Young children's trust and sharing decisions

Hüseyin Kotaman[1*] and Mustafa Aslan[2]

*Correspondence:
huskotaman@hotmail.com

[1] Early Childhood Education,
İlköğretim Bölümü, Eğitim
Fakültesi, Harran Universitesi,
Osmanbey, Şanlıurfa, Turkey
[2] Child Development, Sosyal
Bilimler MYO, Harran Universitesi,
Eyyübiye, Şanlıurfa, Turkey

Abstract

The purpose of this study is to investigate how young children define trust and to find out if there is a relationship between the people whom they trust and the people with whom they share their favorite food and toy. The participants consist of 273 kindergarteners enrolled in five public kindergartens. Research assistants asked the participants questions such as what they think trust is, who they trust, with whom they want to share their favorite food and favorite toy, and why. Findings did not reveal age or gender as factors for children's trust and sharing decisions. Children's trust decisions were not associated with their sharing decisions. Accordingly, it appears that children perceive trust and sharing as two separate concepts. This might be due to the abstract nature of trust and the social nature of sharing, in which immediate reciprocity might play a more important role in children's sharing decisions. Children mentioned reciprocity as the second highest reason for their sharing decisions.

Keywords: Trust, Sharing, Young children, Gender, Prosocial behavior

Human beings are social creatures, and trust is one of the main emotions that enable human beings to socialize. Several scholars have claimed that we must trust and thus depend on each other in order to survive and thrive (Holmes, 2015; Diamond, 2016). Trust is a core concept of classical developmental psychology (Erikson, 1963). Therefore, many developmental psychology studies target young (Betts et al., 2009; Clement et al., 2004; Corriveau & Harris, 2009; Hoicka & Akhtar, 2011; Hoicka et al., 2017; Lopez-Mobilia & Woolley, 2016) and older children's (Betts & Rotenberg, 2007; Rotenberg et al., 2004, 2013) behaviors related to trust. Especially when working with young children between the ages of 3 and 6, it is necessary to understand what children understand about trust and how they conceptualize it, along with other concepts they associate with trust. Such conceptualization can facilitate scholars' efforts to measure the trust level of young children. In the current survey study, we have examined the meaning of trust for 4- to 6-year-old children and its relationship with sharing.

Trust has many aspects. For example, many studies have examined young children's epistemic trust in an informant (Clement et al., 2004; Corriveau & Harris, 2009; Hoicka & Akhtar, 2011; Hoicka et al., 2017). In the current study, we aimed to explore interpersonal trust. Rotter (1980) defined interpersonal trust as "the default expectation of the trustworthiness of unknown others" (p. 811). Rotenberg et. al. (2012) emphasized three components of interpersonal trust: "(1) reliability, which refers to a person fulfilling his

or her promises; (2) emotional trust, which refers to a person refraining from causing emotional harm (e.g., keeping secrets); and (3) honesty, which refers to a person telling the truth and engaging in behaviors guided by benign rather than malicious intent and genuine rather than manipulative strategies" (p. 311). Accordingly, we can define interpersonal trust as emotional and intellectual devotion to a belief about the future correctness of a person or institution (Davies, 2019; Rotenberg et al., 2012).

Several studies have revealed the relationship between trustworthiness and the quality of children's relations with adults (Petrocchi et al., 2018), with their peers (Rotenberg et al., 2013), school adjustment (Betts & Rotenberg, 2007; Betts et al., 2013), the number of friendships for first graders (Betts et al., 2009), and fourth to fifth graders (Rotenberg et al., 2004). For example, Betts et. al. (2009) examined young children between the ages of 5 and 7, with participants having a mean age of 6 years and 2 months. They found that children with low generalized trust had fewer friends than their peers with higher generalized trust. In a similar study, Rotenberg et. al. (2010) found a negative relationship between trust beliefs and loneliness from early childhood to adulthood.

Some studies have shown that early trust evaluation of a child predicts his or her future prosocial behaviors (Betts & Rotenberg, 2007; Malti et al., 2016). For example, Malti et. al. (2016) examined the relationship between trust and children's prosocial behaviors. They studied 1675 first graders who were 7 years old at the beginning of the study. They found a relation between the trustworthiness of a child and that child's prosocial behaviors. Children who were evaluated as trustworthy by their peers and teachers exhibited higher levels of prosocial behaviors than children who were evaluated as less trustworthy (Malti et al., 2016). In another study, Rotenberg et. al. (2005) examined the relationship between trust beliefs and prosocial behaviors, especially the helpfulness of grade 5 and 6 children. They found a significant correlation between children's trust beliefs and their helpfulness to their classmates.

