

The relationship between Theory of Mind and generosity in children between 4 and 6 years old

Author: Reinier Vuylsteke

Supervisor: Prof. W. Verbeke

Institute: Erasmus Universiteit Rotterdam

Date: August 2015

Preface

This paper is based on a study ‘The curious relation between theory of mind and sharing in preschool age children’ by Cowell et al. in 2015. Erasmus University students Dirk-Jan Wessels and Reinier Vuylsteke collected the data of this paper. Both students used the same data, but Reinier focussed on whether there are differences in the relationship between Theory of Mind and generosity in children who are the oldest of the children in their family or the youngest, and Dirk-Jan focussed on children with and without siblings. None of the content is directly copied from the study done by Cowell or from any other articles.

The construction of the tables in chapter 4 are copied from Cowell’s article, but this paper included statistics to test whether there is a difference in generosity between children who passed the Theory of Mind test and children who did not pass the test. Dirk-Jan Wessels and Reinier Vuylsteke performed the data analysis and tests by using SPSS.

This paper gives the writer (and hopefully many others) insight in the behaviour of children between 4 and 6 years old in how they share and whether Theory of Mind has an effect on sharing. The writer would like to thank Professor W. Verbeke for his help, the two primary schools in Rotterdam, and all the children who participated in the study.

Table of content

| | Page |
|------------------|------|
| Preface | 2 |
| Abstract | 4 |
| Introduction | 5 |
| Theory | 8 |
| Methods | 11 |
| Results | 13 |
| Supporting study | 16 |
| Conclusion | 18 |
| Discussion | 19 |
| Bibliography | 21 |
| Appendix | 22 |

Abstract

This study replicates the study done by Cowell et al. and adds another possible influencer on the relationship: the family composition in terms of siblings. To examine the degree to which changes in generosity are affected by Theory of Mind, the false location task and dictator game were assessed in a sample of 109 children at two primary schools in Rotterdam suburbs (The Netherlands). Former studies have proven the counterintuitive relationship between generosity and Theory of Mind (Cowell J. M., Samek, List, & Decety, 2015). However, this study demonstrates that Theory of Mind has no influence on sharing behaviour in a sample of Dutch pre-schoolers aged 4 to 6. This means that there is no relationship between Theory of Mind and sharing behaviour amongst children in this age category.

For further research it is recommended to design a study which encompasses both primary schools of high and low socioeconomic milieus, because this might be an underlying factor in this investigation.

This remark is made because Cowell's et al. study researched children from a low socioeconomic milieu whereas this study researched children from a high socioeconomic milieu.

Overall our data proves that there is no (curious) relationship between either Theory of Mind and generosity and being the oldest or the youngest of the siblings has no effect on this relationship.

1. Introduction

Human beings are a social species and from a young age pro-social behaviour and moral evaluations are strongly interconnected. During the first years of a human's life, a lot happens in the development of social skills. In different phases in the childhood, different skills and personalities are being developed. A study revealed that the roots of basic sense of fairness and altruism are already found in infancy (Schmidt & Sommerville, 2011) and another study suggests that children between 1 and 2 years old have context-sensitive expectations about fairness (Sloane, Baillargeon, & Premack, 2009).

As children grow older there comes a difference in ethical stance in children between 3 and 5 years old (Robbins & Rochat, 2011) and they become more concerned with appearing fair to other humans (Shaw, Montinari, Piovesan, Olson, Gino, & Norton, 2014).

Inequality aversion also develops strongly in children between 3 and 8 years old: when children are between 3 and 4 years old, most of them behave selfishly but when children reach the age of 7 and 8, they rather have resource allocations that remove advantageous or disadvantageous inequality (Fehr, Bernhard, & Rockenback, 2008).

The changes in sharing behaviour when children grow older are thus quite clear, but it is less clear what triggers the increase in generosity. Two studies show that some general cognitive capabilities facilitate increased generosity in children at a young age including Theory of Mind, executive function, and perspective taking (Smith, Blake, & Harris, 2013) (Takagishi, Kameshima, Schug, Koizumi, & Yamagishi, 2010).

The results of a study done by Takagishi et al. in 2010 show that pre-schoolers who have Theory of Mind, show higher mean offers than children without Theory of Mind. This suggests that the ability to infer the mental states of other plays a large role in children's fairness-related behaviour.

The results also suggest that the ability in children to take the perspective of another individual is valuable in suggesting what type of offer the other individual will accept. In other words, preliminary relations between distributive justice and perspective taking show that the development of Theory of Mind in

children should coincide with larger expression of sharing or altruism (Takagishi, Kameshima, Schug, Koizumi, & Yamagishi, 2010).

In the development of Theory of Mind, selfishness is assumed to be an early developmental state. When children reach middle childhood they (start to) consider others' perspectives. In doing so, children can understand and recognize someone else's wants for resources and thus will be incentivized to share. A research with 98 children between 3 and 5 years old from different cultures (African-American, Hispanic, and Caucasian) shows that children without Theory of Mind share on average more resources during the Dictator Game. Note here that in most cases, when there is no consequence for not sharing, children with better perspective taking abilities might be able to recognize situations and opportunities for a strategic gain at no cost to him/her self. When this happens, the children who passed the Theory of Mind question are more selective in sharing and additionally, when there are no consequences to hoarding (not sharing) and cooperation is not expected, the children will share less with a person they do not know (Cowell J. M., Samek, List, & Decety, 2015).

