, ondan gelen mesajların doğru anlamlandırılmasına dolayısıyla sosyalleşmeye ve olumlu kişilerarası ilişkilere sebep olur. Tüm bunlar, başkalarına yardım etme ve onlar yararına bir şeyler yapma, yardımlaşma, paylaşma, dayanışma, iş birliği gibi prososyal davranışları da beraberinde getirir; çünkü karşıdaki kişinin neye ihtiyacı olduğunu anlamadan ona uygun şekilde yardım edebilmek neredeyse imkansızdır.

Bu araştırmanın temel amacı, zihin kuramı ve prososyal beceriler arasında nasıl bir ilişki olduğunu incelemektir. Araştırma kapsamında, sosyal ve bilişsel anlamda birçok değişimin yaşandığı ergenlik döneminde olan ve korunma altında olan 100 ergen ile çalışılarak sosyal çevrenin gelişim üzerindeki etkileri vurgulanmak istenmiştir.

Veriler Gaf Tanıma Testi ve Ergen Prososyallik Ölçeği ile toplanmış olup, zihin kuramı becerileri ile prososyal beceriler arasında pozitif yönde anlamlı bir ilişki olduğu ve zihin kuramı becerilerinin prososyal becerilerin anlamı bir yordayıcısı olduğu sonucuna ulaşılmıştır.

Aynı zamanda bu çalışmadan elde edilen sonuçlar, zihin kuramı becerilerinin, bilişsel olduğu kadar sosyal bir beceri olduğunun da kanıtı niteliğindedir.

Anahtar Kelimeler: Zihin kuramı, Ergenlik, Prososyal beceri, Kurum bakımı, Koruma ve bakım

INTRODUCTION

Theory of mind involves being aware of one's own and others' mental processes, understanding that others' thoughts may be different from one's own, and the skill of understanding how others think and construing how these thoughts might influence behavior. Individuals begin to understand situations related to themselves and others from a very early age, and their mind theory skills improve as their mental capacity increases (Feldman, 2021; Santrock, 2021).

As children get older, their ToM skills become more complex, although this is dependent on development and maturation. Studies conducted in different cultures have reported that mind theory skills are acquired at similar times and can be universal (Joshi & MacLean, 1994; Tardif & Wellman, 2000; Callaghan et al. 2005).

The theory of the mind develops with the child first being able to understand and predict the mental state of others at the age of three to four. This is known as "first-order false belief." By the age of five to six, the child develops "second-order false belief" skills, meaning they can understand what others think of third persons, understand intimation, and perceive metaphor and irony. It continues with children understanding gaffes and faux pas by the age of nine or 10 (Kaysılı 2014; Sarı 2014; Özen, 2015). Developmentally speaking, understanding faux pas is a more advanced ToM skill and develops between the ages of nine and 11 with faux pas not being fully understood before these ages (Baron-Cohen et al. 1999; Değirmencioğlu, 2008). We can say, therefore, that ToM begins to develop in infancy and continues to develop by becoming more complex in middle childhood and adolescence.

Theory of mind requires a higher level of mental representation during adolescence (Miller, 2013). Studies suggest that ToM shows an improvement in adolescence compared to childhood and in some performances compared to adulthood (Meinhardt-Injact et al. 2020). Adolescence is, therefore, considered to be a development period that needs to be assessed in terms of ToM. The majority of studies on children's ToM focus on the preschool period, but significant improvements in understanding the thoughts of others occur after this period. These changes can be listed as learning that others can conceal their thoughts and feelings without having to reveal them and that people can behave differently than they are to make a better impression on others (Heyman & Legare, 2005; Harter, 2006; Wellman, 2011). Such skills are related to a child's abstract thinking skills improving in adolescence. With the development of multidimensional thinking, adolescents no longer treat an event in one dimension; rather, they can evaluate it from different perspectives.

Furthermore, their sense of humor develops, and they can distinguish whether what is said is genuine or sarcastic and its implications. Adolescence is known to be a period of conflicting emotions, one in which different reactions can be given to the same situation. One developmental feature of this period is that a person worries a lot about what other people think. This in turn improves one's ability to understand others and take a perspective (Flavell & Miller, 1998; Kuhn, 2008, 2009; Bee & Boyd, 2020).

Taking a perspective is instrumental in a child developing positive social or antisocial behavior (Santrock, 2021). At this point, we can say that positive social behaviors, known as prosocial behaviors, may be related to one's ability to understand a perspective because noticing someone who needs something requires being on the same page emotionally as that person and having the same perspective. The ability to take others' points of view and understand their feelings and thoughts is crucial in increasing prosocial behaviors.

