

Dynamic Trajectory of Sharing Behavior in Rural 4–5 Children: A Situational Experiment

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Abstract: Sharing behavior is of great significance to the development of young children. This paper takes 170 middle class children as a sample to explore the influencing factors of sharing behavior in preschool children and its age development characteristics. This study shows that the score of willingness to share and the number of shares was inversely proportional to the value of the shared items; When there is an abundance of items to share, children share significantly more in the presence of the sharing partner than in the absence of the partner. Based on the findings, educational recommendations are made from three aspects: cultivating intrinsic motivation in children, enhancing the stability of children's behavior, and guiding children to form correct values.

Keywords: Preschool children; Sharing behavior; Age development characteristics; Influencing factors

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1. Introduction

As a typical altruistic act, sharing refers to the behavior of an individual who is willing to share something, a resource, or an emotional experience with others ^[1]. It is of great significance for children to build good interpersonal relationships and promote the development of social and emotional abilities and moral standards ^[2]. The age of 4–5, being a crucial period for the development of empathy, theory of mind and peer relationships, is regarded as a rapid period for the development of shared ideas and behaviors ^[3]. When the recipient has a resource need, the child shares more candy compared to when there is no resource need. Conventional behavior, like having a resource need, is more likely to encourage 5–6 year old children to share generously ^[4]. There is a significant positive association between the quality of a child's attachment and three prosocial behaviors (helping, sharing, and comforting) ^[5]. A mother's choice does not necessarily reduce sharing behavior and feelings. A positive mother-child relationship and reasonable reasons have a protective effect on a child's sharing motivation when the mother makes a choice ^[6]. Studies show that the development of sharing behavior in young children is age-specific, with 5 year old children showing more prominent sharing behavior than 3 year old children ^[7]. Older children reported mainly pride as positive emotions in actual sharing tasks, while

younger children reported more joy^[8]. However, as the study progressed, supporting evidence for other different viewpoints gradually emerged. Further research has confirmed that the psycho-theoretical ability of children aged 3–6 predicts an increase in their sharing with friends over time. The interaction between age and recipient type suggests that older children are more likely to make prosocial allocations to friends and strangers^[9].

1.1. Research questions

We will examine the following questions. Firstly, did the sharing behavior of young children changes before and after the study? Is it an increase or a decrease? Were there significant age differences between the two observations? Secondly, how do the elements influence children's sharing behavior under different conditional controls? How much variation do these factors account for together?

2. Research methods

2.1. Research subjects

In this study, 200 children aged 4–5 in the middle class were randomly selected from four rural kindergartens in Binzhou City, Shandong Province, with an average age of 56.37 months, and valid data of 170 children (85 boys and 85 girls) were retained.

2.2. Research materials

This paper selects cartoon stickers as the research material. Before the formal implementation, three popular cartoon-themed stickers were prepared, including two sizes: large stickers (6 × 6 cm) and small stickers (3 × 3 cm).

2.3. Data processing and analysis

Descriptive statistics, experimental effects analysis, difference tests, and multiple linear regression analyses were conducted using SPSS software.

3. Research results

3.1. Overview: age differences and development trends

This study recorded in detail the willingness score of children to share in each task (1 point for willingness to share and 0 point for unwillingness to share), the actual number of papers shared, and the proportion of children whose number of papers shared decreased and increased in the post-test.

For example, in task T1, 14.2% of the children shared fewer sheets with others in the posttest than they did in the pretest, and 6.6% shared more stickers with others in the posttest than they did in the pretest. According to the results of the significant difference test, before the experiment, there was a significant age difference in the number of children to share, and the sharing behavior of young children showed an overall downward trend.

3.2. The specific effects of each factor in experiment 1

When the number of shared items was insufficient (1, T1 and T5), children's willingness to share scores were significantly lower than when the number was sufficient (4/5, T2–T3 and T6–T7) (pre-test $p = 0.001$; post-test $p = 0.000$). However, regardless of whether the number of shared items was sufficient or not, there was no significant difference in the willingness to share scores among the children when the sharing object was present

or not.

3.3. The specific effects of each factor in experiment 2

3.3.1. Different types of shared species and their presentation methods

All possible combinations can be divided into two categories based on the type of shared items and the way they are displayed: two groups of tasks for “the same number and type of shared items but different ways of display” and four groups of tasks for “the same number of shared items but different types and ways of display”.

Whether the recipients are present or not. Based on whether the sharing object was present, all the tasks were recombined to form six groups of tasks with the same number, type, and presentation of sharing objects but different sharing objects. **Table 1** shows the results of the significant difference test.