All together, it is clear that generosity develops between infancy and late childhood, the mechanisms that lead to this development are however less clear and the directionality of the relations are ambiguous.

This study was designed to research the effect Theory of Mind has on the expression of sharing (generosity) in a large sample of children between 4 and 6 years old. As with Cowell's study, because the children studied were at the optimal age for variance on understanding false-belief, instead of testing the relative ability of Theory of Mind and its relation to sharing (Takagishi, Kameshima, Schug, Koizumi, & Yamagishi, 2010), the children can be divided into 2 main groups: one group with children who failed the false location tasks and the other group contained children who passed the false location tasks.

The direct comparison will be made with the hypothesis that Theory of Mind can either lead to (1) decreased sharing with a peer or (2) increased sharing with a peer. Additionally, the children are asked about whether they have siblings and if so, if they are the youngest or oldest of their brothers and sisters. This study will

also directly compare the mentioned hypothesis for the three groups: (1) total sample, (2) children who are the oldest of their siblings, (3) children who are the youngest of their siblings.

The first part of this paper describes recent theories and studies about Theory of Mind and (social) developments in children. The second part describes the methods used during the study and the last parts will show the results, conclusion, and discussion respectively.

2. Theory

This study focuses primarily on Theory of Mind. Over the years studies on Theory of Mind, in humans and animals, children and adults, have grown fast. The start of this growth was due to the study by Premack and Woodruff: “Does the chimpanzee have a Theory of Mind?”

The developing field of neuroscience has picked up this trail and started to address the debate by imaging the human brain while people performed activities in order to understand the demanding of intentions and beliefs of other people.

Theory of Mind itself is the ability to link mental states like beliefs, desires, intents etc. to one person and others in order to understand that other people have desires, beliefs and perspectives that can be different from one’s own perspectives, beliefs, and/or desires. People who do not have this ability (so do not have Theory of Mind) might have cognitive or developmental impairment and they can suffer from autism, attention deficit hyperactivity disorder, or schizophrenia. This Theory of Mind absence leads to difficulties for someone in perspective taking. This difficulty is known as mind-blindness and it means that people without Theory of Mind find it hard seeing things from another perspective than their own perspective. Therefore they have difficulties understanding and determining other people’s intentions and feelings and they cannot understand how their own behaviour can affect the behaviour of others.

The link between a Theory of Mind deficit and autism comes from a study done by Simon Baron-Cohen et al. The results suggest that children with autism do not have Theory of Mind and have therefore difficulties with tasks where the child is required to understand another person’s beliefs. When the children grow older, they have difficulties assigning mental states to others. (Baron-Cohen & et al., 1985)

In other words, Theory of Mind allows people to attribute desires, thoughts, and intentions to other people and to explain actions and their own desires. The ability to attribute these (mental) states develops over time and different people may develop these abilities more or less effectively.

Empathy is a closely related concept to Theory of Mind and it is described as the understanding and recognition of the states of mind of other people, including their desires, beliefs, and emotions. Empathy is also known as the ability to put yourself in the shoes of someone else.

Premack's and Woodruff's research found that animals are able to attribute mental states and knowledge to other animals. (Premack & Woodruff, 1978) Later research found that humans are also able to develop these abilities. Simon Baron-Cohan describes the understanding of attention in other people as a huge precursor to the development of Theory of Mind. This social skill is found by children of 7 to 9 months old.

A recent research done by Cowell et al. suggest that there is a curious relationship between Theory of Mind and Generosity: children who pass Theory of Mind will share fewer stickers than children who fail Theory of Mind.

This study replicates the study done by Cowell et al. and adds another possible influencer on the relationship: the family composition in terms of whether the child is the oldest or the youngest of his/her siblings.

A large part of the study is about distributive justice studies.

Distributive justice studies with children are done with the ultimatum/bargaining games, Dictator Games or the forced-choice sharing games with a known confederate. The ultimatum/bargaining games are a way to measure the development of sharing abilities in children in conjunction with bargaining socially. During the games, the children are asked to make an offer in the way that they can choose how many rewards they want to share with others and how many rewards they want to keep for themselves. The children to whom the offer is given can reject the offer and when this occurs, both children receive nothing. During the forced-choice sharing games children get two options: share with someone (most of the times a classmate) or keep the resources. There is no discussion about how many resources to share, only whether they share with someone else or not. An example of a study with this technique is done by Fehr et al. and the findings in this study might suggest that altruistic sharing is

somewhat constrained by the ability of children to inhibit a natural tendency to keep the resources to the self (Fehr, Bernhard, & Rockenback, 2008).

This paper will focus on the last mentioned technique namely the Dictator Game technique. This technique is chosen because it gives a relatively unbiased assessment of generosity. During a dictator game, children are given a number of resources (often 6 or 10 stickers) and are asked whether they want to share the resources with someone else and how many they want to share.