Theory of mind serves to explain the ideas, beliefs, desires, and behaviors of others (Bee & Boyd, 2020). As it develops, individuals experience very important mental and cognitive processes such as explaining why others behave in certain ways and making predictions about it, and this contributes greatly to their social development (Langdon & Coltheart, 2001). Understanding that other people have different beliefs, thoughts, and feelings and can act accordingly helps strengthen one's social development (Değirmencioglu, 2008). Mind theory is used together with such concepts as mentalization, mental representation ability, mind reading, predicting mental states, and taking a perspective (Baron-Cohen & Wheelwright, 2004; Brüne & Brüne-Cohrs, 2006; Hughes & Ensor, 2008; Berk, 2013) and although it might appear to be a cognitive development skill, it is actually a situation closely related to social-emotional development (Astington, 2003). This is because people unconsciously and spontaneously make inferences from the other person's attitudes and words when establishing social relations. We can usually understand the other person's thoughts or what they think about us from these unconscious inferences and reflect this in our conversation (Yıldız, 2019). Individuals with low ToM skills have problems understanding the thoughts of others, empathy, and communication, and this reflects poorly on their social circles and relationships (Kornreich et al. 2016).

Children with good ToM skills succeed in social interactions. They are also very good at making sense of verbal and non-verbal cues and communicating with peers (Flavell, 2004; Erdem & Ege, 2011). These data suggest that ToM development positively affects a child's social development. Social skills matter for individuals to adapt to the society they live in. They include such skills as being in harmony with one's surroundings, problem-solving, planning, cooperation, self-control, responsibility, initiating and maintaining relationships, expressing emotions appropriately, working as a team, sharing, and helping (Durualp, 2014). These skills are underpinned by positive interpersonal communication and positive social behaviors. Positive social behaviors or prosocial behaviors include sharing, helping, empathy, and cooperation. What they all have in common is that they are pro-social, done for the benefit of the community, and do not have a personal agenda (Artan & Bayhan, 2008; Berk, 2013; Furtana, 2018). Adolescence is the period when individuals exhibit such behaviors and socialize the most. This is because adolescence is the period when the most change is experienced. In addition to physical and biological changes people undergo, the social environment can also change radically, groups of friends become different, relationships with family and friends become different, and to top it all, people experience many emotional changes. It is a period in which many things start to differ and adapting to these changes is vital for social development and social skills (Steinberg, 2017).

Back when studies on ToM were just beginning, researchers stated that the environment influenced ToM development (Wimmer & Perner, 1983; Swettenham, 1996). Later findings indicate that interactions with adults, social conversations about mental states, child-rearing attitudes, and parenting styles, in short, social experiences within the family affect children's ToM (Ruffman et al. 2002; Guajardo & Watson, 2002; Lohmann & Tomasello, 2003; Symons et al. 2005; Pears & Moses, 2003). Likewise, some studies show a similarity between prosocial behaviors in the family and the prosocial behaviors of children (Salikutluk, 2017), others that prosocial behaviors develop when a loving warm environment is established within the family and children are guided toward such behaviors (Grusec, 1992; Eisenberg & Murphy, 1995; Eisenberg & Fabes, 1998; Grusec et al. 2013). Other studies report that the quality of the parent-child relationship, a balanced commitment that allows both intimacy and autonomy in children's empathy and pro-social behavior development, contributes to empathy and prosocial behaviors in adolescents (Yoo et al. 2013).

All this suggests that the social environment matters for the development not only of ToM but also of prosocial skills. It was here we believed that assessing both the prosocial and ToM skills of adolescents in institutional care would provide an important example for the social environment variable.

Theory of mind does not stop developing in childhood; rather, it continues throughout adolescence and young adulthood (Gabriel et al. 2021). Social environments affect ToM more and more as children continue to grow (Huges & Devine, 2015). While ToM helps children make and maintain friendships, it also paves the way for prosocial actions (Banerjee et al. 2011). Prosocial behaviors play an important role in establishing social interaction and maintaining it positively. Positive social behaviors such as helping, cooperating, sharing, and consoling require that one understands the needs, desires, and beliefs of others. We found foreign and domestic studies that examine the relationship between children's social competencies, positive social behaviors, and ToM but we observed that very few of them focus on adolescent children and that existing studies mostly address the preschool period (Watson et al. 1999; Capage & Watson 2001; Yağmurlu et al. 2005; Akbaş, 2011; Sarı, 2011; Gözın Kahraman 2012; Weimer et al. 2021). Yet, ToM continues to develop after the preschool period and requires more advanced representations. Many skills and changes that develop especially in the cognitive and social areas during adolescence provide an understanding of these more complex mental states (Ertuğrul-Yaşar, 2022). As such, we believe that this study will help to close the gap here.

When viewed with respect to children in institutional care, this study is important for identifying the developmental levels of children in protective care and making intervention programs accordingly. Although family or foster care is ideal for a child, institutions cannot be abolished. This is because children all over the world experience hardships, including emotional and physical neglect, poverty, war, physical and sexual abuse, family dysfunction, and mental health problems (Hauser, 2021), and many children are taken into protective care for just such reasons. Adolescents staying in boarding establishments have more social-emotional and behavioral problems than other young people in society, higher mental problems, lower academic achievement, and fewer social support networks (Campos et al. 2019). This is why work must be done to improve the care facilities of institutions. But this requires knowing children's developmental needs and their existing potential.

