THE EFFECT OF INDIVIDUAL-LEVEL VS. GROUP-LEVEL PERSPECTIVE TAKING ON PROSOCIAL BEHAVIOUR

Brenda Voorthuis
S1558617

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University of Twente, Enschede, the Netherlands

First Supervisor: Dr. ir. Peter de Vries
Second Supervisor: Dr. Jan Gutteling

Abstract

The relationship between empathy in reading and prosocial behaviour is investigated. It is proposed that individual-level perspective taking evokes the affective mode of thought which results in prosocial behaviour through affective theory of mind and empathy. Group-level perspective taking evokes the deliberative mode of thought, which results in a cognitive theory of mind and a less emotional response of the reader. In this study, participants read a text about one individual victim or a group of victims. Afterwards, perspective taking, empathy, theory of mind, and prosocial behaviour were measured. The manipulation check showed that only in the group-level condition significantly more perspective taking occurred than in the control condition. There was no effect of Perspective on empathy, cognitive theory of mind, affective theory of mind, or prosocial behaviour. A possible explanation for the absence of effects is that the group-level text and individual-level text were too similar in terms of characteristics of the story characters for the reader to relate to. It is also possible that no effect on prosocial behaviour was found because the prosocial behaviour measured was not directed at the story characters towards whom the empathy was evoked. This is a course for future research.

Keywords: *Perspective taking, Reading, Empathy, Prosocial Behaviour, Yoni*

The Effect of Individual-Level vs. Group-Level Perspective Taking on Prosocial Behaviour

Joseph Stalin once said that “one death is a tragedy. A million deaths is a statistic.” What Stalin meant with this statement is that when a story is told about one person dying, this invokes feelings of sadness and empathy towards this person. However, when the same thing happens to a large number of people, this number is viewed as a statistic and no emotional reaction is evoked. In psychology, this phenomenon is called psychological numbing (Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997). The difference between the response to an individual victim and the response to a group of victims is also seen in reading, which indicates that reading is a complex process which is able to influence the emotional state of the reader.

A study by Lehne et al. (2015) showed that reading indeed involves an emotional process. When an individual reads a suspenseful story, the reader will be uncertain about the course of the story. This uncertainty is a negative emotion and the reader will feel an urge to reduce this emotion by trying to predict the course of the story. Brain areas are activated that are related to this predictive processing. Predictive processing reduces uncertainty about the story, and, with that, suspense for the reader (Lehne et al., 2015).

However, reading is also related to several cognitive processes (Lehne et al., 2015; Pino & Mazza, 2016). The most obvious cognitive process involved in reading is the processing of written language, but social-cognitive processes such as perspective taking and theory of mind-processing are also involved. These cognitive processes, in turn, influence the emotional state of the reader. Thus, reading involves an interaction between both affective and cognitive processes.

The cognitive process of perspective taking can be defined as imagining how some other person feels in a given situation (Batson, Early, & Salvarani, 1997). Perspective taking in reading means that the reader becomes involved with the characters of the story by imagining how the characters think, feel, and behave (Bal & Veltkamp, 2013; McCreary & Marchant, 2017). This also

helps the reader reduce uncertainty about the course of the story. Taking the perspective of the characters enables the reader to understand their feelings and thus to feel empathy towards them.

It is suggested by Pinker (2011) that the increase in literacy that has occurred throughout the ages has lead people to become better perspective-takers. As more novels are available and more people are able to read them, individuals' empathic abilities have improved. This improvement of empathic abilities has, according to Pinker (2011), resulted in a decrease in violence, more prosocial behaviour and a safer world. In response to Pinker (2011), several researchers have investigated the relationship between perspective taking in reading, empathy, and prosocial behaviour. As shown by Van de Pieterman (2015) and Bal and Veltkamp (2013), reading a text in which the perspective of another person is taken leads to an increase in the amount of prosocial behaviour that is displayed. This indicates that perspective taking is indeed related to prosocial behaviour.

However, as stated above, there seems to be a difference between taking the perspective of an individual and taking the perspective of a group of people. In contrast to individual victims, large numbers of victims do not cause any emotional reaction in readers (Barth & Stürmer, 2016; Small, Loewenstein, & Slovic, 2007). This suggests that reading a text about a large number of victims will not lead to feelings of empathy and, consequently, will not increase prosocial behaviour. Therefore, the research question is the following:

Does individual-level perspective taking lead to an increase in prosocial behaviour as compared to group-level perspective taking?

Theoretical Framework

Reading a story about a certain character or multiple characters often involves perspective taking. In the context of reading, this means that the reader tries to imagine how a character in the story

thinks and feels in the described situation. Through perspective taking, the reader is able to understand the feelings and behaviour of the character, which evokes empathy towards this character (Van de Pieterman, 2015).

Empathy can be defined as "the capacity to share the physiological and emotional states of other people" (Pino & Mazza, 2016). It is thought to consist of two dimensions: mentalizing and emotional sharing. Mentalizing is the ability to understand what others think and feel (Majdandžić, Amashaufer, Hummer, Windischberger, & Lamm, 2016), whereas emotional sharing is the ability to actually feel these same emotions (Pino & Mazza, 2016).

