

# **The Importance Of Reading**

## **How Perspective-Taking Influences Our (Prosocial) Behaviour**

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### **Abstract**

Helping has become a matter of course for many of us. Be it through helping picking up dropped purchases or donating money to charity, some sort of prosocial behaviour has become intuitive to almost anyone. In addition, research has shown that we are experiencing the most peaceful era in the existence of the human species: A global decline in violence and an increased inclination towards prosocial behaviour can be recognized, which, amongst others, seems to result from both empathy and improved literacy. It is said that reading helps to learn and develop social competences like empathy which in turn promotes prosocial behaviour. To investigate the relationships between reading, prosocial behaviour and empathy, a true online experiment, including a questionnaire, with 112 participants was conducted. The results have shown that reading a factual text was related to more empathy than reading a personal text. All further relationships between reading, empathy, acceptance and prosocial willingness were not significant, just age had a little effect on acceptance. It is unclear if those findings result from wrong measurement, wrong manipulation or if there were indeed no relationships between the constructs. Further research is recommended.

### **Keywords**

Prosocial, behaviour, reading, empathy, perspective-taking, helping

### **Abstract (Dutch)**

Helpen is voor velen van ons vanzelfsprekend geworden. Of door middel van het helpen om gedaalde aankopen op te rapen of door het doneren van geld aan goede doelen, een soort van prosociaal gedrag is voor bijna iedereen intuïtief geworden. Bovendien heeft onderzoek getoond dat we de meest rustige periode in het bestaan van de menselijke soort ervaren: een wereldwijde daling van het geweld en een verhoogde neiging tot prosociaal gedrag kan worden herkend, die, onder andere, lijkt het gevolg te zijn van zowel empathie en verbeterde geletterdheid. Er wordt gezegd dat het lezen helpt om te leren en sociale competenties zoals empathie te ontwikkelen die op zijn beurt prosociaal gedrag bevordert. Om de relaties tussen lezen, prosociaal gedrag en empathie te onderzoeken werd een true online experiment, met inbegrip van een vragenlijst, met 112 deelnemers uitgevoerd. De resultaten hebben aangetoond dat het lezen van een feitelijke tekst gerelateerd was aan meer empathie dan een persoonlijke tekst te lezen. Alle bijkomende relaties tussen lezen, empathie, acceptatie en prosociale bereidheid waren niet significant, alleen de leeftijd had een klein effect op acceptatie. Het is twijfelachtig of deze bevindingen het gevolg zijn van verkeerde metingen, van verkeerde manipulatie of of er inderdaad geen relaties tussen de constructen waren. Verder onderzoek wordt aanbevolen.

### **Trefwoorden**

Prosociaal, gedrag, lezen, empathie, perspectief nemen, helping

## Introduction

Helping has become a matter of course for many of us. Be it through helping picking up dropped purchases or donating money to charity after a catastrophe, some sort of prosocial behaviour has become intuitive to almost anyone. To help others seems important to humans: from a young age on one is taught to share and to be polite and respectful. Later in life, this demeanour is even more important as prosocial behaviour helps to improve the society and to decrease violence rates.

To gain insight into prosocial behaviour and its incentives, it is useful to understand the evolutionary basis for helping. Although one could argue, from an evolutionary point of view, that natural selection acts by competition (Darwin, 1859), numerous animals show prosocial behaviour, for example in the care and rearing of young (Emlen, 1982). Helping is rooted in the instincts and the neural system of both animals and humans and evolved to support the survival of the individual's and the species' genes respectively by caring for newborn offspring (Preston, 2013).

A construct that seems to be closely related to prosocial behaviour is empathy. Prosocial behaviour is promoted by sympathy and empathy, and both constructs are assumed to have evolved from the mother–offspring bond (Preston, 2013). Stotland (1969), who did a lot of research on empathy, stated that experiencing another person's emotions is linked to one's own feelings. Additionally, empathy is presented (Pinker, 2011) as one of the human traits that can distance a person from violent behaviour and guide them towards peacefulness and altruism, and thereby to more prosocial behaviour. Moreover, Van de Pieterman (2015) has shown that empathy was correlated to the participant's tendency to help picking up papers. Another finding of Van de Pieterman's research was the positive correlation between prosocial behaviour and perspective-taking. The participants had to read a short story before imagining how a character and oneself, respectively, would feel in a given situation. No significant difference between the types of perspective-taking was found, but in both conditions more prosocial behaviour has been shown than in the condition without perspective-taking.

The idea to combine the constructs of prosocial behaviour and perspective-taking by means of reading originates from an attempt to explain the continuous decline in violence we are experiencing (Pinker, 2011). This decline can be seen in many domains, for instance it refers to the number of wars and deaths by war (Human Security Research Group, 2014) as well as to the global average homicide rate and to violence against children (Finkelhor, Shattuck, Turner & Hamby, 2014). One possible reason for this decline is that literacy levels

have increased after the invention of the printing press. There were more books available and novels have stimulated our empathic and social abilities. According to Pinker (2011), reading makes us take the perspectives of the characters, question decisions and comprehend a character's train of thought. By making us take another person's point of view, stories can teach us to deal with new opinions. This could contribute to a better understanding of others and thereby to a greater peacefulness. Furthermore, losing oneself into a story as another form of perspective-taking (Green & Brock, 2000; Green, 2010) provokes a heightened emotional response and results in empathy for the characters.