Various researchers explain the causes of developmental disabilities in institutional care as insecure attachment and insufficient stimulation as a result of leaving the primary caregiver (Morison et al. 1995; Morison et al. 1995b; Gunnar, 2001; Maclean, 2003), others mention the importance of interaction with an adult (Hawk, 2013; Muhamedrahimov et al. 2004; Akagündüz and Aksoy, 2020). Studies have shown that the lower sensitivity shown by institutional caregivers compared to parents and discontinuity in care arrangements can lead to problems in children's development. They state that children in 24-hour boarding institutions are exposed to more than 50 caregivers and other personnel and that given these figures, interaction between the caregiver and the child may be limited and seldom (Smyke et al. 2003; Hawk, 2013).

Studies that associate developmental problems in institutions with the lack of a secure attachment figure for children say that while caregivers in institutions serve as the children's attachment figure, the children there usually cannot fully realize a secure attachment (Jullian, 2015). The attachment patterns established in the first years of life affect the establishment of healthy relationships and personal-social life later on. Children start to develop mental representations toward other people and the world, starting with the attachment relationship they establish with their caregiver at a younger age (Santrock, 2021). Öztürk et al. (2020) found a strong relationship between ToM and attachment in their study of adolescent children. Similarly, children with a secure attachment were found to be more successful in false belief tests, and attachment was found to influence ToM (Arranz et al. 2002). There are also studies showing that maternal warmth and interaction predict positive social behaviors (helping and sharing) and that there is a positive relationship between ToM skills and positive social behaviors (Yağmurlu et al. 2005). In addition, the timing of a child's exposure to institutional care, i.e., age, was also associated with the risks of experiencing developmental problems (Beckett et al. 2002; Krepper et al. 2007; Stevens et al. 2008). Other studies report that early deprivation leads to deficiencies in mind theory skills and one's ability to take a perspective (Pollak et al. 2010). Images of the prefrontal striatum and anterior cingulate, which are the centers where ToM skills are processed in the brain, resemble images of the early childhood brain under intense stress (Burgess & Stuss, 2017; Gunnar, 2019). The presence of the attachment figure prevents increases in the stress hormone cortisol. Considering institutionalized children, we can say that high levels of cortisol also affect ToM skills by affecting the specified function centers of the brain (Gunnar, 2017). Based on all this information, one might expect children living in protective care in an institution to show atypical development in behaviors that involve both ToM and prosocial skills considering their specified developmental characteristics. Yet, if supportive activities are to be provided for children living in protective care within the current system, we need to identify the deficiencies and know the differences so we can carry out preventive interventions.

In addition to all these, there are some behaviors that society expects of adolescents, regardless of whether they are with their family or in an institution. These are in particular their ability to cope with the changes of the period they are in, to gain independence, to have adult-level thinking skills, to get on well with their peers, to show academic achievement, and to gain the characteristics that will guide their career choices and adult roles. Considering that these children are going to leave the institution at the end of adolescence, start to live by themselves in society, and establish a new social environment, what will help them pursue healthy future lives is being aware of the ToM and prosocial skills that form the basis of human relations, identifying their strengths and weaknesses, their blending with the society, and the social relations they will establish in their future lives.

This study has limitations as well as important points. Since the prosocial skills included the adolescents' assessments, the findings were limited to the responses of the participants. Yet, measuring prosocial behavior can be difficult. The person's own assessment may not always yield reliable results and the person may have a tendency to misrepresent him/herself. The fact that a single scale was used to evaluate mental theory skills may have had a limiting effect on assessing these skills as a whole. But after reviewing the relevant literature as it stands, we believe that this study may pave the way for future research considering that we found no study assessing the ToM skills of children in institutional care.

When we reviewed the international literature, we found a study conducted in Iran in 2021 on the ToM skills of children in institutional care. The study compared the ToM skills of preschool children staying in an institution with those of children living with their families and reported that the ToM skills of children staying in the institution were below the normal group. The study also reported a significant relationship between age and intelligence and ToM. The study drew attention to intervention programs that allow socialization in institutions (Nesayen & Pursalemian, 2021).

Another study in which institutional life was associated with deficiencies in mind theory and perspective-taking skills emphasized the importance of early childhood (Pollak et al. 2010). As a result, we believe that this study constitutes an important milestone in terms of the sample group. We also think that this study will contribute greatly to the literature with its data on how the social environment affects human development and because we conducted it with children raised in an institution and separated to some extent from society.

We conducted this study to determine the ToM skills and prosocial skills of children aged 13-18 who were in protective care during adolescence and to examine the relationship between these two variables and seek answers to the following research questions:

- 1- What ToM skills do adolescents in protective care have according to the results of the faux pas test?
- 2- Do the ToM skills of adolescents in protective care differ according to age and/or gender?
- 3- What prosocial skills do adolescents in protective care have?
- 4- Do the prosocial skills of adolescents in protective care differ according to age and/or gender?
- 5- What kind of relationship is there between the ToM skills and the prosocial skills of adolescents in protective care?
- 6- Do the ToM skills of adolescents in protective care predict their prosocial behaviors?