Feelings of empathy arise through a process of merging of self-other representations (Majdandžić et al., 2016). When there is more overlap between the reader's own feelings and his or her mental representations of the feelings of the story character, it is easier to take the perspective of this character. Thus, perspective taking occurs more easily when the story character is similar to the reader. Therefore, more empathy is evoked when the story character is similar to the reader (Majdandžić et al., 2016).

Perspective taking involves a transition from a self-directed to an other-directed orientation. This does not only lead to feelings of empathy, but also to prosocial behaviour (Majdandžić et al., 2016). Prosocial behaviour consists of voluntarily performed actions that contribute to the welfare of another person. Negative as well as positive empathy are related to prosocial behaviour (Telle & Pfister, 2015). The relation between negative empathy and prosocial behaviour is caused by a wish to compensate for the less advantaged state of a different person. The relationship between positive empathy and prosocial behaviour is often assumed to be caused by a mood maintenance motive: when people are in a good mood because of feeling positive empathy, they want to maintain this good mood by helping other people (Telle & Pfister, 2016).

Theory of mind. A second social skill that is related to perspective taking in reading is the reader's theory of mind (ToM), which can be described as the ability to recognize and understand other people's emotions (Kidd & Castano, 2013). Kidd and Castano (2013) make a distinction between two types of ToM: the affective ToM and the cognitive ToM. Affective ToM is the ability to recognize and feel other people's emotions, and thus involves an emotional process. Cognitive ToM, on the other hand, is the ability to understand and predict other people's thoughts and beliefs (Kidd & Castano, 2013). Like affective ToM, cognitive ToM is also enhanced by perspective taking in reading, but involves a slower and more deliberative process.

Individual-level vs. group-level perspective taking. In Barth and Stürmer (2016), the difference between individual-level and group-level perspective taking is explained. In individual-level perspective taking, there is one individual perspective taking target, and this individual's personal story is told. Taking the perspective of this individual causes an empathic reaction because an individual member of the outgroup is identified, which makes it relatively easy to merge self-other representations and to feel empathy towards the victim. In group-level perspective taking, on the other hand, no individual information is given. An entire group is the perspective taking target (Barth & Stürmer, 2016).

A study by Small et al. (2007) is focused on situations in which people read about victims of a certain disaster and then have to decide how much money they are going to donate. A dual process model is proposed to explain the difference between individual-level and group-level perspective taking (Small et al., 2007). A reader's response to a text about victims can arise through either the deliberative or the affective mode of thought. The affective mode of thought is used in individual-level perspective taking. When there is one individual victim, it is easy for the reader to identify with this victim, so a stronger emotional reaction is elicited. This affective reaction arises relatively fast and unconsciously, and is related to affective ToM.

When there is a group of victims, on the other hand, the deliberative mode of thought is used. When a certain number of victims is given, the reader is only able to determine the scope of the disaster when the number of victims can be compared to a total population size. It makes a difference for the reader whether a text about one hundred victims is about one hundred out of a thousand or about one hundred out of a billion. One hundred deaths in a small town with a thousand inhabitants can be seen as a very large loss, whereas one hundred deaths in a country with billions of inhabitants can be considered only a minor misfortune. When the reader is not able to see a group of victims relative to a total population size, it is not possible to identify the scope of the disaster. Then, the number of victims is reduced to a mere statistic and does not elicit a strong emotional reaction in the reader (Small et al., 2007). Since no affective reaction is evoked, the reader uses cognitive ToM to imagine how the victims in the text will feel.

In short, it seems that when the subject of a text is a single, identifiable victim, the affective mode of thought is evoked through which the reader will develop an affective ToM and feel empathy towards the victim. Because of this feeling of empathy, the reader will show more prosocial behaviour. When a large number of victims is the subject of a text, however, the reader will shift to the deliberative mode of thought and cognitive ToM, which will evoke less emotion in the reader. As the reader feels less empathy, less prosocial behaviour is shown. The conceptual model is shown in Figure 1.