Picking up the work of Van de Pieterman (2015) and combining the construct reading with empathy, perspective-taking and prosocial behaviour results in the research question:

How does perspective-taking influence our prosocial behaviour?

### **Theoretical Framework**

Any behaviour performed by an individual to improve the well-being of another can be called prosocial behaviour (Cronin, 2012). According to Hamilton's rule, showing social behaviour especially evolves when an individual is genetically related to the help's recipient (Bourke, 2014). Numerous research with animals supports this theory (Bartal, Decety & Mason, 2011; Bourke, 2014). However, this inclination to differentiate between "us" as the in-group and "them" as the out-group does also exist in humans: in-group members are favoured, their solidarity should be preserved; exploitation of out-group members, though, can be justified (Brewer, 1979; Cikara, Botvinick & Fiske, 2011). However, (genetic) relatedness is often disregarded and people do also show prosocial behaviour towards out-group members. Human altruism benefits the recipient while minimizing the costs to the giver (Preston, 2013), and empathy adds an altruistic motivation to the reasons for helping (Van Lange, 2008).

Empathy has numerous definitions because it is a broad and multidimensional construct. In general, it is about the "reactions of one individual to the observed experiences of another" (Davis, 1983). The responses can be cognitive, e.g. understanding the other person's perspective, or emotional by experiencing and feeling what the other undergoes (Hojat et al., 2002). More recent research has divided the construct into three components: emotional sharing, empathic concern and perspective-taking (Decety & Cowell, 2014). Emotional sharing, as the aforementioned emotional response, is about sharing others' emotions and becoming affectively aroused by them. It is the component that is mostly related to generating the motivation to help a disadvantaged individual. Empathic concern is being affected by other's emotions. It supports an individual in maintaining social relationships

which is essential for survival. Furthermore, empathic concern can be felt for many different targets. One of the first who did research on the construct of empathy was Stotland (1969). He mentioned that it is also possible to empathize with ‘nonexistent’ emotions, which could be related to fictional characters in books since they are not really existing, but one can still feel touched by their thoughts and emotions. The third component of empathy is perspective-taking and relates to the ability to “consciously put oneself into the mind of another individual and imagine” how the internal state of that person looks like (Decety & Cowell, 2014). It is related to social competence and can help to reduce group biases.

Counterintuitively, we are experiencing the most peaceful era in the existence of the human species (Pinker, 2011). Pinker’s hypothesis has become the subject of wide-ranging debates, especially when comparing violence in the current era to violence in previous periods of history (Human Security Research Group, 2014). Regarding violence today, media provide a false perspective by covering all wars and conflicts that get started, but just few quietly stopping wars are covered. For this reason, people feel like violence rates are increasing. However, violence levels are indeed falling and the world is getting safer. According to the Human Security Research Group (2014), the number of international wars and the amount of war deaths have decreased within the last 60 years. Moreover, the global average homicide rate has fallen from between 40 to 80 deaths per 100,000 people in the 13th century to eight deaths per 100,000 people today. Likewise, the overall rate of homicides against women decreased by 58% between the 1970s and 2000 and since then remained relatively stable (Dawson, Bunge & Balde, 2009). Although the total number of armed conflicts has increased threefold since the 1950s, most of those conflicts can be considered as low-intensity civil wars and the number of fatalities was modest. Furthermore, considerable declines in children’s exposure to violence could be detected (Finkelhor, Shattuck, Turner & Hamby, 2014). It is expected that the trend of declining violence in general will continue, although not in a straight line.

According to a hypothesis of Pinker (2011), part of the reason for this unmistakable decline in violence is an increased inclination towards prosocial behaviour. There is no guarantee that this long-term trend of decrease in violence will continue, but when inspecting in detail, one can see that our moral standards haven’t risen and that violence has decreased globally at many scales: not just between individuals, but also between tribes and whole nations (Eisner, 2003; Pinker, 2011). This decline in violence has led to a historical change that influences how we live – in fear or in peace.

A further reason for the decrease in violence could be the improving literacy and education (Pinker, 2011; ourworldindata, 2016a). For the last 200 years, the global literacy rate and enrollment in formal education have increased continuously (ourworldindata, 2016b). Furthermore, the estimates of book production during the last 13 centuries show a steady growth (Buringh & Van Zanden, 2009). More and more people have been able to read books, including fiction. Through reading, the people can experience new ways of thinking by “inhabiting” the minds of the characters, and they are also more able to realize that one can question decisions and society’s norms (Pinker, 2011). Furthermore, reading helps to learn and develop social competences by creating a simulative experience of social interactions (Whalen, 1989; Mar & Oatley, 2008). Additionally, libraries contribute to education by providing books and information (Lor & Britz, 2015). Information stimulate knowledge which leads to a greater understanding, e.g. of other people, and this understanding ultimately results in more tolerance and peace.