All these studies revealed the importance of trust for children's socialization and development of their prosocial behaviors. Sharing is a prosocial behavior. We aimed to examine relationship between young children's trust conceptualization and sharing decisions.

Sharing

Sharing is a prosocial skill (Capara et al., 2000), some scholars consider trust as the cornerstone of our social behaviors (Rotenberg et al., 2005) and since sharing behaviors occur in social relationships (Paulus et al., 2016) we thought there would be a relation between these two concepts.

Studies with young children on sharing have aimed at several aspects of children's sharing behavior, such as inequality aversion (Fehr et al., 2008), differences in sharing with age (Benenson et al., 2007; Fehr et al., 2008), future-oriented sharing (Thompson et al., 1997), differences in sharing according to socio-economic level (Benenson et al., 2007), and the effect of past sharing behavior of the receiver and the closeness of the recipient (stranger, friend, or sibling) (Olson & Spelke, 2008). In summary, these studies revealed that children as young as 3 years old displayed costly sharing behavior; however, this behavior can be impeded by the introduction of a situation in which they were required to imagine future desires conflicting with their current desires (Benenson et al., 2007; Thompson et al., 1997). Young children tended to share more with recipients who

were known as sharers than with recipients who were known as non-sharers. Additionally, young children tended to share more with friends and siblings than with strangers (Olson & Spelke, 2008). Children's family socio-economic level did not affect their sharing behavior until they were 9 years old.

There is an in-group favoritism which revealed that level of relationship and how child perceive other person is important for sharing behavior (Yu et al., 2016). Yu et. al. (2016) conducted a study in China. They have found that 3- to 4-year-olds shared equally with strangers and friends; however, 5- to 6-year-old and older children displayed strong in-group favoritism. They have also mentioned that children's egalitarian sharing increased strongly with age when the recipient was a friend, but when the recipient was a stranger the increase was less to moderate in magnitude.

Benenson et. al. (2007) have found that children who were older and living in higher SES environments shared more than their peers who were younger and coming from lower SES environments. Children's source allocation differs according to relationship level with the sharer. If there is no cost for sharing, young children share their sources with in-group and out-group strangers, just like they share with their friends. However, if there is cost for themselves, young children share more with their friends compare to in-group and out-group strangers (Moore, 2009). When children have expectation from the recipient or observer, children tended to share more (Engelmann et al., 2013). All these studies examined several aspects of sharing; however, to the authors' knowledge none of them had investigated the relationship between young children's trust and sharing decisions. The study aims at this gap.

Importance of study

A plethora of studies have examined young children's epistemic trust in an informant (Clement et al., 2004; Corriveau & Harris, 2009; Hoicka & Akhtar, 2011; Hoicka et al., 2017; Lopez-Mobilia & Woolley, 2016; Luu et al., 2013; Robinson & Whitcombe, 2003; Sabbagh & Baldwin, 2001). These studies revealed that starting around 3–4 years old, children could evaluate the reliability, level of knowledge, seriousness, and consistency of an informant while deciding whom to trust.

Although many studies have examined young children's epistemic trust decisions, studies that aim at interpersonal trust are still rare. We believe that the reason for the scarcity of research on interpersonal trust in young children is the difficulty of conceptualizing trust for them. What does trust mean for young children? What are the related concepts that may help us to derive children's trust decisions? Therefore, in this study, we surveyed young children's (4–5–6 years old) conceptualization of trust and its relationship with their sharing behavior. Accomplishing the purpose of the study required addressing the following research questions: (1) How do children define trust? (2) Does the conceptualization of trust differ according to age and/or gender? (3) Whom do children trust, and does this decision differ according to age and/or gender? (4) Do children share with people that they declare they trust? (5) Will children's sharing decisions differ according to their age and/or gender?

Research methodology

The study was conducted with the permission of Harran University, Şanlıurfa, Turkey. Permission dates and protocol numbers for Harran University, Şanlıurfa, Turkey were 27.08.2021-E.4737298-44-30318984.

Participants

The population of this study consisted of 4- to 6-year-old children. We utilized convenient sampling since the school age for kindergartens in Turkey starts at 4 years, making it challenging to reach children younger than 4 years. Additionally, 5- and 6-year-old children have priority for kindergarten enrollment, making it difficult to reach 4-year-old children as well.