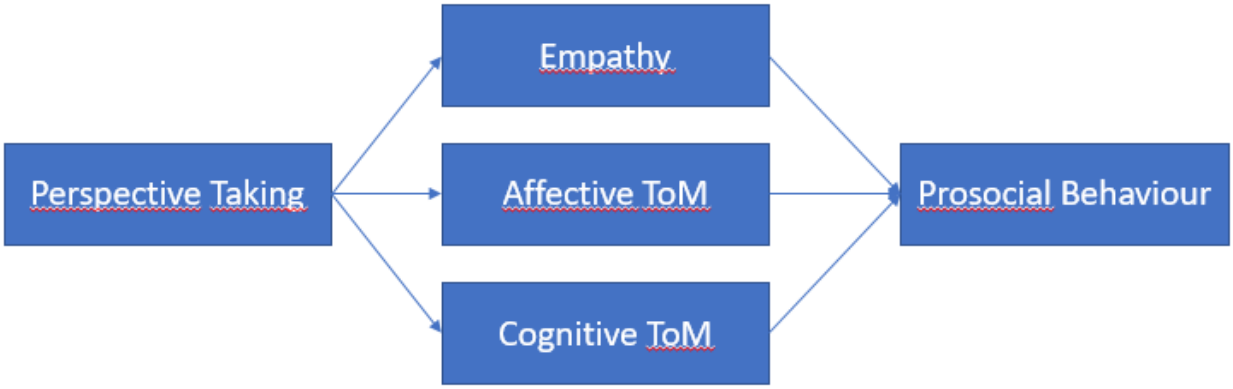


Figure 1. Conceptual Model

The Current Study

In this study, participants fill in a questionnaire online and are assigned to either an individual-level condition, a group-level condition, or a control condition. In the individual-level and group-level condition, the same fictional text is read, but in the individual-level condition there is only one victim whereas in the group-level condition there is a group of victims. Participants in the control condition read a factual text about the same subject. Participants' perspective taking, empathy, affective ToM and cognitive ToM are measured. At the end of the questionnaire, participants receive a request to fill in another questionnaire to help other Bachelor students as a measure of prosocial behaviour.

The degree to which empathy, affective ToM, and cognitive ToM are evoked in participants in the individual-level condition is compared to the degree to which these feelings are experienced in the group-level- and control condition. Also, the degree to which prosocial behaviour is shown at the end of the questionnaire is compared between the conditions. Therefore, the hypotheses are the following:

H1: Individual-level perspective taking leads to more empathy than group-level perspective taking.

H2: Individual-level perspective taking leads to more affective theory of mind than group-level perspective taking.

H3: Group-level perspective taking leads to more cognitive theory of mind than individual-level perspective taking.

H4: Individual-level perspective taking leads to more prosocial behaviour than group-level perspective taking.

Method

Participants & Design

A convenience sample was taken from Psychology- and Communication students of the University of Twente. Participants applied for the study via an online research administration system (SONA), and were rewarded with partial course credit. From each individual participant, informed consent was obtained. Permission for conducting the research was given by the Ethics Committee of the University of Twente. Participants had to be at least 18 years old and have sufficient English reading skills, as the procedure was conducted in English. In total, 95 participants took part in the study with an age between 18 and 25 years old (M = 20.37, SD = 1.57). Twenty-three participants were male (24.2%), and 72 participants were female (75.8%). Twenty (21.1%) of the participants reported having a Dutch nationality, 66 (69.5%) of the participants were German, and nine (9.5%) of the participants had a different nationality.

A between-groups design was employed, in which participants were randomly assigned to either one of two experimental conditions or a control condition. The independent variable was

perspective taking, with individual-level perspective taking occurring in the individual-level condition and group-level perspective taking occurring in the group-level condition. No perspective taking occurred in the control condition. The dependent variables were empathy, affective ToM, cognitive ToM, and prosocial behaviour.

Materials & Procedure

The research was conducted via an online research administration system (SONA). Participants could sign up for the questionnaire and were able to fill it in at any time and location desired. Although environmental circumstances could be controlled more easily in an offline setting, an online survey was used because this lowered the threshold for participation so more participants could be reached.

The first screen of the survey consisted of a short instruction. Participants were informed that the study was about reading comprehension and that they would have to read a text and answer some questions about its content afterwards. The true goal of the research was not revealed to make sure participants would not guess the hypotheses. Participants were asked to give their informed consent and proceed to the next page.

Three similar texts were used in the study. The only difference between both texts was that in the individual-level condition, participants read a text about one victim, and in the group-level condition participants read a text about multiple victims. The text was a personal narrative of Billy P., which was an excerpt of a book (Divine, 2013). The original text was edited by Nölke (2016) for research purposes. The text used by Nölke (2016) was again edited to create an individual-level and a group-level text. Also, a factual text about the same subject from Nölke (2016) was used for the control condition. Excerpts of the used texts are shown in table 1. Twenty-eight (29.5%) of the

participants were randomly assigned to the individual-level condition, 29 (30.5%) participants were in the group-level condition, and 38 (40.0%) were in the control condition.

Table 1

Excerpts of Texts used in each Condition

Individual	Group	Control
"The 'matronly lady in the grey uniform' took him on a train from Glasgow to Aberlour railway station, about half a mile or so from the Orphanage buildings: "I didn't know I was going to an Orphanage. I was just told that we were going on a day trip to the Highlands. Papers I've seen since tell me that in fact what happened was that my father handed me over to the Orphanage in the hope that he might be able to retrieve me at some unspecified future date, but in fact he never did. That was the last I ever heard of him, so he just disappeared from my life."	"The 'matronly lady in the grey uniform' took the boys on a train from Glasgow to Aberlour railway station, about half a mile or so from the Orphanage buildings: "We didn't know we were going to an Orphanage. We were just told that we were going on a day trip to the Highlands. Papers we've seen since tell us that in fact what happened was that our fathers handed us over to the Orphanage in the hope that they might be able to retrieve us at some unspecified future date, but in fact they never did. That was the last we ever heard of them, so they just disappeared from our lives."	"Often, the children would be picked up by a staff member of the orphanage. They were told that they would be going on a trip, but instead, they were taken to the orphanage. For most of the children, it was the last time they ever saw their parents."