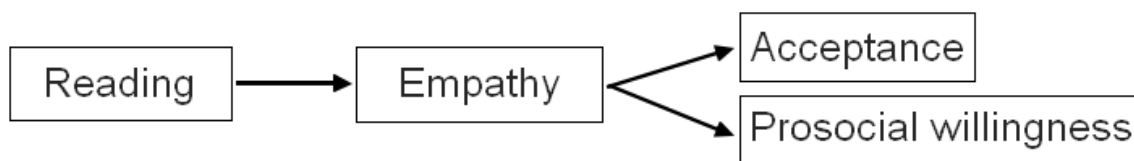
Statistical data show that education and reading are positively related to political freedom and democracy, and according to the “Democratic Peace Theory”, democratic governments are less likely to engage in armed conflicts with each other (ourworldindata, 2016a). If this theory is true, education and literacy are indeed reasons that conflicts and violence between well-educated countries diminish. More generally, this could mean that there is a relationship between reading and lessened antisocial behaviour. However, no statements about the causality can be made.

### **Current Research**

To be able to make a more distinct and contemporary statement about the relationship between prosocial behaviour and empathy, Van de Pieterman’s (2015) work was extended: The relationship between reading and prosocial behaviour (in the following referred to as “Prosocial willingness”), and between reading and acceptance of antisocial behaviour (in the following referred to as “Acceptance”) was further investigated. Moreover, the relationships between empathy and reading, prosocial willingness and acceptance respectively were taken into account. In this research, “reading” consisted of one of two texts to which the participants were randomly assigned: either a personal or a factual text. The variable “Perspective-taking” was measured to check for the manipulation. The two texts should have differed in the degree in which the participants had taken perspective. Figure 1 illustrates the relationships between the respective variables.

Deeper insight into the relationship between reading and prosocial behaviour could help to develop means to stimulate prosocial behaviour and to reduce antisocial behaviour.

This knowledge could be used to encourage people to read more, to create interventions with the purpose to make people more prosocial and to stimulate, for instance, classroom conversations with perspective-taking as the main topic to promote empathy and prosocial behaviour in children. A positive correlation could thereby contribute to a better understanding, to enhancing the community and to decreasing violence rates (Human Security Research Group, 2014).



*Figure 1. Conceptual Model of Current Research*

To be able to answer the research question, several hypotheses have been established:

1. Participants who read the personal text show more Prosocial willingness than participants who read the factual text.
2. Participants who read the personal text show a higher level of Empathy than participants who read the factual text.
3. Participants who read the personal text show a lower level of Acceptance than participants who read the factual text.
4. There is a positive relationship between the participants' Empathy and their Prosocial willingness.
5. There is a negative relationship between the participants' Empathy and their Acceptance.

## Method

### Design

The research consisted of a true (online) experiment and a questionnaire. The experiment had a between-groups design as participants were randomly assigned to one of two conditions: either the personal condition or the factual condition. The conditions belonged to the independent variable Reading. Afterwards, a questionnaire survey design was used to derive scores on the dependent variables Empathy, Perspective-taking (as a manipulation check for



the independent variable), Acceptance and Prosocial willingness. Data collection took place between April 10 and May 01, 2016.

### Participants

Participants had been approached in different ways to gather data of as many and as diverse people as possible. They were mainly recruited through convenience sampling. People were contacted personally and asked if they were interested in participating. The contacted people were partly acquaintances of the researcher. A snowball effect developed as some participants spread the survey and successfully recruited some others. Furthermore, the survey was distributed by using SONA Systems of the faculty of Behavioural Sciences of the University of Twente. Another channel through which the survey was distributed was Facebook as the most popular social media. By this means, some people were reminded of the survey after being talked to and many others could be reached.

Before having begun the recruitment, several restrictions have been set: In order to make parental consent unnecessary, the participants had to be at least 18 years old. Furthermore, the participants had to be able to understand either English or German to be able to understand the questionnaire and the texts they had to read.

A total of 122 people participated in the study. Cases estimated as not valid were removed from the dataset. Reasons for being estimated as “not valid” were not having completed the questionnaire, not following the limitations and seeming to not having answered seriously. The participants’ seriousness in answering were determined by the amount of time they needed to read and fill in the questionnaire. Data of one respondent who needed less than eight minutes to complete the survey was considered as unreliable. Furthermore, the participants had to write a summary of the text they had read. The summary of the respondent who needed less than eight minutes for the whole survey was just one word long, therefore the participant’s data was deleted. Two other participants needed to be deleted because of incomplete answers: they left out almost every third item. Finally, seven participants were deleted because they answered the question “On a scale from 1 (not at all) to 5 (very much), to what extent did you read the text in the beginning attentively?” with “2”, so they admitted that they did not read the text very attentively. Nobody answered with “1”. Answers from “3” to “5” were considered as relatively serious. In total, data of ten people was removed; the final sample consisted of 112 people.

Of those remaining people, 87 (78%) were female, 23 (21%) were male and two (2%) identified with another gender. The participants were between 18 and 57 years old ( $M = 24.43$ ,  $SD = 7.23$ ). 15 (13%) were Dutch, 93 (83%) German and four (4%) were of another nationality: one Dutch-German, one Dutch-French, one Italian and one US-American respectively. At the time of this study, the highest achieved level of education was Secondary school for two participants (2%), Middle school for one person (1%) and High school/Abitur for 82 people (73%). 20 participants (18%) had finished their Bachelor, two (2%) their Master and five people (5%) had another highest level of education.