Participants were recruited through school administrations, which were informed about and agreed to participate in the study. Participation was voluntary, and children whose parents submitted a consent form and approved their participation were included. Initially, 282 parents submitted consent forms. However, four children were absent on the data collection day, and five children did not want to participate in the study. Therefore, the final sample consisted of 273 children enrolled in five public kindergartens. Of these children, 30 (10.98%) were 4 years old, 151 (55.33%) were 5 years old, and 92 (33.69%) were 6 years old. Almost half of the participants, 132 (48.35%), were girls, and 141 (51.65%) were boys. The proportion of boys participating in the research is slightly higher than that of girls. Due to the feudal mindset in the region, parents of girls may be more sensitive about their children speaking one-on-one with a stranger. Therefore, parents may have granted girls less permission to participate in the research compared to boys.

Years of education among the mothers ranged from 0 to 18 years, with a mean of 6.51 years (SD = 3.65). Years of education among the fathers ranged from 0 to 18 years, with a mean of 9.34 years (SD = 4.03). Monthly income levels ranged from 1500₺ (approximately 300$) to 6000₺ (approximately 1200$), with a mean of 2538.84₺ (approximately 550$) (SD = 1456.04). According to the Turkish Statistical Institute (an official government organization), the monthly per capita income in Turkey is approximately 771$ (www.tuik.gov.tr/PreIstatistikTablo.do?istab_id=2218). The average time of schooling in Turkey is 6.5 years (http://www.hurriyet.com.tr/bu-haritanin-rengi-degismedikce-turkiye-21-yuzyila-zor-girer-25177632). Accordingly, descriptive statistics revealed that most of the participants came from a disadvantaged socio-economic group.

The investigators contacted the kindergarten administrations and teachers, explaining the purpose of the study. Administrators and teachers who agreed to participate informed parents about the study and asked them to sign a consent form. Once consent forms were received, research assistants began visiting the kindergartens to gather data. They asked six questions to each child individually in an available room of the kindergarten. The assistants informed the children about their rights to quit the study at any time they wanted. Thus, we aimed to provide the children with some control and obtain their consent (Warin, 2011).

1. What do you think trust is? We provided two kinds of categorization for this question. Since vast majority of the children 224 (82.05%) did not provide a description, our first categorization was definition versus no-definition. We coded definition with 1 and no-definition with zero. Thus, we examined differences among age groups. We categorized under six headings remaining 46 definition. These headings and their codes were: to protect (1), to share (2), to believe someone (3), to love someone (4), saying I can do it (5), sharing secrets (6) and goodness (7).
2. Whom do you trust?
3. Whom do you share your favorite toy with? Why?
4. Whom do you share your favorite food with? Why?

Categories for question #2 included responses to other 'whom' questions (#4, #5) as well. Therefore, we used the same categories and coding for questions #4 and #5 as for question #2. In one of these four questions, 73 children provided responses that belonged to two categories, such as 'I share with my mother and friend.' Therefore, we duplicated such responses during data entry, resulting in 346 lines of data instead of the expected 273 lines. Table 1 presents the categorization and coding of responses for these questions.

For the "why" questions, two arbiters independently coded each response, which yielded a 99% agreement (Cohen's kappa = 0.98). Disagreements were resolved through discussion. For question #3, five categories appeared: playing (1), going to the park (2), shopping (3), cooking (4), and doing activities (5). Table 2 presents the categories and codes for the "why" question of sharing questions.

Table 1 Categorization for trust responses

Response	Category	Code
I do not trust anyone	Nobody	0
One or more of following: I trust (share with) mother, father, brother, sister, my siblings, my family	Family	1
One or more of following: I trust (share with) my grandmother, grandfather, aunt, uncle, cousins	Relatives	2
I trust (share with) my friends or provide name of certain friend or friends	Friends	3
I trust (share with) my teacher	Teacher	4
I trust (share with) people I know	Acquaintances	5
I trust (share to) police, firemen	Officers	6
I trust (share with) myself	Own	7
I trust (share with) everyone	Everyone	8
I trust (share with) honest people	Honesty	9
I trust (share with) good people	Goodness	10
I trust (share with) people I love	Loved ones	11
I trust (share with) courageous people	Courage	12
I trust God	God	13
I trust adults	Adults	14
I don't know	Undefinable	15