A previous Dictator Game study at 6 primary schools in England for children aged 4, 6, and 9 years old demonstrated that children from higher SES environments and older children showed more altruistic behaviour. A footnote here is that most of the children showed altruistic behaviour, even the 4-year-old children (Benenson, Pascoe, & Radmore, 2007). These results suggest that generosity is influenced by not only intrinsic but also extrinsic factors. Moore's findings in his study indicate that resource-allocation decisions for children depend on the relationship the child has with the recipient of the resources. Children prefer to share resources with friends, share less with no friends, and make pro-social moves with strangers when there is no cost to the child self (Moore, 1998).

3. Methods

Participants

This study studied children between 3 and 6 years old (N =109, average age = 59.2 months, Standard Deviation = 1.65 and n = 56 male). The children were recruited from 2 primary schools in a high socioeconomic milieu area in Rotterdam.

As mentioned before, Reinier Vuylsteke and Dirk-Jan Wessels studied the children. To be able to replicate Cowell et al.'s test (N = 98 in their study), Reinier and Dirk-Jan made contact with over 150 day-nurseries and primary schools in Amsterdam and Rotterdam. After many rejections, two schools in Rotterdam decided to give a hand.

In order to give the parents of the potential participants on these two primary schools an incentive, Reinier and Dirk-Jan included an extra letter to the letter the parents had to sign for the ERIM: Reinier and Dirk-Jan give 2,50 euro to Unicef for every child that participates in our study. The letter to the school and parents is shown in Appendix 1 and 2.

Reinier and Dirk-Jan donated 272,5 euro to Unicef and sent a copy of the money transaction to the two schools.

Procedure

The children were tested during school time: the children were first tested for Theory of Mind with the false-belief task and then their generosity was tested with the Dictator game. The children were tested one at a time outside of their classroom and the parents of the children had given their approval. A letter with signature obtained the approval. All children gave verbal assent with ethical guidelines for testing children and the whole test was approved by the ERIM.

Measures

Theory of Mind:

The children are shown a doll, Kitty/Pete (doll has the same gender as the participating child) and Kitty/Pete puts a tennis ball in a basket or in a bucket. Kitty/Pete leaves the room and another doll, Puck/Tiger enters. Puck/Tiger takes the tennis ball out of the original basket or bucket, and puts it into the

alternative hiding location and Puck/Tiger then leaves. Kitty/Pete comes back and the children are asked, "Where will Kitty/Pete look for the tennis ball?" Children who answer with the original hiding location pass the test for Theory of Mind, and the children who answer with the alternative hiding location fail the test.

The children who failed the test are assumed to have a Theory of Mind deficit and the children who passed the test are assumed to have Theory of Mind.

To reduce possible bias due to children's obtained intelligence from parents or other classmates, the researchers changed the initial place of the ball (basket or bucket) frequently.

Dictator game:

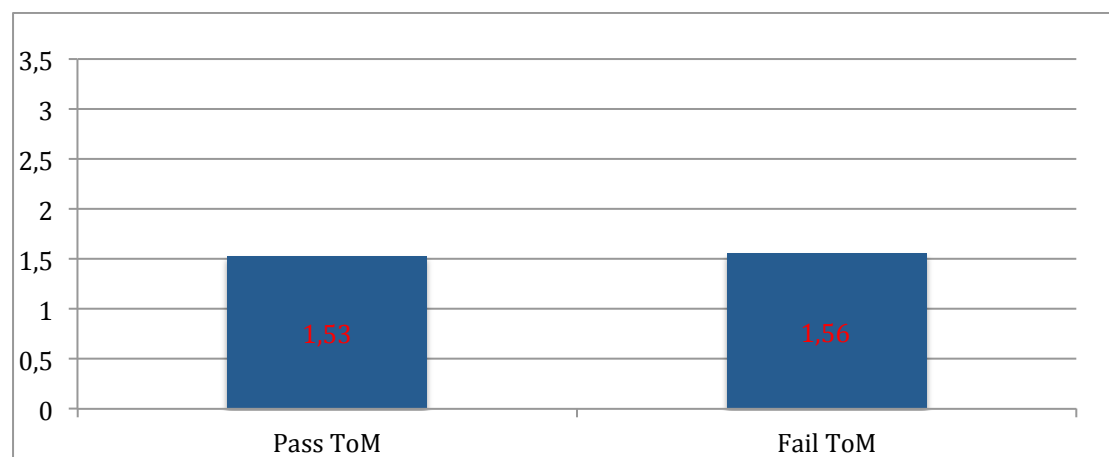
The children get six stickers and are told that they can have those stickers. If there are stickers, which they do not like, the child gets another sticker until they have 6 stickers they like. The children are then told that there is another child (gender matched to the participant) at school who cannot participate in this game, and so this child will have no stickers. However, if the children want, they can give one or more stickers to him/her. The children get one bowl for themselves and another bowl for the other child who cannot participate. We ask the children to put the stickers in the bowls. They can choose how they distribute the stickers over the two bowls. They can also choose to put the six stickers in either one of the bowls. The number of stickers they give to the other child measures the generosity of the children.

During the dictator game, the children are asked a couple of questions in order to know whether they understand their task. All children had to indicate the bowl for the stickers they could take home and the bowl for the stickers that would go to the other child. If the child indicated the bowls incorrectly, the instructions were repeated.