Randomization checks have been conducted. According to those analyses, the participants were evenly distributed among the conditions in terms of age, gender and the language in which they read the texts. Details can be found in the Results section.

## Procedure

It was decided to conduct the survey online rather than offline. The main reason for this decision was that a higher number of participants was expected. Although it would have been easier to control the environmental circumstances in an offline setting, so for example to guarantee a quiet environment, an online survey had the advantage that the participants could choose for themselves when to fill in the questionnaire and therefore were more likely to partake. Moreover, they did not feel the pressure of being observed.

The whole survey was provided in two languages: English and German. The personal text and the scales were originally written in English. For the study, the researcher translated everything literally into German, including grammatical errors in the text that resulted from a former verbal report of Billy P. (see below), to remain valid and to not create different meanings unintentionally. 27 (24%) people read and answered the text in English, 85 (76%) in German.

After the research was ethically reviewed and approved by the Ethics Committee, the survey was generated on the website “Qualtrics”. The survey started with a welcome screen where the participants had the opportunity to choose between the English (Appendices A-H.1) and the German (Appendices A-H.2) version of the questionnaire. They were briefed about the topic and the goal of the research in a general manner to not influence the answers by making them aware of the researcher’s intentions. More details can be found in Appendix A.

By clicking on the button at the bottom right on the page, the respondents agreed with the informed consent and proceeded to the next page. Then they were randomly assigned to

one of two conditions: the participants had to read either a personal or a factual text about orphans and orphanages in the 1930s. This topic was chosen due to the decision of the research team that the topic of the texts should not be the same as the behaviour that was to be measured. Otherwise, if for instance the texts would have been about empathy, other variables such as social desirability could have influenced the measurements of the dependent variables because the participants would have read about the topic before. At the same time, a topic needed to be chosen which provided the possibility to take perspective and to develop empathy. The topic of orphanages in the 1930s was assessed to be appropriate for those purposes.

The personal text was a true personal narrative of Billy P. found online and was an excerpt of a book (Divine, 2013). The original text was shortened by the researcher; apart from that, the text was not edited. The factual text, though, was written by the researcher. It contained most parts of the personal text, but every personal word or phrase that could create perspective-taking was avoided. It was tried to just mention sober facts instead. 55 (49%) participants were randomly assigned to the personal condition, 57 (51%) read the text of the factual condition. Table 1 contains an excerpt of the text of each condition to illustrate the difference between personal and factual. The complete texts can be found in Appendices B and C.

Table 1

*Text Excerpts of both Reading conditions*

Personal	Factual
<p>“[...] the Housemistresses and Housemasters, some of whom were quite unfitting for the responsibility of small children. [...] ...was a notorious flogger. Corporal punishment was common both in the home and at school. As a boy I copped it a few times. You had to hold your hands out, both hands, palm upwards, and then he lashed you across the palm, and it might be three or four, you know, if it was perceived as a serious misdemeanour and you'd have</p>	<p>“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 smaller children would be hung on coat hooks as punishment or repeatedly locked into a dark cloak room, leaving some of the children being afraid of</p>

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these welts across your hand and up your wrist... red and then it would turn blue and you could date the punishment from the colour of the stripe on your wrist.”	the dark forever. The older ones were often beaten, leaving bruises and red and blue stripes, or had to shovel snow without gloves, just to pass out from the shock of frostbite.”
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Without making the participants aware, the time they spent on the page with the text was measured. This was done to be able to check the seriousness of the people’s reading: if they needed a reasonable amount of time or just scrolled down. On the next page, the participants should briefly summarize the content of the text they just read (Appendix D). Those summaries were also used as a check for how serious they read the texts by looking at the content and the quantity of the summaries.

On the following three pages, the participants had to read statements which measured the three dependent variables Empathy, Perspective-taking (as a manipulation check) and Acceptance and which were related to the text (see Appendix D). For each statement, they had to select the degree to which they agreed with those statements on five-point Likert scales ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). Afterwards, the participants had to imagine two situations and then needed to answer questions on Prosocial willingness (appendix E). Those questions dealt with their willingness to spent time and invest money for a good cause. Respondents had to either select an answer or write down their response.

The last questions were about the respondents’ demographic data such as age and gender (Appendix F), and the participants had to indicate how attentively they had read the text on a five-point Likert scale (Appendix G). Additionally, they had the opportunity to enter their SONA number (if applicable) and to report possible comments. In the end, the participants were debriefed about the complete purpose of the study in more detail (see Appendix H). Respondents who were interested in the research had the chance to indicate their e-mail address to receive a report about the results later. The researcher’s e-mail address was indicated again to provide the opportunity to ask questions or to ask for deletion of one’s data. By clicking on “Submit”, the participants completed and finished the questionnaire.

## Measurements

To be able to assess the dependent variables Empathy, Perspective-taking (as a manipulation check for the independent variable), Acceptance and Prosocial willingness, participants had to

fill in a questionnaire after having read the text of their condition. For Empathy, Perspective-taking and Acceptance, participants had to read a set of statements (see Appendix D) and then select the degree to which they agreed with those statements on five-point Likert scales ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The construct Empathy originally consisted of the average of the scores on 17 items. All items referred to the texts so that they asked for empathy specifically and not for empathy in general. Six items were based on Davis’ “Empathic Concern Scale” which was part of his “Interpersonal Reactivity Index” (1980). The other eleven items based on Batson, Early and Salvarani (1997). An example item of the Empathy scale was “The text had an emotional impact on me”. The reliability was .91 (Cronbach’s Alpha) and .92 (Lambda 2) respectively, so one can speak of excellent reliability.