METHOD

We obtained permission from the Selcuk University Health Sciences Faculty Non-interventional Clinical Research Ethics Board before we began the study. After the approval of the Ethics Committee, official correspondence was made with the Coordination Center for Children's Homes where children under protection stay and the Ministry of Family and Social Services to carry out the research. The work started with the "Approval" of the Ministry of Family and Social Services Education and Publication Department. At the same time, all adolescents participating in the research signed an informed consent form. The relevant ministry also gave permission to publish this research.

After obtaining the necessary permissions, the number of adolescents in the 13-18 age group was determined by contacting the Children's Homes Coordination Center and the study group was formed. We included 214 adolescents between the ages of 13-18 registered at the center. However, we learned that 32 adolescents left the institution after coming of age or were reunited with their families after vocational studies. When we learned that 34 of the remaining 182 adolescents had a disability medical board report based on various diagnoses, we had to exclude them from the study. The other 48 adolescents did not want to sign the informed consent form required for the study and refused to participate in the study. The study was completed with the remaining 100 adolescents.

There were 47 female and 53 male adolescents in the participant group, including 19 13-year-old, 25 14-year-old, 20 15-year-old, 16 16-year-old, 14 17-year-old and 6 18-year-old adolescents. Since the ages of the participant group were not homogeneously distributed, they were evaluated in two groups as pre-adolescence (13-15 years) and late adolescence (15-18 years). Ethnicity was not considered among the participants.

The researcher collected the data by conducting individual interviews in the children's home where the adolescents who agreed to participate in the study were staying. The researcher explained the purpose and subject of the study to the adolescents and then gave them a voluntary consent form to read. Those adolescents who agreed to participate signed the consent form and were then given the Adolescent Prosociality Scale, one of the data collection tools, to read and fill in. The researcher then read the Faux Pas Recognition Test Stories to the participant adolescent, asked questions about each story, and wrote down the answers.

The SPSS 22 package program was used to analyze the research data. The probability value of the study was taken as $p < 0.05$. The Kolmogorov-Smirnova normality test showed that the skewness and kurtosis coefficients were between +1 and -1, meaning that the data set showed normal distribution (Hair et al. 2013). The t-test was used to test whether the difference between the groups was significant, Pearson Correlation Analysis was used to determine the relationship between the two variables, and Simple Linear Regression Analysis was used to measure the effect of one variable on the other (Büyüköztürk, 2021).

Data Collection Tools

1. *Faux pas recognition test*

Baron-Cohen et al. (1999) created the "Faux Pas Recognition Test" and Şahin et al. (2020) adapted it to Turkish. The test has 20 stories -- 10 faux pas stories and 10 control stories -- placed randomly. The researcher reads each story and the participant is expected to answer four questions about the story. The researcher records and scores the participant's answers. The participant receives 1 point for each story in which all questions are answered correctly, making a minimum of 0 and a maximum of 20 points from the overall test. The Cronbach alpha internal consistency coefficient, calculated to determine the reliability of the scale, was found to be 0.78 (Şahin et al. 2020).

2. *Adolescent prosociality scale*

The scale was developed by Ata and Artan (2020) to be applied to adolescents aged 13-18 and consists of 20 5-point Likert items, 9 of which are reverse-coded. The scale has two sub-dimensions: internal prosocial and external prosocial. While internal prosocial behaviors are related to the person himself/herself, external prosocial behaviors are focused on others. A person's behavior concerning themselves is egocentric, that is, what they do to avoid criticism from others or for self-benefit. Other-oriented, external behaviors are behaviors that are completely independent of oneself and are directed toward other people for their benefit. The items of the scale are answered as "Definitely not like me (1) "; "Not much like me (2)"; "Not sure (3)"; "Much like me (4)"; "Very much like me (5)". The highest score that can be obtained from the scale is 100, and the lowest score is 20. High scores obtained from the scale indicate that prosociality tendencies are high. The validity and reliability assessments for the scale showed content validity to be 0.95. The Cronbach alpha coefficients were calculated as 0.85 for the internal prosocial sub-dimension and 0.79 for the external prosocial sub-dimension (Ata & Artan, 2020).

FINDINGS

In this section, descriptive statistics and t-test results obtained from the research are explained; correlation and regression analyses are presented in tables. In line with the first objective of the study, the information about the theory of mind skills of the adolescents under protection and care who participated in the study according to the gaffe recognition test is as follows: It was found that the lowest score the adolescents received from the Faux Pas Recognition Test was 2 points and the highest score was 17 points; the average score obtained from the test ranged between 9.22 ± 3.240 (5.98-12.46) points and the median score value was 9. 60 adolescents received a below-average score on the Faux Pas Recognition Test, and 40 adolescents received an above-average score.