Participants in the individual-level condition received the text with only one victim and were asked to imagine how the victim would feel in this situation. Participants in the group-level condition received the text with a group of victims and were asked to imagine how the victims would feel in this situation. Participants in the control condition received the factual text and were asked to count the number of verbs in the text.

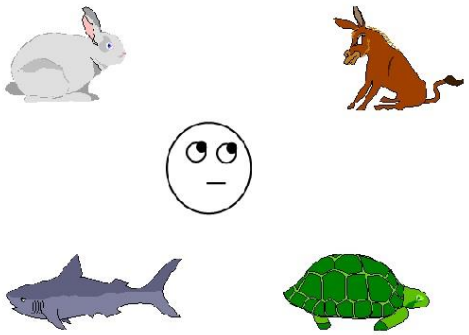
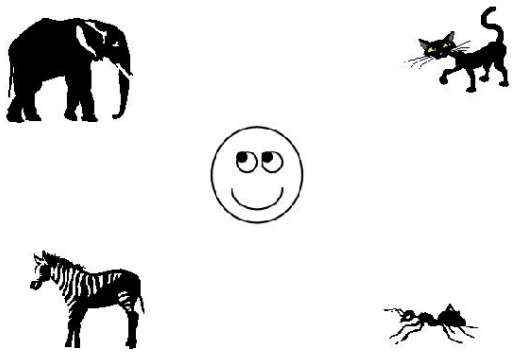
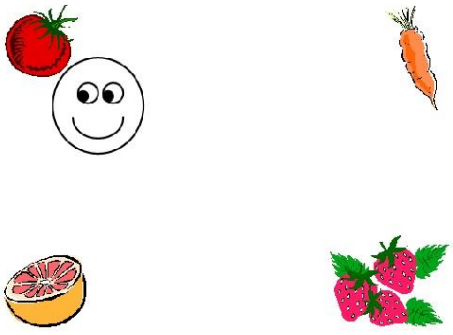
After reading the text, participants in the individual-level and group-level condition were asked to answer a few questions about the course of the story, to test whether the text had been read carefully. In the control condition, participants were asked to indicate the number of verbs counted. Then, participants were asked to fill in the questionnaires measuring empathy and perspective taking. Empathy and perspective taking were measured with items from the Interpersonal Reactivity Index by Davis (1980). These items were adapted to be more specific to the story. Empathy and perspective taking were both measured with seven statements (Appendix B), which were provided in random order. Each item was scored from 1 ("*does not describe me very well*") to 5 ("*describes me very well*"). The reliability of the empathy scale was high with a Cronbach's Alpha of .84. For the perspective taking scale, a Cronbach's Alpha of .79 was found, indicating a moderate reliability. Reversely formulated items were rescaled and the construct of Empathy consisted of the average score on the seven items measuring empathic concern. The construct of Perspective taking consisted of the average score on the seven items measuring perspective taking.

Subsequently, the Yoni task was performed to measure both cognitive and affective ToM (Shamay-Tsoory & Aharon-Peretz, 2007). This test consisted of 64 trials in total, of which 24 measured cognitive ToM and 24 measured affective ToM. In each trial, an outline of a face named Yoni was shown, surrounded by four objects, sometimes each accompanied by another face. Based on a verbal instruction at the top of the screen and the eye gaze and facial expressions of Yoni and the other faces, the participant had to indicate the object to which Yoni was referring. In the cognitive trials, both Yoni's facial expression and the verbal instruction were emotionally neutral. In the affective trials, these cues provided some affective information. The other 16 trials were ´physical´ trials in which Yoni's eye gaze did not give information about the right answer. These trials were added to ensure that participants did not automatically respond to eye gaze. Examples

of trials are shown in table 2. Affective ToM was indicated by the number of affective trials that were answered correctly. Cognitive ToM was indicated by the number of cognitive trials that were answered correctly.

Table 2

Examples of Yoni Trials

Cognitive Trial	**Affective Trial**
Yoni is thinking of ____ 	Yoni loves ____ 
Physical Trial	
Yoni is close to ____ 	

After performing the Yoni task, participants were asked to indicate their age, gender, nationality, and SONA number. Prosocial behaviour was measured at the end of the questionnaire by means of a request to fill in another questionnaire. Participants were told that this questionnaire

was part of a study unrelated to the current study. As participants were informed that they would not receive any compensation such as course credit for filling in this questionnaire, but that they would help other Bachelor students with filling it in, the decision to fill in this questionnaire was considered a measure of prosocial behaviour. Participants were also asked how many hours they would be willing to help with the analysis of this questionnaire. They could either choose to go to the second questionnaire, or close the current questionnaire and finish their participation. As the second questionnaire did not actually exist, both options directed the participants to the final page of the survey which consisted of a complete debriefing that revealed the true goal of the study. Participants were asked whether they agreed with their data being used for the actual goal of the research. The researcher´s email address was indicated to give participants the opportunity to ask questions.

Results

The initial dataset consisted of 124 participants. From this dataset, 18 participants were removed because of not completely finishing the questionnaire. Eight participants were removed for spending less than fourty seconds on the text, and one participant was removed for not answering the questions about the text seriously. One participant was removed because of not finding the survey via the SONA system, and one participant was removed because of not consenting with the data being used for the actual purpose of the study after the debriefing. The final dataset consisted of 95 participants.