Perspective-taking consisted of the average of the scores on ten items. Three of them based on Davis’ “Perspective-Taking Scale” (1980), five items were based on the “Transportation Scale Items” (Green & Brock, 2000) and the last two items were formulated by the researcher. All ten items were tailored to the texts as well. “I could identify myself with the described people.” was an example item of this scale. The scale was fairly reliable with .71 (Cronbach’s Alpha) and .73 (Lambda 2).

The ten items whose average formed the construct Acceptance originated from a set of 30 items on “Flaming” developed by Klein-Menting (2014). It was decided to only take the questions about the participant’s opinion on Flaming. It was not mentioned in the literature if it had to, but two items of the scale on “Flaming” were recoded (see Appendix D). An example item of the Acceptance scale was “I think flaming is a norm for communicating in the digital world”. Previously, the scale was fairly reliable with .72 (Cronbach’s Alpha) and .73 (Lambda 2). However, the reliability improved to .79 (Cronbach’s Alpha) and .80 (Lambda 2) after the deletion of the items “In my opinion people flame because they just have to pass time when they are bored.” and “I think flaming has no dramatic consequences for the flamer himself”.

The questions which measured Prosocial willingness (Appendix E) were developed by the researcher. Two situations were invented that the participants had to imagine. In the first situation, participants should assume that they had spare time. They were asked if they were in principle willing to invest spare time to do, for example, volunteer work. Follow-up questions went into more detail, for example asking for an amount of time per month and about the regularity of investing time. The second situation was about the willingness to donate money for a good cause, imagining that one did not have to purchase anything

urgently. Afterwards, the participants were asked to answer the question if they would donate the spare money and if so, how much and how regularly. It was assumed that the more time and money respectively the respondents were willing to spend, the more prosocial they were.

## Results

### Manipulation Check

First of all, the manipulation was checked to estimate whether the independent variable Reading had the intended effect on the participants. The people who read the personal text were supposed to take perspective whereas the people who read the factual text should not take perspective. To test if the manipulation was successful, a One-Way ANOVA was conducted with Perspective-taking as the dependent variable. No significant effect could be found,  $F(1, 110) = 0.20, p = .65$ , so reading the personal text ( $M = 3.28, SD = 0.47$ ) did not evoke more perspective-taking than reading the factual text ( $M = 3.23, SD = 0.58$ ).

### Randomization Check

A t-test was conducted to check whether the participants were evenly distributed among the personal and factual text in terms of age. There was no significant difference in the scores for reading the personal text ( $M = 23.82, SD = 5.94$ ) and for reading the factual text ( $M = 25.02, SD = 8.29$ );  $t(110) = -0.88, p = .38$ . That no significant difference was found indicates that the groups did not differ with respect to Age.

To check whether the participants were evenly distributed in terms of gender and in terms of the language they wanted to read the questionnaire in, chi-square tests were conducted. Neither for Gender ( $\chi^2(2) = 0.64, p = .73$ ), nor for Language ( $\chi^2(1) = 0.59, p = .44$ ) could significant interactions be found. This means that the groups did not differ with respect to Gender and Language. It could be assumed that the participants were successfully distributed randomly. Due to the even distribution it was decided to not consider Age and Gender as covariates in the following analyses.

### Descriptive Statistics

Subsequently, the descriptive statistics of each subscale were calculated without differentiating between the levels of Reading (see Appendix I, table 1). When regarding the answers on Prosocial Willingness, two trends became obvious: On the time level, 90% of the participants (101 people) would be willing to invest some spare time (in hours per month) to do some form of volunteer work, the remaining 10% would not. Of those 101 people that would invest time, 7% (seven people) would invest it once and 93% regularly. On the money

level, however, just 34% (38 people) would donate some spare money (in Euros), 66% would not. Of those 38 people that would donate, 34% (13 people) would donate once and 66% regularly. So one can conclude that the participants were by far more willing to invest time than donating money for a good cause and that they tended to spend time and money more regularly.

### Correlations

Afterwards, two correlational measurements were executed. The Spearman correlation contained the two dependent ordinal variables Empathy and Acceptance and showed a negative, but non-significant correlation ( $r = -.11$ ;  $p = .13$ ). Furthermore, a Pearson correlation was performed. Apart from the variables Empathy and Acceptance, the variables Prosocial Willingness (time), Prosocial Willingness (money) and Age were also taken into consideration. Moreover, one was interested in how regularly participants were willing to invest time or money, so the correlations with Prosocial Willingness (time frequency) and Prosocial Willingness (money frequency) were also analyzed. The results of the Pearson correlation analysis can be found in table 2.