4. Results

The children in this study shared on average 1.55 candies out of a possible 6 candies (skewness =0.714, kurtosis = -0.405). To test if there were a significant differences in sharing amongst gender an independent sample t-test with dictator game output (amount shared) as the dependent variable and gender as grouping variable was conducted. The results show us that gender differences in sharing were insignificant ($F(0.165) = 0.686, n.s.$). Children who passed the Theory of Mind-test shared on average 1.53 stickers, while children who failed the test shared on average 1.56 stickers. These results are shown in figure 1.

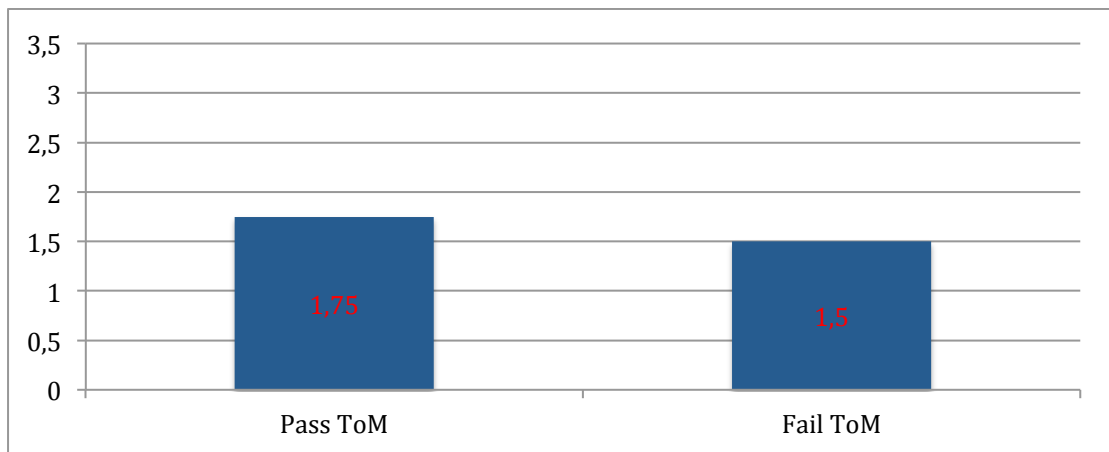
Figure 1: results for total sample (N=109)



To test if there is a significant difference in sharing between children who passed and failed the Theory of Mind test, an independent sample t-test was conducted. The results of our study prove that this negligible difference is insignificant ($F(0.026) = 0.871, n.s.$).

This independent sample t-test was also conducted on subgroups for children with younger siblings only (figure 2), and children with older siblings only (figure 3).

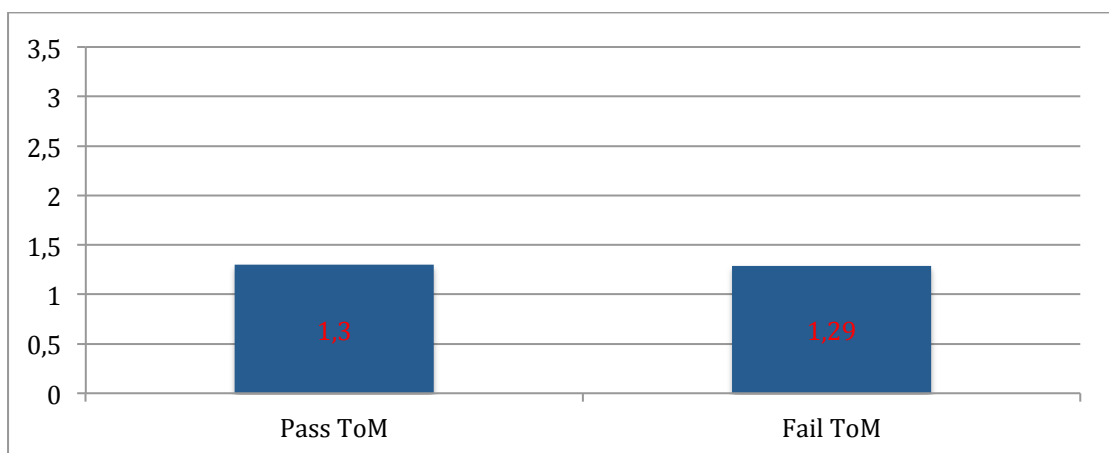
Figure 2: results for children with younger siblings only (N= 34)



Children with younger siblings only who passed the Theory of Mind test shared on average 1.75 stickers and children who failed the test shared an average of 1.50 stickers out of 6.

The results of the independent sample t-test prove that there is no significant difference between the average amount of stickers shared between the children in this category who passed the test and those who failed the test.