We checked to see whether gender and/or age made a difference to the ToM skills of the participating adolescents in line with the second research question.

According to the t-test, it was found that ToM scores differed significantly by gender, $t(98)=2.722$, $p < 0.05$, and accordingly, it can be said that the ToM skills of female adolescents under protection and care ($\bar{X}=10.13$) were better than those of male adolescents under protection and care ($\bar{X}=8.42$).

Whether the ToM skills showed a significant difference according to age was also examined by t-test and the result was $t(98)=.725$, $p>0.05$, accordingly, it was found that the difference between the mean ToM scores of the adolescents under protection and care in the study group was not significant according to the age variable.

In line with the third aim of the study, the scores of the adolescents under protection and care who participated in the study were calculated and it was found that the lowest score was 40 and the highest score was 96, the lowest score was 13 and the highest score was 54 in the intrinsic prosocial behaviors sub-dimension of the test; the lowest score was 9 and the highest score was 45 in extrinsic prosocial behaviors. The mean total score of the test ranged between 71.52 ± 11.740 (59.78-83.26) points. Since the median score value was calculated as 71, it was determined that there were 51 adolescents below 71 points and 49 adolescents above 71 points.

According to the results of the analysis of whether the prosocial skills of adolescents under protection and care differed according to age and gender, $t(98)= 2.496$, $p<0.05$ was calculated for the total score of prosocial behaviors. Accordingly, it is understood that the total score of prosocial behaviors shows a significant difference according to gender. Thus, it was determined that female adolescents under protection and care ($\bar{X}=74.55$) were better at prosocial skills than male adolescents under protection and care ($\bar{X}=68.83$). When the sub-dimensions were evaluated, it was found that $p>0.05$ for both intrinsic and extrinsic prosocial scores and the difference between the averages according to gender was not statistically significant.

According to the t-test results of prosocial behavior scores according to age, $t(98)= -.216$, $p>0.05$. Accordingly, it can be said that prosocial skills do not show a significant difference according to age. Similarly, when the sub-dimensions were evaluated, it was concluded that $p>0.05$ and both internal and external prosociality scores did not show a significant difference according to age.

Table 1 shows the results of the correlation test for the relationship between the ToM skills and prosocial skills of the participating adolescents in protective care in line with the fifth research question.

Table 1 Pearson Correlation Test results of the relationship between ToM and prosocial skills

		Faux Pas Recognition Score
Internal Prosocial Behaviors	Pearson Correlation	.710**
	Sig. (2-tailed)	.000
	n	100
External Prosocial Behaviors	Pearson Correlation	.477* *
	Sig. (2-tailed)	.000
	n	100
Prosociality Total Score	Pearson Correlation	.835**
	Sig. (2-tailed)	.000
	n	100

** $p<0.001$

Table 1 shows us that for internal prosocial behaviors, $r = 0.710$, indicating a strong positive relationship between the ToM and internal prosocial behaviors; for external prosocial behaviors, $r = 0.477$, indicating a moderate positive relationship between the ToM and external prosocial skills. We can see that $r = .835$ for the prosociality total score. These findings show a very strong positive relationship between the ToM and prosocial skills.

We performed Simple Linear Regression Analysis to determine which variable affected the other one because these findings suggested that high performance in one of the variables would increase the other.

Table 2 Simple Linear Regression Test results on the prediction of prosocial skills according to the ToM

Predictive Variable (ToM)	R	R ²	df	Std.Error	F	β	t	p
Predictive Variable (Prosociality Total)	.835	.696	99	6.501	224.885	.835	22.155	.000
Predictive Variable (Internal Prosocial Behaviors)	.710	.504	99	6.051	99.390	.710	12.984	.000
Predictive Variable (External Prosocial Behaviors)	.477	.228	99	6.908	28.940	.477	9.476	.000

According to the analysis results, for the total prosociality score, $R = 0.835$, $R^2 = 0.696$, $F = (1.98) = 99$, $p < 0.05$. We can say that the ToM is a significant predictor of prosocial skills and that ToM can explain 69% of the total variance in prosocial skills. In the sub-dimensions, $R = 0.710$, $R^2 = 0.504$, $p < 0.05$ for internal prosociality. Accordingly, we can say that ToM can explain 50% of the variance related to internal prosocial skills; similarly, $R = 0.477$, $R^2 = 0.228$, $p < 0.05$ for external prosociality, meaning that ToM can explain 22% of the variance related to external prosocial skills.

DISCUSSION

In this study, the ToM skills of adolescents under protection and care were evaluated with the blunder recognition test, and the mean ToM score of adolescents in this study, which included 100 participants, was found to be 9. The study conducted by Şahin et al. (2020) found that the average score of 97 children with typical development aged 9-17 from the Faux Pas Recognition Test was 18 and that the average score of 127 adolescents in the same age group diagnosed with ADHD was 13. Another study comparing children with special learning disabilities and children with typical development without diagnosis found that the ToM scores of children with typical development were significantly higher than those of children with special learning disabilities (Özen, 2015).