The test has shown various statistically significant correlations. The first significant correlation was between Empathy and Prosocial Willingness (time frequency) ( $r = .16$ ;  $p < .05$  (one-tailed; all significance levels reported in the following were one-tailed as well), meaning that participants who were more empathic were slightly more willing to spend time regularly for a good cause. Moreover, there were significant correlations found between Acceptance and Prosocial Willingness (time frequency) ( $r = -.24$ ;  $p < .01$ ), Prosocial Willingness (money) ( $r = -.17$ ;  $p < .05$ ) and Age respectively ( $r = -.23$ ;  $p < .01$ ). That means that participants who scored low on Acceptance were more likely to invest time for a good cause regularly, tended to be willing to donate more money and were older. Further significant correlations were found for Prosocial Willingness (time) and Prosocial Willingness (time frequency) ( $r = .25$ ;  $p < .01$ ), so participants who wanted to invest more time also wanted to invest time more regularly per month, and for Prosocial Willingness (time frequency) and Prosocial Willingness (money) ( $r = .58$ ;  $p < .01$ ), meaning that participants who wanted to invest time more regularly tended to donate more money. For all other combinations of variables, no statistically significant correlations could be found.

Table 2  
*Pearson Correlations between the Dependent Variables*

	1	2	3	4	5	6	7
1 Empathy	-	-.09	-.12	.16*	.04	.04	.14
2 Acceptance		-	-.14	-.24**	-.17*	-.14	-.23**
3 Prosocial Willingness (time)			-	.25**	.04	-.05	-.02
4 Prosocial Willingness (time frequency)				-	.58**	-.03	.07
5 Prosocial Willingness (money)					-	.13	.04
6 Prosocial Willingness (money frequency)						-	.08
7 Age							-

Note.  $N = 112$ .

\*\*  $p < .01$  (1-tailed).

\*  $p < .05$  (1-tailed).

### Analyses of Variance for Reading

Although the Pearson correlation analyses showed a significant correlation of Acceptance with the variable Age, it was decided to not take Age as a covariate in the analyses due to the seemingly random distribution found by the randomization check. Therefore, a One-Way ANOVA was conducted to determine statistically significant differences between the two Reading conditions personal and factual on all dependent variables. The results are displayed in table 3. The effect of Reading on Empathy was shown to be significant,  $F(1, 110) = 5.82, p = .02$ . Comparing the means of both conditions showed that reading the factual text ( $M = 3.38, SD = 0.68$ ) produced slightly more Empathy than reading the personal text did ( $M = 3.10, SD = 0.57$ ). Hypothesis 2, that participants who read the personal text would show a higher level of Empathy than participants who read the factual text, had therefore to be rejected.

The effect of Reading on Acceptance was not significant,  $F(1, 110) = 0.13, p = .72$ . For this reason, hypothesis 1 (Participants who read the personal text show a lower level of Acceptance than participants who read the factual text.) was rejected. Further One-Way ANOVA were conducted to compare the effect of Reading on Prosocial Willingness. Neither for time ( $F(1, 110) = 0.35, p = .56$ ) nor for time frequency ( $F(1, 110) = 0.21, p = .65$ ) nor for money ( $F(1, 110) = 3.04, p = .08$ ) nor for money frequency ( $F(1, 110) = 0.18, p = .67$ ) could a significant effect be shown. Therefore, hypothesis 3, that participants who read the personal



text would show more Prosocial willingness than participants who read the factual text, needed to be rejected as well.

Table 3

*One-Way ANOVA With Independent Variable Reading*

	Personal text		Factual text		<i>F</i> (1, 110)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Empathy	3.10	0.57	3.38	0.68	5.82*	.02
Acceptance	2.16	0.58	2.12	0.61	0.13	.72
Prosocial Willingness (time)	15.16	21.32	13.12	14.88	0.35	.56
Prosocial Willingness (time frequency)	3.73	4.22	3.44	2.24	0.21	.65
Prosocial Willingness (money)	12.24	31.51	4.35	12.90	3.04	.08
Prosocial Willingness (money frequency)	0.20	0.39	0.17	0.41	0.18	.67

*Note.* *N* for Personal = 55. *N* for Factual = 57.

\**p* < .05 (2-tailed).

### **Regression for Empathy on Acceptance and Prosocial Willingness**

Afterwards, a simple linear regression was conducted to predict Acceptance and the four variables of Prosocial willingness based on Empathy. For Acceptance, no significant regression equation was found ( $F(1, 110) = 0.93, p = .34$ ). Additionally, no significant effects could be found for Prosocial willingness time ( $F(1, 110) = 1.57, p = .21$ ) as well as for time frequency ( $F(1, 110) = 2.96, p = .09$ ), money ( $F(1, 110) = 0.14, p = .71$ ) and money frequency ( $F(1, 110) = 0.21, p = .65$ ). For further details on the results, see Appendix I, table 2. So the analyses have shown that none of the dependent variables could be significantly predicted by Empathy, although the Pearson correlation has shown a significant effect between Empathy and Prosocial willingness (time frequency) when having regarded a one-tailed significance level. Hence, hypotheses 4 (There is a positive relationship between the participants' Empathy and their Prosocial willingness.) and 5 (There is a negative relationship between the participants' Empathy and their Acceptance.) were rejected.