Table 3 shows means and standard deviations for empathy, cognitive ToM, affective ToM, and prosocial behaviour for each condition. Table 4 shows correlations between these measures.

Table 3

Descriptive Statistics of Dependent Variables

	Individual		Group		Control	
Variable	Mean	SD	Mean	SD	Mean	SD
Empathy	3.89	0.55	3.86	0.75	3.78	0.76
Cognitive ToM	33.86	3.47	31.14	5.66	33.58	3.71
Affective ToM	43.25	4.75	39.97	7.31	43.82	4.37
Prosocial Behaviour[a]	0.68	0.48	0.72	0.46	0.82	0.39
Prosocial Behaviour[b]	0.43	0.88	0.31	0.76	0.18	0.87

Note. ToM = Theory of mind.

[a]The willingness to fill in another questionnaire. Here, a 0 indicates a "yes"-response, and a 1 indicates a "no"-response. [b]The number of hours participants were willing to help with the analysis of the questionnaire.

Table 4

Correlations Between Measures of Dependent Variables

	Empathy	Cognitive ToM	Affective ToM	Prosocial Behaviour[a]	Prosocial Behaviour[b]
Empathy	1	-.00	-.07	-.12	.20
Cognitive ToM	-.00	1	.78*	-.09	-.05
Affective ToM	-.07	.78*	1	-.14	.03
Prosocial Behaviour[a]	-.12	-.09	-.14	1	-.47*
Prosocial Behaviour[b]	.20	-.05	.03	-.47*	1

Note. ToM = Theory of mind.

[a]The willingness to fill in another questionnaire. [b]The number of hours participants were willing to help with the analysis of the questionnaire.

* $p < .01$

A manipulation check was conducted by means of a one-way ANOVA on perspective taking across Perspective taking conditions, which revealed a significant difference between conditions: $F(2,92) = 4.86$, $p = .010$. Perspective taking scores were significantly higher in the individual-level condition ($M = 3.54$, $SD = 0.13$) than in the control condition ($M = 3.01$, $SD = 0.11$, $p = .00$). There was no significant difference between scores in the group-level condition ($M = 3.34$, $SD = 0.13$) and scores in the control condition ($p = .06$), and there was no significant difference between scores in the individual-level condition and scores in the group-level condition ($p = .28$).

A MANOVA was conducted with Perspective as independent variable and empathy, cognitive ToM, affective ToM, and both measures of prosocial behaviour as dependent variables. No significant difference between the Perspective taking conditions on the dependent variables was found: Wilks' Lambda = .87, $F(10,176) = 1.25$, $p = .26$. This indicates that the first three hypotheses are not confirmed.

A regression analysis was employed to explore the prediction of the willingness to fill in another questionnaire from Perspective, empathy, cognitive ToM, and affective ToM. A non-significant model was observed: $F(4,90) = 1.43$, $p = .23$, with an adjusted R-squared of 0.02. In predicting the willingness to fill in another questionnaire, beta values for Perspective, empathy, cognitive ToM, and affective ToM were 0.08 ($p = .18$), -0.08 ($p = .21$), 0.01 ($p = .56$), and -0.02 ($p = .16$) respectively. Another regression analysis was employed to explore the prediction of the number of hours participants were willing to spend helping with the analysis of the questionnaire from Perspective, empathy, cognitive ToM, and affective ToM. Again, a non-significant model was observed: $F(4,90) = 1.70$, $p = .16$, with an adjusted R-squared of 0.03. In predicting the number of hours spent helping with the data analysis, beta values for Perspective, empathy, cognitive ToM, and affective ToM were -0.12 ($p = .23$), 0.24 ($p = .05$), -0.04 ($p = .20$), and 0.03 ($p = .19$),

respectively. This showed that none of the dependent variables contributed to the prediction of the variance in prosocial behaviour, and the fourth hypothesis was not confirmed.

Discussion

In this study, the effect of individual-level and group-level perspective taking in reading on prosocial behaviour was investigated. It was hypothesized that through an increase in empathy, cognitive ToM, and affective ToM, reading a text in which the perspective of an individual was taken would lead to more prosocial behaviour than reading a text about a group of people, or reading a factual text. However, no significant differences between individual-level and group-level perspective taking were found in terms of empathy, cognitive ToM, or prosocial behaviour. Also, the amount of prosocial behaviour displayed could not be predicted by the Perspective taking condition. Therefore, none of the hypothesis could be confirmed. The research question of this study was: "Does individual-level perspective taking lead to an increase in prosocial behaviour as compared to group-level perspective taking?", and can be answered as follows: No, it could not be shown that individual-level perspective taking leads to an increase in prosocial behaviour as compared to group-level perspective taking.