Table 1. Test results for significant differences in the number of shares when the sharing object is present and absent

Sharing objects	Present (T1–3, T4 overall, T4 special, T4 ordinary) VS absent (T5–7, T8 overall, T8 special, T8 ordinary)					
Types and their ways of presenting	Presented separately, all are regular stickers			It appears in combination with other types of stickers		
Quantity (variety)	1 Regular	4 Regular	5 Ordinary	1 special + 4 regular	1 Special	4 Ordinary
Mission	T1 and T5	T2 and T6	T3 and T7	T4 populations and T8 populations	T4 special and T8 special	T4 normal and T8 normal
Pre-test <i>p</i> value	0.334	0.000	0.000	0.000	0.880	0.000
Post-test <i>p</i> value	0.913	0.001	0.017	0.000	0.759	0.000

When the number of shared items is sufficient (4/5 of the total), the sharer shares significantly more in the presence of the target than in the absence of the target; In cases where the number of shared items is scarce (only 1), the difference in the number of shared items between the presence and absence of the target is not significant.

In the pretest, factors such as the type of shared items and their presentation and quantity could account for 40.3% of the overall variation; In the posttest, 37.5% of the total variation was explained. Moreover, the type of shared species and its presentation (standardized Beta: pre-test 0.432, post-test 0.393) had a greater impact on the willingness to share score than the number of shared items (standardized Beta: pre-test 0.369, post-test 0.381).

4. Discussion and analysis

4.1. The act of sharing is inversely proportional to the value of the shared object

When the types and display methods of shared items are the same, shared items with lower rarity have higher value. When the number of shared items is insufficient, children’s sharing behavior is significantly reduced ^[10]. When the number of shared items is scarce and the variety is unique, their value increases ^[11]. In this case, young children score low on willingness to share, share relatively fewer times, and show a certain degree of selective strategy in order to keep as many special stickers as possible and share the ordinary ones. This phenomenon is consistent with the findings of Lai Jiaxin et al., where young children tend to share less when faced with items or resources that they love, are novel, once exclusive, or have made efforts to obtain, that is, of higher value ^[12]. Younger children are more likely to engage in self-centered and hypothesis testing behavior than to

share, compared to older children. Young children do not share resources to the same extent; children share the most hard-earned prizes and the least accidentally obtained food ^[13]. Another study, excluding food, yielded completely different results, finding that children shared more of the premium stickers they got by accident and less of the plasticine they got through hard work ^[14]. This is because food is more valuable to children than the way they obtain it.

4.2. Sharing behavior is influenced by social norms

When there is an abundance of items to share, the presence or absence of a sharing partner only has a significant impact on the number of times a child shares, but there is no significant difference in willingness to share. Specifically, the number of shared items received by the person present was significantly greater, and this difference gradually decreased as the child grew older. In fact, this highlights that children's behavior is constrained by social norms. The theory of social norms holds that prosocial behaviors, including sharing, stem from the observation and learning of social rules. Once mastered, a certain sense of restraint is established in the mind, and it is believed that a certain behavioral response should or must be carried out in a specific situation. For children aged 4–5, they have the characteristics of obeying authority, respecting and strictly adhering to the rules set by authority. Meeting others' requests to share is an important criterion for them to regulate their own behavior and become good kids. Even if they hesitate a little during the sharing process, they will still choose to share for reasons such as expecting to follow the rules, gain approval, or avoid blame.

4.3. The amount of explanations for external factors is limited and decreasing year by year

In terms of willingness to share scores, the explanatory power of three factors, including quantity, type and presentation of shared items, and presence or absence has accounted for about 40% in the pretest and slightly declined in the posttest; In terms of the number of shares, only when the number of shared items was insufficient, the two factors of the type and display of shared items and the presence of the shared person had nearly 50% explanatory power for the number of shares in the pretest and decreased in the posttest. Children aged 3 shared more stickers and showed more prosocial behavior under the psychoactive robot observation conditions than under the other two observation conditions ^[15]. However, when the number of shared items was sufficient, the explanatory power of both factors was less than 10% in both pre and posttests. This result suggests that, on the one hand, there are significant differences in the explanatory power of each factor under different factor controls and scoring methods. On the other hand, these factors are all external, and their overall explanatory power is relatively limited and gradually weakens as the child grows older. This provides reliable contrastive evidence of the importance of intrinsic factors in children's sharing behavior.

5. Conclusions and recommendations

This article provides a new perspective and dimension of thought on the controversy over the age development characteristics and trends of sharing behavior among preschool children. As we delve into the specific impact of various factors on children's sharing behavior and the reasons behind it, we further confirm the importance of internal factors in sharing behavior by examining the overall degree of influence of external factors and their development trends. Future research should continue to deepen and seek stronger evidence to support it. Other questions about the development characteristics of children's sharing behavior still need to be explored and answered by researchers. In educational practice, teachers can use various methods such as situational

stories and picture book reading to guide children to understand the emotional states of others and thereby build empathy. Set up a variety of social interaction scenarios to enhance the stability of children's sharing behavior. Guide children to form correct values and try to reduce their dependence on material things and the mentality of exclusivity.

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