## Discussion

The aim of this research was to get deeper insight into the relationship between reading and prosocial behaviour. None of the hypotheses which were established could be confirmed. Reading was found to have no effect on prosocial willingness or acceptance. Although an effect of reading on empathy could be found, it was contrary to the hypothesis that people who read the personal text would show more empathy. Moreover, empathy was not related to acceptance and prosocial willingness. A finding that was unrelated to the hypotheses was that older participants tended to be less accepting of antisocial behaviour happening online than younger participants. The main research question, How does perspective-taking influence our prosocial behaviour?, can be answered as follows: Perspective-taking in reading does not seem to influence our prosocial behaviour and our acceptance of antisocial behaviour directly. However, reading factual texts, and thereby small amounts of perspective-taking, seems to be related to higher levels of empathy.

The findings contradict previous research. For instance, Van de Pieterman (2015) found a significant correlation between empathy and prosocial behaviour. This result could not be confirmed through the current research, even though another form of prosocial behaviour was investigated. Moreover, experiencing another person's emotions is said to be positively linked to one's own feelings (Stotland, 1969). However, a contrary relationship could be found: experiencing the emotions of someone else (in this research through reading and perspective-taking) resulted in little empathetic feelings in the reader. No literature could be found which would have provided an explanation for the finding that the factual text was related to higher empathy scores than the personal one. For this reason, further research regarding this relation is highly recommended.

Almost no variable showed significant differences in the two Reading conditions, therefore one could wonder if the reason is the independent variable Reading itself. As the manipulation check has shown, the personal text did not evoke more perspective-taking than the factual text. This lack of difference between the conditions could explain why there were no differences found for Empathy, Acceptance and Prosocial willingness. That the two groups did not seem to differ could have different reasons. On the one hand, the measurements could have gone wrong and it were not really the intended variables which had been measured, but a completely different variable. However, this seems unlikely since the items used were based on scales with high validity and reliability. On the other hand, the manipulation could have been unsuccessful and the two texts indeed did not differ enough in terms of perspective-taking. A third option, though, is that the texts were not suitable for this kind of research.

According to the written and verbal feedback at the end of the questionnaire, it became clear that both the personal text itself and the topic of it were problematic for some participants. Some reported that the topics of orphanages and punishments in the 1930s were too distant so that they found it difficult to really take the perspective of the main characters. However, it was the intention to not choose a topic to which the participants could relate too easily or where they could answer in a socially desirable way. Besides, in the current research it was looked at the differences in the form of the texts (personal vs. factual) and not at the differences in the content. It could be argued that, for this reason, the topic of orphanages was still appropriate. On the other hand, though, one has to differentiate between several kinds of texts, such as fiction and non-fiction, and of whom the participants have to take perspective. In the current research, reading and perspective-taking have not been limited. However, it would have been reasonable to think about the effect of the person(s) of whom one has to take the perspective and in which contexts: It is unclear to what extent taking the perspective of a murderer in a detective story where the person's background and motives are explained differs from taking the perspective of a child living in an orphanage.

Other participants reported that they felt distracted by the slang and the way that Billy P.'s verbal report was literally written down. Especially this last point was not, or at least less, the case in the factual text. To let the manipulation look like a neutral report, everything personal and emotional had been deleted out of the personal text. Therefore the factual text was brief, did not contain odd syntax and appeared plain and simple. This fact could explain why participants who read the factual text showed more empathy than participants who read the personal text: because they felt less distracted by the language while reading. Another aspect that could have been of influence is that the texts and the questionnaire were provided in English and German, and that everything was translated by the researcher. Although having been extremely careful while translating, having two versions could still have led to language issues and errors in interpretation. However, the randomization check has shown that per condition approximately the same amount of people has read the texts in English and German. The random distribution can therefore function as an argument against the assumption that language was an influencing factor.

Furthermore, the way in which prosocial behaviour was measured is debatable and could have been the reason that no effects could be found. The instructions and questions on prosocial behaviour seemed to be formulated too vaguely for some participants as they got them wrong: They seemed to not really imagine themselves being in the described situations

but continued referring to their current situation, especially in the Prosocial willingness (money) scenario. Related to this point is the question about how accurate the measurement of prosocial willingness was. It was intended to investigate the construct “prosocial behaviour”. However, it was not the behaviour that was measured but rather the intention to do something. Maybe the participants would behave differently if they really were in such a situation like having enough time off so that one could spend some time. Moreover, one has to make a difference between intentions based on attitudes and intentions based on internalized norms: Participants with intentions that are aligned with their moral norm are more likely to perform a behaviour than participants whose intentions are adapted to their attitude (Godin, Conner & Sheeran, 2005). It is debatable on which the participants’ intentions to invest time or money were based and if they just stated that they would invest spare time or money because they thought that it was expected from them or because they really wanted to help.

Another possible weakness of the study is the construct acceptance. Some participants had indicated that they did not really know what flaming is and that one example was not enough to illustrate the difference between flaming and criticism. This was mostly mentioned by older participants who did not have a Facebook account. Moreover, maybe it was not enough to base the construct of acceptance solely on the acceptance of antisocial behaviour happening online. Future research should also take offline behaviour into account.

The constructs empathy, acceptance and perspective-taking were measured with 17, ten and ten items respectively. It was chosen for more items than usual because the research team estimated that a smaller number of items would not measure the construct’s full ranges. For this reason, whole scales were chosen for acceptance and perspective-taking; for empathy, two scales have been combined. Afterwards, the items have been adapted to better relate to the topics of the text. Using less items might have been sufficient and more meaningful for measuring the constructs, but all three variables were highly reliable. Hence, it seems unlikely that an increased number of items could have had a negative effect on the results.