The findings are not in line with previous research. For example, Small et al. (2007) show that more prosocial behaviour is shown towards individual victims than towards statistical victims, or groups of victims. This result was not found in the current study. A crucial difference between the current study and the study by Small et al. (2007) might be that in the current study, the prosocial behaviour measured was directed towards 'other bachelor students', who were not the subject of the text the participants read. In the study by Small et al. (2007), participants read a text about victims of starvation in Africa, and where then asked how much money they would be willing to donate to these famine victims. It is possible that the increase in prosocial behaviour only occurs

for prosocial behaviour that is directed towards the victim(s) whose perspective the reader took. This difference between prosocial behaviour directed towards the actual victim and prosocial behaviour directed towards others is a possible subject for future research. .

Another possible explanation for the fact that no results were found is that the manipulation did not work. The manipulation check indicated that participants did not engage in more perspective taking in the individual-level condition than in the group-level condition. The mean score on perspective taking in the group-level condition was higher than in the control condition, but lower than in the individual-level condition. However, the only significant difference was found between the individual-level condition and the control condition. The group-level condition did not differ significantly from the other two conditions in terms of perspective taking. As the manipulation was not strong enough, no differences in effect were found on the other dependent variables.

The fact that the manipulation check showed no difference in effect of the perspective taking condition on perspective taking may be caused by the fact that the texts used in the current study were not suitable for the manipulation they were intended to induce. Thus, the group-level text may not have caused participants to reduce victims to a statistic, and the individual-level text may not have caused participants to feel more empathy. The specific conditions a text should meet to cause individual-level perspective taking or group-level perspective taking are not clear from research. It is, for example, possible that the group-level text had the same effect as the individual-level text because no exact number of victims was mentioned. The size of the group that was the subject of the group-level text was open to the interpretation of the reader. It is possible that many readers interpreted the text as about only two victims, which makes it relatively easy to relate to the subjects. Also, the exact same characteristics of Billy P. that were mentioned in the individual-level text, were mentioned as characteristics of the group members in the group-level text. In other

words, the same number of characteristics for the reader to relate to were present in both texts. Thus the group-level text would have had a similar effect as the individual-level text. Therefore, a course for future research would be to study the specific characteristics of a text that cause it to induce empathy in the reader, or to specifically not induce empathy in the reader.

It is also possible that no results were found because the measurements did not work as intended. The items on the scale measuring empathy and perspective taking were adapted from a validated scale, so it is possible that the items failed to measure empathy and perspective taking correctly due to this adaptation. Furthermore, a high correlation (r =.78) was found between affective ToM and cognitive ToM. This might indicate that the Yoni task only measured ToM in general, instead of measuring two separate constructs. However, this is not a complete explanation for the failure of the study to find an effect, since an incorrect measurement of perspective taking, empathy, or ToM would not interfere with a hypothetical effect on prosocial behaviour. Therefore, if an increase in perspective taking would have occurred, an effect on prosocial behaviour could still have been found even though perspective taking was not measured correctly.

The effect on prosocial behaviour was not found, however. A weak point of the measurement of prosocial behaviour was that only the intention to perform prosocial behaviour was measured. Intentions to perform a certain behaviour do not always lead to actually performing the behaviour. This discrepancy between intentions and behaviour is called the *intention-behaviour gap* (Grimmer & Miles, 2016). Participants were asked whether they would be willing to fill in another questionnaire, and they were told that they would be directed to this questionnaire immediately, but in fact they were directed to the debriefing page. Therefore, it is not possible to know whether students would actually have filled in this questionnaire. It is possible that they were just curious about the subject of the other questionnaire, so they could have read the first page to see what it was about and then left the questionnaire already. The same goes for the second measure

of prosocial behaviour, which asked for the number of hours participants would be willing to help with the analysis of the survey they were directed to. Here, too, only the intention to perform prosocial behaviour was measured.

However, the weak point of the measurement of prosocial behaviour mentioned above would mean that more prosocial behaviour would have been measured than what would actually have occurred. Thus, if more 'intention to prosocial behaviour' would have been measured in the individual-level condition than in the group-level condition, then this difference in prosocial behaviour found between conditions would be an overestimation of the actual effect of perspective taking on prosocial behaviour. In the current study, no effect was found at all. This indicates that the most plausible explanation for the failure to find an effect is that there simply was no effect on prosocial behaviour.

As no clear effects were found in the current study, future research has to investigate further the relationship between perspective taking in reading and prosocial behaviour. The current study did not show the expected increase in prosocial behaviour after individual-level perspective taking. However, it did show that there are limits to the relationship between perspective taking in reading and prosocial behaviour. This relationship is well-established in research, but, as shown, the conditions for it to occur are still vague. As the implications of an effect of reading on prosocial behaviour would be very large, for example for our knowledge about the development of children and the use of reading in education, it is very important to conduct future research to these conditions. Therefore, a course for future research would be to investigate the specific conditions under which reading induces empathy, and under which conditions it does not. This might lead to findings that are essential to the understanding of the influence of reading on human behaviour.