Figure 3: results for children with older siblings only (N= 47)

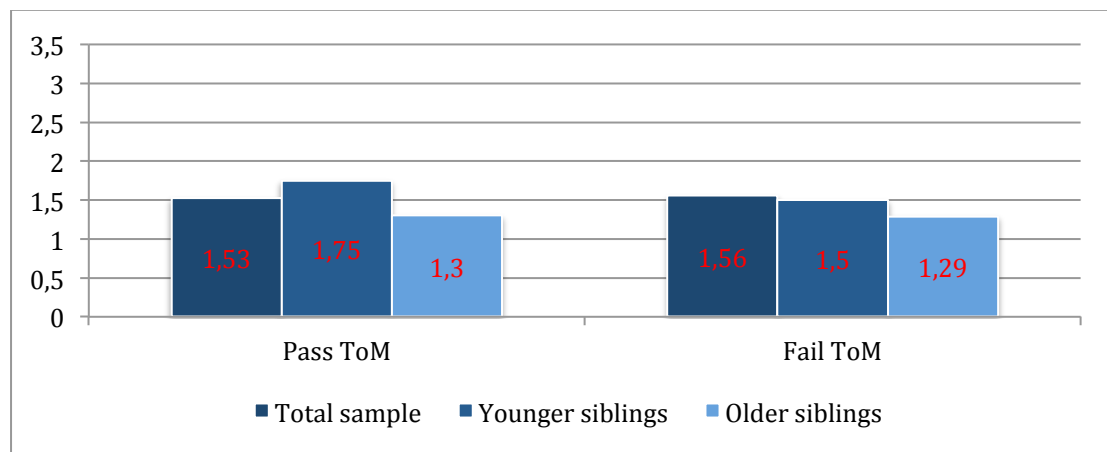


The other subgroup, children with older siblings only, had the same result as the previous two subgroups: Children with older siblings only who passed the Theory of Mind test shared on average 1.3 stickers and children who failed the test shared an average of 1.29 stickers out of 6.

The results of the independent sample t-test prove that there is no significant difference between the average amount of stickers shared between the children in this category who failed the test and those who passed the test.

To complete the study an independent T-Test for subgroups Theory of Mind passers and Theory of Mind failers is conducted, and the total sample with generosity as test variable and variable position (youngest or oldest in family) as grouping variable. These results also prove that family being the youngest or the oldest of the siblings has no significant influence on sharing.

Figure 4: results for children who passed ToM and children who failed ToM



5. Supporting study

A recent research by the Erasmus University in the field of Theory of Mind studied 132 salespeople (90% is male) and the participants were asked to fill in a questionnaire. The age of the participants of the sample was 38.20 years on average with a standard deviation of 7.39.

This current study used this data to be able to test if this data supports the data obtained for this current study.

To analyse the data, a factor analysis was made: the first factor is *Initiate conversation*, the second factor is *Notice hints*, and last factor is *Ability to supply missing information*.

The *Initiate conversation* factor is described as “*People low in Theory of Mind have difficulties in taking the initiative conversations.*” The following questions make up this factor:

- *When I am in the elevator I can easily have a small conversation*
- *I always make certain that I influence the atmosphere of a sales conversation in a positive way*
- *When at a reception I can easily start a conversation e.g., about the weather*
- *During conversation I can easily motivate customers to talk about themselves such that I can understand their motives*
- *I find it difficult to talk to a customer that is not about the business*

The *Ability to notice hints* factor is described as “*People low in Theory of Mind process indirect info and hints not very easily, as they only focus on bare utterances and are notable to focus on the ostensive meaning of communications.*” The following questions make up this factor:

- *I find it difficult to pick up the non-verbal signals of customers during a conversation*
- *At time I realize that I do not pick up the hints in sales conversations and a colleague has to tell me what happened in the conversation (only then do I realize what happened in the conversation)*
- *I do not know when I have to say something about customers and when I have to shut up about it*

The *Ability to supply missing information* factor, is described as “*People low on Theory of Mind tend to have more difficulties in supplying missing information during a sales conversation that can strengthen the understanding of the listener and shape the right context for this purpose/conversation.*” The following questions make up this factor:

- *When I realize that I do not possess the right amount of knowledge in a sales conversation I can easily add the right amount of information, then people do understand what I want to say*
- *When I realize that people do understand I always draw a broader frame such that words get a better meaning*
- *I always try to understand the context in which a customer is living and using examples I complete the missing information*

Reciprocity is described as “*measurement if the salespeople care about others’ problems and listens to them, but also shares their problems or other things.*”

The results of the tests that are conducted to analyse whether there is a correlation between reciprocity and the factors show there is no significant relation:

Correlation *Reciprocation* and Factor 1 = 0.081 but significance is $0.429 > 0.05$

Correlation *Reciprocation* and Factor 2 = -0.125 but significance is $0.221 > 0.05$

Correlation *Reciprocation* and Factor 3 = -0.012 but significance is $0.909 > 0.05$

Even though this research was not on children but on salespeople with an average age of over 38 years, the outcome of this questionnaire by the EUR supports the results and conclusion of this current research: the data on adults show there is no relation between *Reciprocation* and STOM.

All together, the two studies cannot show any relationship on interpersonal metalizing abilities (Theory of Mind) and sharing or *Reciprocation*. Therefore, Theory of Mind and sharing are not related in any way for children and for adults.

6. Conclusion

Cowell et al.'s study shows a counterintuitive relationship between generosity and Theory of Mind in children from different cultures and socioeconomic milieus (Cowell J. M., Samek, List, & Decety, 2015). To test whether this relationship also applies for children from a high socioeconomic milieu in the Netherlands, this research examined if Theory of Mind influences generosity. The false location task and Dictator Game were conducted with 109 children at two schools in Rotterdam.

This research examined whether being the oldest or being the youngest of the siblings in a family affected the relationship between Theory of Mind and generosity.