Table 2 Categorization for why children share

Response	Category	Code
I do not know. No response	Undefinable	0
Because I love him/her/them	Love	1
I like sharing. Sharing is nice. I feel good when I share	Love sharing	2
He/she/they share with me their toys. He/she/they love me. I do not want my bother hit me. He/she/they treat me good. He/she/they take care of me. He/she/they help me, nice to play together	Reciprocity	3
He/she/they want it too. He/she/they get sad if I do not share. He/she/they need it. He/she/they if they do not play they get bored. He/she/they may not have food or toy. I want to make them happy	Empathy	4
We should share with our friends or siblings	Learned obligation	5
Because he/she/they are nice people	Nice people	6
I know them. They are not stranger	Acquaintance	7
I trust them. I can count on them	Trust	8

Results

We conducted a series of chi-square analyses to determine if children's answers differed according to gender and age. Of the 273 children 224 (82.05%) did not provide a definition for trust and 49 (17.95%) did. Only two (2%) participants from 4 years old provided definition and they related trust with protection. Twenty-five (16.5%) 5 years old provided definition and distribution of their definitions were as following: to protect 15 (9.9%), to share 2 (1.3%), to believe someone 1 (0.6%), to love someone 2 (1.3%), saying I can do it 1 (0.6%), sharing secrets 2 (1.3%), goodness 2 (1.3%). Among 92, 6 years old 22 (23.9%) provided a definition. Their definitions categorized as following: to protect 13 (14.1%), to love someone 1 (1.1%), sharing secret 6 (6.5%), goodness 2 (2.1%). We used Chi-square tests to examine relation between age and providing definition. Chi-square tests of independence did not reveal any significant difference among ages (χ^2 (2, N = 273) = 5.014, p = 0.082). We compared three groups; therefore, we conducted post hoc test by calculating adjusted residuals for each of 6 cells and then from these adjusted residuals in excel we computed p values. None of the post hoc results reached statistical significance.

Table 3 exhibited frequencies of responses for question two (whom do you trust?). Majority of responses pointed family members (57.8%), followed by friends (22.3%), relatives (4.6%), good people (3.5%), teacher (2.9%), and acquaintances (2.9%). For gender [χ^2 (1 Chi-square did not reveal a significant difference, N = 346) = 14.056, p = 0.521]. Chi-square tests of independence revealed significant difference among ages [χ^2 (1, N = 181) = 53.893, p = 0.005] in terms of children's whom to trust decision. Since we compared three groups, we conducted post hoc test by calculating adjusted residuals for each of 48 cells and then from these adjusted residuals in excel we computed p values. None of the post hoc results reached statistical significance. Therefore, we concluded that there were no significant differences among ages in terms of whom to trust decision.

We calculated frequency of providing same response for whom to trust and sharing questions and repeating same responses for sharing questions. For trust and sharing favorite food questions of the 346 responses 124 (35.8%) were same and 222 (64.2%) were different. That is to say 35.8% of the responses for whom to trust and whom to

Table 3 Frequencies of whom to trust responses

Category	Frequency	Percentage
Nobody	1	0.3%
Family	200	57.8%
Relatives	16	4.6%
Friends	77	22.3%
Teacher	10	2.9%
Acquaintances	10	2.9%
Officers	1	0.3%
Own	2	0.6%
Everyone	5	1.4%
Honesty	5	1.4%
Goodness	12	3.5%
Loved ones	1	0.3%
Courage	1	0.3%
God	1	0.3%
Adults	2	0.6%
Undefinable	2	0.6%

share your favorite food pointed the same person. Similar results appeared for trust and sharing favorite toy questions. This time of the 346 responses 122 (35.3%) were same and 224 (64.7%) were different. Ratios were vice versa for two sharing questions 226 (65.3%) responses were same and 120 (34.7%) were different. Since our data was nominal, we examined relationship between trust decision and sharing decisions with Wilk's Lambda. Wilk's Lambda $=0.032$, T$=1.639$, p$=0.101$ did not reveal significant relationship between whom children trust and whom they share their favorite food. We reached similar results for sharing favorite toy. Again, Wilk's Lambda $=0.010$, T$=0.447$, p$=0.655$ did not reveal significant relationship between whom children trust and whom they share their favorite toy.

Frequencies for why question of sharing favorite food were as following: undefinable 67 (24.5%), love 109 (39.9%), love sharing 21 (7.7%), reciprocity 26 (9.5%), empathy 19 (5.5%), obligation 24 (8.8%), nice people 3 (1.1%), acquaintance 3 (1.1%) and trust 1 (0.4%). Frequencies for why question of sharing favourite toy were as following: undefinable 69 (25.3%), love 85 (31.1%), love sharing 13 (3.8%), reciprocity 42 (15.4%), empathy 26 (9.5%), obligation 33 (12.1%), nice people 3 (1.1%), acquaintance 1 (0.4%) and trust 1 (0.4%).