Remarkably, the ToM skills of the adolescents participating in this study were lower than the average scores in other studies. It is thought that this may be due to the differences in the individual and social environments of the children in the study group. Khanipour et al. (2019) reported finding a relationship between institutional experience and difficulties in ToM skills. There are also studies indicating that low scores are obtained in sociocultural and socio-economically disadvantaged groups in ToM tasks and reporting a negative and significant relationship between socioeconomic status and ToM (Fry et al. 2017; Pluck, 2021; Pluck et al. 2021). One study comparing the ToM skills of children staying in a care institution with those of children staying with their families found the ToM skills of institutionalized children to be below the normal group (Nesayen & Pursaaleman, 2021). Other studies report that early deprivation leads to deficiencies in mind theory skills and one's ability to take a perspective (Pollak et al. 2010).

ToM skills were analyzed according to the gender of the participants and it was found that the ToM skills of female adolescents ($X=10.13$) were better than those of male adolescents ($X=8.42$). We observed that other researchers obtained similar results consistent with the findings of this study. Banerjee (2011) and Şahin et al. (2020) found that girls were more successful than boys in the faux pas test; Gabriel et al. (2021) found that girls showed better ToM performance than boys in the adolescent group aged 13-18.

Similarly, in the studies conducted by Muris et al. (1999) and Akdeniz (2018), girls were more successful in tasks involving ToM than boys; Altıntaş (2014), Çınbay (2019), Devine and Hugles (2013) found a significant difference in favor of girls in tasks involving ToM skills between girls and boys. Yet, other studies on the ToM report different results regarding the gender variable. Arıkan and Tüfekçi (2020), Canan (2012), Güven et al. (2019), and Gürleyik and Gözün Kahraman (2019) did not find any significant difference by gender in their studies. When we examined the study groups of those studies that reported no significant difference by gender, we saw that they included younger children. This suggests that the difference between the studies in terms of the gender variable may be periodic.

Another finding of the study is that ToM skills do not differ significantly according to age. Although there are studies that do support this finding, Ertuğrul Yaşar (2022) stated that there are no consistent results when age-related changes in the ToM are examined. For example, while Furtana (2018) found a significant relationship between the power of the age variable to predict ToM, Şirin (2018) did not find any significant difference in ToM skills according to age in her study with adolescents. Similar to this study, Gabriel et al. (2021) found no significant difference between children aged 15-16 and 17-18 for ToM; Pluck et al. (2021) tested ToM by using the faux pas test and reading someone's mind from their eyes but found no significant difference according to age. Other sources state that as children get older, they become more successful in ToM tasks (Santrock, 2021), but it can be said that this difference based on age is between developmental periods. Other ToM studies have reported more significant differences between children in different periods of development (Aktaş, 2011; Çınbay, 2019; Toohey, 2015; Hogeways et al. 2008). For example, an age-related developmental leap is observed in terms of ToM skills in the transition from early childhood to the preschool period, from preschool to middle childhood, and from middle childhood to adolescence. In their study with a study group between the ages of 7-27, Dumontheil et al. (2010) stated that the ToM develops from middle childhood to late adolescence. Based on these findings, considering that the participant group of this study was adolescents aged 13-18, there may not have been a statistically significant difference between the mind theory score averages of the participants since they were all in the same developmental period. Some studies report that ToM skills continue to develop after adolescence, there is progress in ToM skills between the ages of 13 and 18, and that both faux pas comprehension and mind reading skills continue to improve up until the age of 25. Furthermore, adolescents are similar to adults in some skills and show continuous improvement in other skills (Meinhardt et al. 2020). Therefore, perhaps the development of the ToM skills of the participants in this study may still be ongoing because there are individual differences in development. If these children are experiencing a developmental delay in terms of ToM, it may be due to differences in the speed at which they attain conceptual insights into mental states. This suggests that children who perform poorly in ToM tasks will eventually catch up with their peers, just as toddlers who are late to walk often catch up with their peers (Bartsch & Estes, 1996; Slaughter & Repacholi, 2003). Of course, being able to reason about the mental states of others is no guarantee that one will use this ability in all situations (Meins, 2006; Hugues & Devine, 2015).

Research also links the development of ToM skills to interactions with parents and caregivers (Meins et al. 2003). The children of adults who talk to children about emotions and share their own emotions have better ToM skills (Welch-Ross, 1997). There are many studies indicating that family dialogue, social life, child-rearing attitudes, parent/adult behaviors, and styles affect children's ToM (Hughes et al. 1999; Guajardo & Watson, 2002; Ruffman et al. 2002; Pears & Moses, 2003; Lohman & Tomasello, 2003; Feldman, 2021). Problems stemming from being in crowded environments occur in children who are in protective care caused either by deprivation or the adversities they experience due to family members or their surroundings.