The results of this research show that Theory of Mind has no significant effect on generosity of Dutch children from a high socioeconomic milieu: children who passed the Theory of Mind test shared no significant different amount of resources than children who failed the test.

Additionally, this research proves that being the oldest or the youngest of the siblings in a family does not influence sharing: the children shared no significant different amount of resources.

Discussion

To examine the degree to which changes in generosity are affected by Theory of Mind, the false location task and dictator game were assessed in a sample of 109 children at two primary schools in Rotterdam suburbs (The Netherlands). To investigate the influence of family composition on generosity, the parents or caretakers were asked two questions to fill in on the approval form: 1. Does your child have younger siblings? Yes or no? 2. Does your child have older and/or younger siblings? Yes or no?

Former studies have proven the counterintuitive relationship between generosity and Theory of Mind (Cowell J. M., Samek, List, & Decety, 2015). However, this study demonstrates that Theory of Mind has no influence on sharing behaviour in a sample of Dutch pre-schoolers aged 4 to 7. This means that there is no relationship between Theory of Mind and sharing behaviour amongst children in this age category.

Coherent to the previous study of generosity and Theory of Mind (Cowell J. M., Samek, List, & Decety, 2015) our study used a single false-location task as the measure of Theory of Mind abilities (Wimmer, 1983). It is not the argument herein that a single measure of false-belief is completely enveloping of perspective-taking capacities (Bloom, 2000), yet the task does discern between children with very basic early perspective-taking and those without. Additionally, it might be possible that some children misunderstood the instructions of the Theory of Mind test or the guidelines of the dictator game, which could lead to a biased result. To avoid this bias our study was designed to several rule checks to be convinced that children have understood the instructions of the tasks completely. Before the start of the dictator game all children had to indicate the bowl for the stickers they could take home and the bowl for the stickers that would go to the other child. If the child indicated the bowls incorrectly, the instructions were repeated. Furthermore, other studies using a children's variant of the dictator game have proven that pre-schoolers have a profound grasp of the dictator game (Benenson J. P., 2007) (Gummerum, 2010). All in all it seems less probable that misunderstandings of either the Theory of Mind test or the dictator game biases the results of generosity. Finally there is also a possibility that parents have communicated with their child about

the tasks or even instructed them to share a certain amount of stickers to ensure social acceptable behaviour. Unfortunately this effect is very hard to perceive. For further investigation it is recommended to describe the tasks less explicit, so this bias is reduced. However, ethical standards for studies with children have to be followed closely.

Moreover it has to be noticed that the children from the previous study are primarily of low socioeconomic milieu (Cowell J. M., Samek, List, & Decety, 2015), whereas the children of our study are primarily of suburbs where most of the inhabitants are of high socioeconomic status (Nesseland and Berkel en Roderijs). Unfortunately we were not able to find a primary school in a low socioeconomic area willing to participate in our study. For further research it is recommended to design a study which encompasses both primary schools of high and low socioeconomic milieus, because this might be an underlying factor in this investigation. Overall our data proves that there is no (curious) relationship between either Theory of Mind and generosity or siblings and generosity.

Bibliography

- Baron-Cohen, S., & et al. (1985). Does the autistic child have a theory of mind? *Elsevier* .
- Benenson, J. F., Pascoe, J., & Radmore, N. (2007). Children's altruistic behavior in the dictator game. *Evolution & Human Behavior* , 28, 168-175.
- Benenson, J. P. (2007). Children's altruistic behavior in the dictator game. *Evolution and Human behavior* , 168-175.
- Bloom, P. G. (2000). Two reasons to abandon the false belief task as a test of theory of mind. *Cognition* .
- Cowell, J. M., Samek, A., List, J., & Decety, J. (2015, 2 6). The curious relation between theory of mind and sharing in preschool age children. *Plos one* , 1-8.
- Cowell, J. M., Samek, A., List, J., & Decety, J. (2015). The Curious Relation between Theory of Mind and Sharing in Preschool Age Children. (N. U. Ronhjun Yu, Ed.) *Plos One* .
- Fehr, E., Bernhard, H., & Rockenback, B. (2008). Egalitarianism in young children. *Nature* , 454, 1079-1083.
- Gummerum, M. H. (2010). Preschoolers' allocations in the dictator game: The role of moral emotions. *Economic Psychology* .
- Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *behavioral and brain sciences* .
- Robbins, E., & Rochat, P. (2011). Emerging signs of strong reciprocity in human ontogeny. *Frontiers in Psychology* , 253.
- Schmidt, M. F., & Sommerville, J. A. (2011). Fairness expectations and altruistic sharing in 15-month-old human infants. *Plos one* .
- Shaw, A., Montinari, N., Piovesan, M., Olson, K., Gino, F., & Norton, M. I. (2014). Children develop a veil of fairness. *Journal of experimental psychology* , 143 (1), 363-375.
- Sloane, S., Baillargeon, R., & Premack, D. (2009). Do infants have a sense of fairness? *Psychological Science* , 196-204.
- Smith, C. E., Blake, P. R., & Harris, P. L. (2013). I should but I won't: why young children endorse norms of fair sharing but do not follow them. *Plos One* , 8.
- Takagishi, H., Kameshima, S., Schug, J., Koizumi, M., & Yamagishi, T. (2010). Theory of mind enhances preference for fairness. *Journal of experimental child psychology* , 105 (1-2), 130-137.
- Wimmer, H. P. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition* .