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Appendix A
Texts

Individual-Level Text

Billy P. was born in a slum in Glasgow, Scotland, in 1933. His mother had died in childbirth in 1936 when Billy was three years old. Billy's father, who was a merchant seaman, had custody of him and his elder brother who was two years older. Billy recalls that in 1938, around the time of the Great Depression, when his father was unemployed, being told by a 'matronly lady in a grey uniform', that he 'was going on a day trip into the Highlands'. The 'matronly lady in the grey uniform' took him on a train from Glasgow to Aberlour railway station, about half a mile or so from the Orphanage buildings: "I didn't know I was going to an Orphanage. I was just told that we were going on a day trip to the Highlands. Papers I've seen since tell me that in fact what happened was that my father handed me over to the Orphanage in the hope that he might be able to retrieve me at some unspecified future date, but in fact he never did. That was the last I ever heard of him, so he just disappeared from my life. Never had a Christmas card, never a birthday card, absolutely no contact whatever and I've not heard to this day, any information or advice about what happened to him. I wasn't aware then and I'm still not aware now of any other family members, any uncles or aunts or cousins or anything. I was completely on my own. But there was a boy who if it was possible, was in an even worse situation. He had been dumped on the doorsteps of the Orphanage by whoever had taken care of him, and he didn't even have a name. And the Orphanage made up a name until he established his identity.

The only time Billy was placed together with his brother was for the first few days after arrival at the Orphanage, in the infirmary. Thereafter, Billy lived in a boy's house separate from his brother as children were placed in different houses at the Orphanage according to age and gender. Girls had their own section in the Orphanage. During Billy's time at the Orphanage: "Boys were split into the wee kids who were five to seven-year olds. And then there was a Mitchell Wing and then there was a Mount Stephen Wing, named after a Canadian philanthropist, Lord Mount Stephen. And then I was split up from the other boys, again, at the age of 11, into two houses for the big boys, Jupp's and Gordon's, and they were from 11 to 14 which was the leaving age. In 1945 after the War they changed the school-leaving age to 15. And then in exceptional cases, and I was one of them, we stayed on until we were 17, and that was only a handful of boys who did that."

"Occasionally I stayed together with pals of the same age as I progressed through the houses." Billy spent ten years living in the company of a number of friends: "We slept in the same dormitory, we were in the same class in school, we played football and cricket, we went swimming together. My brother was two and a half years older than me so he was always one house ahead of me, throughout my whole time at the Orphanage. And then because he left school when he was 14, by the time I was in one of the senior houses he was gone, he was working on a farm."

Other memories of the Orphanage include the schooling. The school building separated the boy's wing from the girl's wing and the classroom was the only setting where a boy could sit next to a girl. "But as soon as the school bell rang, four o'clock, end of school, they went back to the girl's wing and I went back to the boy's wing, and I didn't see them. I have pleasant, even fond memories of nearly all the teachers, which I don't have of the domestic staff, the Housemistresses

and Housemasters, some of whom were quite unfitting for the responsibility of small children."

Some were 'floggers' says Billy and one teacher in particular:

"…was a notorious flogger. Corporal punishment was common both in the home and at school. As a boy I copped it a few times. I had to hold my hands out, both hands, palm upwards, and then he lashed me across the palm, and it might be three or four, you know, if it was perceived as a serious misdemeanour and I'd have these welts across my hand and up my wrist…red and then it would turn blue and I could date the punishment from the colour of the stripe on my wrist. I just accepted it I suppose. It was part of my upbringing. Sometimes a cane would be used."

Group-Level Text

They were born in slums in Scotland, around the 1930s. Their mothers had died in childbirth when they were young. Their fathers, who were merchant seamen, had custody of them and their siblings. They recall that in 1938, around the time of the Great Depression, when their fathers were unemployed, being told by a 'matronly lady in a grey uniform', that they and their siblings 'were going on a day trip into the Highlands'. The 'matronly lady in the grey uniform' took the boys on a train from Glasgow to Aberlour railway station, about half a mile or so from the Orphanage buildings: "We didn't know we were going to an Orphanage. We were just told that we were going on a day trip to the Highlands. Papers we've seen since tell us that in fact what happened was that our fathers handed us over to the Orphanage in the hope that they might be able to retrieve us at some unspecified future date, but in fact they never did. That was the last we ever heard of them, so they just disappeared from our lives. Never had a Christmas card, never a birthday card, absolutely no contact whatever and we've not heard to this day, any information or advice about what happened to them. We weren't aware then and we're still not aware now of any other family members, any uncles or aunts or cousins or anything. We were completely on our own. But there were many boys who if it was possible, were in an even worse situation. They had been dumped on the doorsteps of the Orphanage by whoever had taken care of them, and some of them didn't even have names. And the Orphanage made up names until they established their identity.

The only time we were placed together with our siblings was for the first few days after arrival at the Orphanage, in the infirmary. Thereafter, we and our brothers lived in separate boys' houses as children were placed in different houses at the Orphanage according to age and gender. Girls had their own section in the Orphanage. During our time at the Orphanage: "Boys were split into the wee kids who were five to seven-year olds. And then there was a Mitchell Wing and then there was a Mount Stephen Wing, named after a Canadian philanthropist, Lord Mount Stephen. And then we were split up, again, at the age of 11, into two houses for the big boys, Jupp's and Gordon's, and they were from 11 to 14 which was the leaving age. In 1945 after the War they changed the school-leaving age to 15. And then in exceptional cases, and we were part of them, we stayed on until we were 17, and that was only a handful of boys who did that."