Failure to provide a continuum of love in institutions and the inability to ensure continuity in relationships due to children being moved from one institution to another may adversely affect the development of children in protective care. As for growth in the institution, feelings of rejection due to past experiences as well as developmental and mental problems related to neglect and abuse can be seen in addition to such problems as lack of trust, despair for the future, and adaptation issues (Saral, 2013). Children and adolescents in institutions may not have the chance to talk about and share emotions with adults because they are away from a warm family life. This may affect their development with respect to ToM skills.

When the scores of the study group on prosocial behaviors are examined, it is seen that the average score obtained from the sub-dimension of internal prosocial behaviors is 41; the average score obtained from external prosocial behaviors is 30; and the average score including total prosociality is 71. In their study using the same scale, Ata and Artan (2020) reported the mean score for internal prosocial behaviors was 26, the mean score for external prosocial behaviors was 44, and the mean score for total prosociality was 70.65. The prosociality scores obtained from this study and the prosociality scores obtained from the other study are close to each other. Furthermore, 49% of the participants in this study scored above the average score. Considering that this ratio constitutes about half of the study group, the researchers believe this to be a good ratio because institutions are generally assumed to be disadvantaged places in terms of social development. The children's home system was developed as an alternative service model to prevent factors that inhibit all areas of development, particularly social-emotional development, in institutions, and is thought to be effective at doing this. Created to raise children who will be able to achieve their developmental potential by ensuring they participate actively in social life, the children's home service is a residential social service model provided in apartments or detached apartments close to schools and hospitals, preferably in the provincial center, in regions of each province whose social, cultural and physical structure is suitable for raising children, to provide care for children under protection in smaller units (General Directorate of Child Services [ÇHGM], 2023). When residential institutional environments outside the home system contain crowded groups, this gives children fewer opportunities to establish close relationships with an adult (Campos et al. 2019). Looking at it from this perspective, the children's home service model may have positively affected the social development of the adolescents that made up the study group.

Another remarkable finding of the study is the scores obtained from the sub-dimensions. Internal prosocial behaviors are what a person does to gain the approval of others or to avoid criticism, whereas external prosocial behaviors are behaviors that are completely for the good of others. Higher scores were obtained from internal prosocial behaviors in this study. Researchers have reported observing an increase in the prosocial behaviors observed in adolescents when adults are watching them, suggesting a relationship between prosocial behaviors and being watched by an adult (Carlo & Randal, 2001; Carlo, 2010). Considering that internal prosocial behaviors aim to obtain the approval of others or to avoid criticism, we can say that this finding and the finding obtained from the study support one another. Another study reported that a person's feelings towards benevolent and kind behaviors affect prosocial behaviors, and that satisfaction with the family and a sense of optimism affect the formation of these feelings and thus affect prosocial behaviors (Lambert et al. 2012; Bono, 2012). Similarly, studies on this subject associate empathy, prosocial, and altruistic behaviors with a loving, warm environment established within the family and the children being guided toward these behaviors in the adult-child relationship (Eisenberg & Fabes, 1998; Eisenberg & Murphy, 1995; Grusec et al. 1996; Yoo et al. 2013). Other studies report a significant relationship between prosocial behaviors in the family and children's prosocial behaviors (Salikutluk, 2017). Based on these findings, we can surmise that institutionalized children may have limited opportunities to model their prosocial behaviors on the adults around them and that this may affect the children's prosocial behaviors.

This is because the researchers working on this subject state that children who take adults as models adopt these behaviors through imitation and add them to their personalities; they gain them as a result of their behaviors related to reconciliation and cooperation, their interactions with adults, and their observations (Çiftçi, 1991; Dönmezer, 1999; Çağdaş & Şahin Seçer, 2002; Yağmurlu & Candan Kodalak, 2009). Another study investigating the relationship between prosocial behaviors in adolescents and parental acceptance and rejection found a correlation between prosocial actions toward a stranger and a mother's acceptance and rejection (Aktar et al. 2023).

When prosocial behaviors were examined according to the gender variable, the study found that the total score of prosocial behaviors showed a significant difference according to gender and that female adolescents ($\bar{X}= 74.55$) were better at prosocial skills than male adolescents ($\bar{X}=68.83$). Many other studies support this finding. In their studies, Yılmaz (2021), Ekin (2019), Çekin (2013), Aktaş and Güvenç (2006), Carlo and Randal (2002), Aydın Sümbül and Sonay Güçray (2016), Veenstra et al. (2008), Gembeck et al. (2005), and Kumru et al. (2004) found that girls scored higher than boys for prosocial skills.

When we analyzed whether prosocial skills changed according to age, we found that prosocial skills did not differ significantly according to age. Similar to this study, Erdem (2022), Özdemir (2010), Ekin (2010), and Aydın Sümbül & Sonay Güçray (2016) also found that prosocial skills did not differ significantly according to the age variable. Studies generally emphasize that positive social behaviors are similar during adolescence (Kumru et al. 2004; Carlo et al. 2003). These findings support the findings obtained from this study.