Appendix 1: Letter to the schools

Geachte directie,

Wij schrijven u deze brief namens Willem Verbeke, Professor Sales- en Accountmanagement aan de Erasmus Universiteit Rotterdam.

Wij, Dirk-Jan Wessels en Reinier Vuylsteke, zijn bezig met onze scriptie voor de Master Economie en Bedrijfseconomie aan bovengenoemde universiteit en voor onze scriptie breiden wij een al bestaand onderzoek verder uit.

Enkele jaren geleden heeft er een onderzoek plaatsgevonden met als onderzoeksvraag: zijn kinderen tussen 3 en 6 jaar oud meer of minder vrijgevig wanneer zij Theory of Mind hebben.

Theory of Mind is in het kort gezegd het vermogen van mensen om een beeld te vormen van het perspectief van een ander persoon. De theorie wordt gebruikt om te kunnen beschrijven of een persoon bijvoorbeeld empathisch vermogen heeft.

Het opzienbarende van dit onderzoek was dat kinderen die geen Theory of Mind hebben, (dus zich minder goed in anderen kunnen verplaatsen) vrijgeviger zijn dan zij die dit wel hebben.

Wij willen u vragen of het mogelijk is om dit onderzoek bij scholieren van uw school uit te voeren. Het gaat om kinderen van 3 tot en met 5 jaar oud.

Het onderzoek is volledig anoniem en het enige wat de kinderen ons geven is hun leeftijd en het beantwoorden van de vragen die hierna worden toegelicht.

Door strikte regelgeving omtrent onderzoeken bij kinderen, is ons onderzoek voorgelegd aan ERIM International Review Board. Deze commissie heeft ons onderzoek goedgekeurd.

De ouders van de kinderen zullen ook goedkeuring moeten geven aan het onderzoek en daarom hebben wij een brief voor hen opgesteld. Zij dienen, indien zij akkoord gaan met het onderzoek, deze brief ondertekend terug te geven. Ons streven is om zoveel mogelijk kinderen aan het onderzoek mee te laten doen.

Tijdens het onderzoek worden de kinderen getest op Theory of Mind en hun vrijgevigheid middels het zogenaamde Dictator spel.

Theory of Mind:

De kinderen krijgen een pop te zien en deze pop stopt een tennisbal in 1 van de 6 opgestelde emmers. De pop gaat weg en er komt een andere pop. Deze nieuwe pop pakt de tennisbal uit de emmer, stopt hem in een andere emmer en vertrekt. Vervolgens komt de eerste pop terug en de kinderen wordt gevraagd: "waar zal de pop kijken voor zijn tennisbal?". Kinderen met Theory of Mind zullen antwoorden dat de pop in de emmer kijkt waar hij hem achter heeft gelaten. Kinderen zonder Theory of Mind zullen antwoorden dat hij in de emmer met de tennisbal kijkt. Zij leggen geen link tussen de kennis van de pop en het verplaatsen van de tennisbal.

Dictator spel:

De kinderen krijgen 6 stickers en hen wordt verteld dat zij die stickers mogen hebben. Indien er stickers bij zitten die ze niet leuk vinden, krijgen ze een sticker daarvoor in de plaats die ze wel leuk vinden. Vervolgens vertellen wij de kinderen dat andere kinderen op school zitten die niet mee kunnen doen en dus geen stickers krijgen. Maar, als de kinderen willen, dan kunnen ze een of meerdere stickers aan hen geven.

Dan krijgen de kinderen 1 bakje voor henzelf en een ander bakje voor kinderen die niet mee kunnen doen. Wij vragen de kinderen om de stickers in de bakjes te doen. Ze mogen kiezen hoe ze de stickers verdelen over de twee bakjes. De vrijgevigheid van de kinderen wordt gemeten door het aantal stickers dat ze van de 6 aan het andere kind hebben gegeven.

De onderzoeken worden het beste uitgevoerd door de kinderen een voor een uit de klas te halen en de kinderen deze vragen te stellen. De kinderen zijn hooguit 5 minuten bezig met de vragen en daardoor zullen zij weinig van de les missen.

Wij zullen elke dag beschikbaar zijn om de onderzoeken uit te voeren u kunt dus zelf aangeven wanneer het u het beste uitkomt.

Mocht u nog vragen hebben dan kunt u telefonisch of via e-mail contact met ons opnemen.

Mocht u het onderzoek willen lezen waarover wij onze scriptie schrijven dan kunt u dat vinden via google: The curious relation between Theory of Mind and Sharing in Preschool Age Children (Jason Cowell et al.). Mocht u het niet kunnen vinden dan kunt u ons ook een mail sturen en dan zullen wij het onderzoek naar u sturen.