"Occasionally we stayed together with pals of the same age as we progressed through the houses." They spent ten years living in the company of a number of friends: "We slept in the same dormitory, we were in the same class in school, we played football and cricket, we went swimming together. Our siblings were always one house ahead of us, throughout our whole time at the

Orphanage. And then because they left school when they were 14, by the time we were in one of the senior houses they were gone, they were working on a farm."

Other memories of the Orphanage include the schooling. The school building separated the boy's wing from the girl's wing and the classroom was the only setting where a boy could sit next to a girl. "But as soon as the school bell rang, four o'clock, end of school, they went back to the girl's wing and we went back to the boy's wing, and we didn't see each other. We have pleasant, even fond memories of nearly all the teachers, which we don't have of the domestic staff, the Housemistresses and Housemasters, some of whom were quite unfitting for the responsibility of small children."

Some were 'floggers' they say and one teacher in particular:

"…was a notorious flogger. Corporal punishment was common both in the home and at school. As boys we copped it a few times. We had to hold our hands out, both hands, palms upwards, and then he lashed us across the palms, and it might be three or four, you know, if it was perceived as a serious misdemeanour and we'd have these welts across our hand and up our wrists…red and then it would turn blue and we could date the punishment from the colour of the stripe on our wrists. We just accepted it we suppose. It was part of our upbringing. Sometimes a cane would be used."

Control Condition Text

Children's homes have existed since the Middle Ages, when cities, towns, or church organizations provided for homeless children. However, especially during the 1930s, orphanages became increasingly crowded. It was the time of the Great Depression and many people were unemployed. A lot of parents could not take care of their children anymore. They handed their kids over to the institutions, some hoping that they might be able to retrieve the children at some unspecified future date. But in fact, many never did. This had several reasons, among others because many families were in financial arrears, because of war or due to deceases. Very often, orphans were neglected kids of single parents, or the custodian just did not want to take care of the child anymore.

Often, the children would be picked up by a staff member of the orphanage. They were told that they would be going on a trip, but instead, they were taken to the orphanage. For most of the children, it was the last time they ever saw their parents. Other children would be dumped on the orphanage's doorsteps, without any information about their identities.

The orphanages were dominated by a strict segregation. There were different buildings for girls and boys. The only time that boys and girls had contact was in the classroom and sometimes, depending on the orphanage, at meals. Directly thereafter, they had to go back to their houses, so that they never saw each other. Furthermore, there were houses for different age groups. The children, being between a few weeks and 15 years old, were split into the infants, younger, middle-aged and older kids and had to progress through the houses. They moved every few years. The segregation was so strict that one was even separated from the siblings. If they were not in the same age group, they almost never had contact.

According to today's standards, many teachers and staff members were unfitting for the responsibility of small children. They were strict and it was not unusual to make use of corporal punishment for even the slightest misdemeanour in the home or at school, to make the children

more disciplined. The children were often beaten, leaving bruises and red and blue stripes. The children, however, just accepted it, as it was part of their upbringing.

Appendix B
Measures Of Empathy And Perspective Taking

Individual Condition

Empathy.

1. I have tender, concerned feelings for Billy P.
2. I don't feel very sorry for Billy P. (REC)
3. When I read about Billy P., I felt kind of protective towards him.
4. Billy P.'s misfortunes do not disturb me a great deal. (REC)
5. When I read about Billy P. being treated unfairly, I did not feel very much pity for him. (REC)
6. I am quite touched by the things that I read that happen to Billy P.
7. I would describe myself as a pretty soft-hearted person.

Perspective taking.

1. I find it difficult to see things from Billy P.'s point of view. (REC)
2. I tried to look at Billy P.'s side of the situation described in the text.
3. I tried to understand Billy P. better by imagining how things look from his perspective.
4. I did not waste too much time thinking about the arguments of Billy P. (REC)
5. I believe that there are two sides to the situation described in the story and tried to look at them both.
6. I tried to put myself in Billy P.'s shoes for a while.
7. I tried to imagine how I would feel if I were in Billy P.'s place.

Group- And Control Condition

Empathy.

1. I have tender, concerned feelings for the children in the orphanage.
2. I don't feel very sorry for the children in the orphanage. (REC)
3. When I read about the children in the orphanage, I felt kind of protective towards them.
4. The misfortunes of the children in the orphanage do not disturb me a great deal. (REC)
5. When I read about the children in the orphanage being treated unfairly, I did not feel very much pity for them. (REC)
6. I am quite touched by the things that I read that happen to the children in the orphanage.
7. I would describe myself as a pretty soft-hearted person.

Perspective taking.

1. I find it difficult to see things from the point of view of the children in the orphanage.(REC)
2. I tried to look at the children in the orphanage's side of the situation described in the text.
3. I tried to understand the children in the orphanage better by imagining how things look from their perspective.
4. I did not waste much time thinking about the arguments of the children in the orphanage. (REC)
5. I believe that there are two sides to the situation described in the story and tried to look at them both.
6. I tried to put myself in the shoes of the children in the orphanage for a while.
7. I tried to imagine how I would feel if I were in the place of the children in the orphanage.