Another finding obtained in line with the research questions is that there is a very strong positive relationship between prosocial skills and ToM skills and that ToM skills predict prosocial skills. These findings are consistent with other studies on this subject. There are studies stating that the ToM is related to prosocial skills (Cassidy et al. 2003; Diesendruck & Ben-Eliyahu, 2006; Eggum et al. 2011). The ability to understand the needs of others forms the basis of prosocial behaviors and is positively associated with the ToM from early and middle childhood (Peterson et al. 2007; Peterson et al. 2016). Other studies state that ToM increases social competence and is effective in establishing and maintaining relationships (Devine & Apperly, 2022). Researchers generally emphasize that advanced ToM skills positively affect children's social adaptation, positive social behaviors, and social status (Hughes & Devine, 2015; Hughes & Leekam, 2004). The decrease in adult control and support, especially after middle childhood, significantly increases positive social behaviors related to the ToM (Hughes & Devine, 2015). Banerjee et al. (2011) stated that more advanced ToM skills such as faux pas comprehension are positively related to social competence and prosocial skills and that higher ToM performance results in more cooperation and less conflict. Similarly, Traverso et al. (2020), Imuta et al. (2016), and Caputi et al. (2012) stated that mind theory and prosocial behaviors are related, noting that mind theory skills are effective in exhibiting behaviors such as cooperation, helping, and consoling. Research also states that prosocial behaviors are associated with taking a perspective (Eisenberg et al. 2006). Longobardi et al. (2019) stated that empathy, perspective-taking, and mind theory directly affect altruistic behaviors, while language skills increase ToM abilities and indirectly affect prosocial behaviors. In longitudinal studies, Vonk et al. (2020) and Kunhert et al. (2017) found that ToM predicts prosocial behaviors over time. Researchers state that ToM is a prerequisite for situations such as empathy, sharing, and understanding emotions (Singer et al. 2009). Likewise, Yağmurlu et al. (2005) found that ToM skills were a predictor of prosocial behaviors; Gözün Kahraman (2012) found in his study that a training program based on ToM skills increased children's prosocial skills. All these findings support a relationship between ToM and prosocial skills and findings that ToM predicts prosocial skills.

CONCLUSION and RECOMMENDATIONS

This study examined the ToM and prosocial skills of adolescents in institutional care and investigated both the relationship between these two skills and the predictive power of ToM on prosocial skills. To do this, we assessed ToM skills using the faux pas recognition test, and prosocial skills using the adolescent prosociality scale. We discussed the scores obtained by the participants from the scales and interpreted them in light of other studies made on this subject. We concluded that there is a positive relationship between ToM skills and prosocial skills and that ToM affects prosocial behaviors.

The components of ToM and the components of social skills overlap. These are skills such as taking a perspective, being aware of the other person's feelings and thoughts, and acting accordingly. These skills form the basis of the ToM and are also a condition for positive social behaviors because acting positively and for the benefit of society both require being aware of someone's needs. Failure to correctly interpret the other person's social, emotional, and cognitive messages can result in negative social skills. In summary, interpreting these messages from the other person correctly will result in positive social skills and adaptation. This outcome is important for a person's socialization. Socialization means living in harmony with other people in society in which the individual lives and living in harmony with other people, establishing positive relationships with others, and making sense of their feelings and thoughts. Young people living in institutional care need to acquire these skills if they are to socialize and participate in society. This is why we conducted this study with adolescents in protective care. One of the goals of social service organizations is to raise self-sufficient individuals who can live in harmony with society. Apart from finding answers to the main research questions, this study is also intended to make young people in institutional care aware of their skills. We believe that the social environment arrangements to be made in the institutions and changes that will allow for interactional experiences with adults as a result of this study showing a positive relationship between ToM and prosocial skills will lead to positive gains in children's social and cognitive development.

Future studies will need to replicate research into ToM in adolescents. Understanding the feelings and thoughts of the other person ensures that problems are resolved peaceably by employing methods of communication when resolving conflicts. The ability to understand mental states can be an intervention method to guard against negative behaviors just as it can influence children to adopt positive social behavior. Educating children in ToM can be a factor that increases the display of desired behaviors. Experimental studies can be conducted by providing education that includes ToM or prosocial skills during studies of children staying in institutional care. One remarkable finding of this study was that ToM does not differ in terms of the age variable. The age variable can be studied in more depth in other research on this subject. Age periods can be examined in more specific intervals within themselves. Finally, research reveals the importance of the social environment and interaction with adults for both ToM and prosocial behavior. As mentioned, if children are trying to understand the mental states of others from a very young age, caregivers must talk to them about emotions and create opportunities for the child to gain experience here.

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Compliance with Ethical Standards

For this study, approval was obtained from the Selcuk University Ethics Committee before starting the research.

Child participants confirmed their participation verbally and in writing with an informed consent form. In addition, approval was obtained from the Ministry of Family and Social Services, the relevant institution, for the conduct and publication of this study.

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