Discussion

The purpose of this study was to examine how young children conceptualize trust and whether the conceptualization differed according to age and/or gender. Since sharing behavior is associated with the most critical skills of socialization, such as establishing and maintaining friendships and being able to gain acceptance within society, it is important to acquire this skill from an early age in the best possible way (Kotaman & Aslan, 2021). Developing this skill correctly will also support the development of a sense of trust, making it critical for children to become self-sufficient individuals (Balcı et al., 2021). Accordingly, we investigated whom young children trust and the relationship

between their trust and sharing decisions. Findings revealed that the vast majority of young children could not define the concept of trust. However, among those who could define it, 6-year-olds provided more definitions than four and 5-year-olds. The difference did not reach statistical significance.

Although several studies have reported a relationship between trust and some prosocial behaviors, such as elementary school children's helpfulness to their classmates (Rotenberg et al., 2005) and their ability to establish close social relations (Rotenberg et al., 2004), as well as self-control (Betts & Rotenberg, 2007), our findings did not reveal any significant relationship between children's interpersonal trust and sharing decisions. This finding was contrary to our expectations, as we were expecting to find a relationship between these two concepts. Some studies have revealed that young children share more when they have future expectations from the recipients (Leimgruber et al., 2012). We assumed that this kind of reciprocity expectation can be highest for the recipients whom children trust. However, the findings did not support our assumption.

Our findings showed that for young children, sharing and trust are not closely related concepts. Trust is an abstract concept. Since young children's capacity for abstraction is limited, they tend to conceptualize abstract concepts through their life experiences (Piaget, 1928, 2006). We observed signs of this fact in our data, where 49 children provided definitions for trust. Out of these 49 children, 30 (61.22%) defined trust related to protection, which they experienced every day through their relationships with parents and, in some cases, their extended family. This is probably why the vast majority of children (57.8%) responded that they trust their family members, with friends being the closest followers (22.3%).

Another characteristic of young children's thinking is their tendency to focus on the here and now (Piaget, 2006). Since sharing behavior occurs in social relationships (Paulus et al., 2016), it might be easier for children to evaluate sharing decisions in terms of situational reciprocity, rather than viewing it as a long-term investment based on mutual trust between recipients. Therefore, they might not strongly consider trust as a foundation for sharing decisions. When we consider the definitions of children for their sharing behaviors, we find that only one child mentioned trust as a reason for sharing.

Reciprocity was the second-highest reason for sharing food (9.5%) and toys (15.4%). This finding is somewhat consistent with earlier research. For example, Xiong et. al. (2016) studied kindergarteners' sharing behavior and found that young children shared more with a partner when they knew they would be the recipient later. In another study, Yu et. al. (2016) found that young children shared significantly less in a competitive context where rivalry instead of reciprocity was promoted. Therefore, for young children, immediate reciprocity might be more important than trust for making sharing decisions.

For both sharing questions, children mentioned love as a major reason for their decision. They usually stated, 'because I love my friend, my mother, teacher, etc.' Children also mentioned other emotional factors, such as empathy for food (5.5%) and toys (9.5%), and love for sharing food (7.7%) and toys (3.8%). We can say that around fifty percent of the sharing decisions of participants depend on emotional factors. This finding is also related to the literature. Scholars have claimed that sharing awakens positive emotions, whereas not sharing causes negative emotions (Paulus & Moore, 2017). Paulus and Moore (2017) found that preschool children feel positively when they share and

negatively when they do not share, both for themselves and for others. Children especially wanted to avoid the negative emotions caused by not sharing. Our findings provide a hint about the relationship between sharing and emotional closeness, which could be considered for future studies.

Limitations and future studies

The majority of the participants in the study came from low socio-economic status households, which restricts the generalization of the findings. Another limitation of the study was its design. Since this is a self-report survey study, we do not have data on participants' actual trust or sharing behaviors. Therefore, future studies can focus on designs that allow them to derive data about children's actual trust and sharing behaviors. For example, researchers can ask children to bring their favorite toys to school and use puppets to resemble family members, friends, etc. Researchers can then ask children to whom they would entrust their favorite toy. After that, researchers can present 20 stickers to each child. Among these 20 stickers, children can select their 10 most favorite stickers and then share them. Such studies can provide valuable insights into trust and sharing.

Declarations

Competing interests
The authors declare that they have no conflict of interest.

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