Met vriendelijke groet,

Reinier Vuylsteke en Dirk-Jan Wessels

Contactgegevens
Reinier Vuylsteke
rrmvuylsteke@hotmail.com
06-29239023

Dirk-Jan Wessels
dirkjan.wessels@gmail.com
06-43554909



Appendix 2: Letter to the parents for instructions and approval

Geachte ouders/verzorgers,

Wij schrijven u deze brief namens Willem Verbeke, Professor aan de Erasmus Universiteit Rotterdam. Wij willen u vragen of het mogelijk is om een onderzoek bij uw kind uit te voeren. **Het onderzoek is volledig anoniem en het enige wat de kinderen ons geven is hun leeftijd en het beantwoorden van de vragen die nader worden toegelicht.** Wij, Dirk-Jan Wessels en Reinier Vuylsteke, zijn bezig met onze scriptie voor de Master Economie aan bovengenoemde universiteit en voor onze scriptie breiden wij een al bestaand onderzoek verder uit.

Enkele jaren geleden heeft er een onderzoek plaatsgevonden met als onderzoeksvraag: zijn kinderen tussen 3 en 6 jaar oud meer of minder vrijgevig wanneer zij Theory of Mind hebben. Theory of Mind is in het kort gezegd het vermogen van mensen om een beeld te vormen van het perspectief van een ander persoon. De theorie wordt gebruikt om te kunnen beschrijven of een persoon bijvoorbeeld empathisch vermogen heeft. Het opzienbarende van dit onderzoek was dat kinderen die geen Theory of Mind hebben vrijgeviger zijn dan zij die dit wel hebben.

Wat gebeurt er tijdens het onderzoek?

Deel 1 Theory of Mind

De kinderen krijgen een pop te zien en deze pop stopt een tennisbal in een mand. De pop gaat weg en er komt een andere pop. Deze nieuwe pop pakt de tennisbal uit de mand, stopt hem in een emmer en vertrekt. Vervolgens komt de eerste pop terug en wordt de kinderen gevraagd: "waar zal de pop kijken voor zijn tennisbal?". Kinderen met Theory of Mind zullen antwoorden dat de pop in de mand kijkt waar hij hem achter heeft gelaten. Kinderen zonder Theory of Mind zullen antwoorden dat hij in de emmer met de tennisbal kijkt. Zij leggen geen link tussen de kennis van de pop en het verplaatsen van de tennisbal.

Deel 2 Bereidheid om te delen

De kinderen krijgen 6 stickers en hen wordt verteld dat zij die stickers mogen hebben. Indien er stickers bij zitten die ze niet leuk vinden, krijgen ze een sticker daarvoor in de plaats die ze wel leuk vinden. Vervolgens vertellen wij de kinderen dat er andere kinderen op school zitten die niet mee kunnen doen en dus geen stickers krijgen. Maar, als de kinderen willen, dan kunnen ze een of meerdere stickers aan hen geven. Dan krijgen de kinderen 1 bakje voor henzelf en een ander bakje voor kinderen die niet mee kunnen doen. Wij vragen de kinderen om de stickers in de bakjes te doen. Ze mogen kiezen hoe ze de stickers verdelen over de twee bakjes. De vrijgevigheid van de kinderen wordt gemeten door het aantal stickers dat ze van de 6 aan het andere kind hebben gegeven.

Het onderzoek duurt slechts 5 minuten en kan tijdens schooltijd worden uitgevoerd. Tevens willen wij herhalen dat de resultaten volledig anoniem worden behandeld. Door strikte regelgeving omtrent onderzoeken bij kinderen, is ons onderzoek voorgelegd aan ERIM International Review Board. Deze commissie heeft ons onderzoek goedgekeurd.

U steunt een goed doel!

Per deelnemend kind zullen wij € 2,50 ter beschikking stellen aan UNICEF. Wij streven naar +/- 100 deelnemende kinderen. Naast het feit dat u ons ontzettend helpt met afstuderen, steunt u daarmee dus ook een goed doel dat opkomt voor de belangen van de minder bedeelde kinderen op deze wereld!



Vragen?

Mocht u nog vragen hebben dan kunt u telefonisch of via e-mail contact met ons opnemen.

Mocht u het onderzoek willen lezen waarover wij onze scriptie schrijven dan kunt u dat vinden via google: The curious relation between Theory of Mind and Sharing in Preschool Age Children (Jason Cowell et al.). Mocht u het niet kunnen vinden dan kunt u ons ook een mail sturen en dan zullen wij het onderzoek naar u sturen.

Indien u akkoord bent met de deelname van uw kind zouden wij u willen verzoeken om onderstaande gegevens in te vullen en deze brief ondertekend voor _____ te retourneren.

Naam ouder/verzorger ** _____

Ouder/verzorger van ** _____

Leeftijd kind in jaren _____

Heeft uw kind broertjes of zusjes Ja / Nee (doorhalen wat niet van toepassing is)

Handtekening ouder/verzorger _____

Datum _____

*** deze gegevens worden alleen gebruikt voor de ethische commissie, die erop toeziet dat wij op een juiste manier aan de data zijn gekomen. Deze gegevens worden door ons niet in de uitslagen van het onderzoek verwerkt!*

Uw medewerking wordt door ons zeer op prijs gesteld!

Met vriendelijke groet,

Reinier Vuylsteke en Dirk-Jan Wessels

Erasmus Universiteit Rotterdam

Contactgegevens

Reinier Vuylsteke
rrmvuylsteke@hotmail.com
06-29239023

Dirk-Jan Wessels
dirkjan.wessels@gmail.com
06-43554909