For future research it should be considered to take gender as a covariate into account. Since the randomization check indicated that approximately the same amount of female, male and non-binary participants were distributed among the conditions, gender was disregarded. However, previous research suggested that gender can be of influence. For example, it was shown that women are the better readers (Mullis, Martin, Kennedy & Foy, 2007). They are more advanced in their reading skills, independent of their age and where they come from. In addition, women do enjoy reading much more than boys do (Chiu & McBride-Chang, 2006;

Hughes-Hassell & Rodge, 2007). Therefore, gender should not be disregarded as a covariate that easily in future research.

On the other hand, the research also had strengths. First of all, for a student investigation the sample was quite large and diverse: There were not just students involved, but people of almost all age groups and of different nationalities. Another positive aspect is that the motivation of the participants seemed to be high. Many participants gave positive feedback in the comment box: Although some thought that orphanages in the 1930s as the topic of the texts was too distant to be able to relate to it, most of the participants liked the research itself, especially the topic of reading and the question how it could influence us. Some participants were so interested in the research that they indicated their e-mail address and asked to be informed about the results either verbally or in written form. For those reasons, it was expected that most of the participants had filled the questionnaire in seriously.

Although many aspects of the current research need to be improved, the study is worth a replication. As previous research has shown, reading helps to develop social competences (Mar & Oatley, 2008) and thereby has an impact on (prosocial) behaviour. If, in future research, it could be shown that reading and perspective-taking do make us more prosocial, this knowledge could be used in different settings, for example when working with problematic children: by reading to them and by promoting reading in general, the focus can be put even more on children who learn to take perspective and to be empathetic. Moreover, it could be used as a precautionary step to let children develop a sense of empathy and prosociality and to stimulate, for instance, classroom conversations with perspective-taking as the main topic.

Furthermore, it could be used to develop interventions, for example to prevent that adolescents become criminals. Poor parental supervision and negative peer influences are just two examples associated with violent juvenile delinquency (Tremblay, 2012). Aggressive and violent behaviour is a response learned by observing models who show this behaviour and who can be found among peers, in the family and in the media. Reading, especially reading fictions, could intervene: Characters could function as a positive influence by demonstrating which behaviour is to be preferred.

Since the relationship between reading, perspective-taking and empathy is, according to the current research, not significant, one can use this research and develop it further by remodelling it, for example by using other texts. In addition, deeper insight into the result that

participants who read the factual text scored higher on Empathy than people with the personal text is necessary if one assumes that it is a proper result and not an unsuccessful measurement of this study. Therefore, further research is recommended. Additionally, a significant positive correlation between reading and prosocial behaviour could be a hint that the world's situation is indeed improving and that violence rates are decreasing, and furthermore it could contribute to a better understanding and to enhancing the community.

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## Appendix

### A. Opening page

#### A.1 English Version

*You have the possibility to choose between the English and the German version of this study. Please choose your preferred language in the drop-down menu in the upper right corner. English recommended. // Sie haben die Möglichkeit zu wählen zwischen der englischen und der deutschen Version dieser Studie. Bitte wählen Sie Ihre bevorzugte Sprache im Aufklappenmenü in der rechten oberen Ecke. Englisch empfohlen.*

Dear participant,

Thank you for your participation in this research. The study is about reading and consists of two parts: a text and a questionnaire. The whole study will take about 20 minutes. There are no 'right' or 'wrong' answers in the questionnaire, it just comes to your personal experiences. Select the answer that best fits you. React as spontaneously as possible to the questions. Continue when you have finished answering all the questions.

Before you can start to complete the questionnaire, it is important for you to read the following information attentively.

Yours sincerely,

Kim Nölke  
Enschede, April 2016

'I hereby declare that I have been informed in a manner which is clear to me about the nature and method of the research. I agree of my own free will to participate in this research. I reserve the right to withdraw this consent without the need to give any reason and I am aware that I may withdraw from the experiment at any time. If my research results are to be used in scientific publications or made public in any other manner, then they will be made completely anonymous. My personal data will be treated confidentially and will not be disclosed to third parties without my express permission. If I request further information or have any questions about the research, now or in the future, I may contact [k.j.nolke@student.utwente.nl](mailto:k.j.nolke@student.utwente.nl).

If you have any complaints about this research, please direct them to the secretary of the Ethics Committee of the Faculty of Behavioural Sciences at the University of Twente, Drs. J. Rademaker P.O. Box 217, 7500 AE Enschede (NL), telephone: +31 (0)53 489 4591; email: [j.rademaker@utwente.nl](mailto:j.rademaker@utwente.nl).

I have been provided with explanatory notes about the research. I declare myself willing to answer to the best of my ability.'

If you give your voluntary consent to participate in this research and agree with the processing of your data, you may now proceed.

## A.2 German Version

*You have the possibility to choose between the English and the German version of this study. Please choose your preferred language in the drop-down menu in the upper right corner. // Sie haben die Möglichkeit zu wählen zwischen der englischen und der deutschen Version dieser Studie. Bitte wählen Sie Ihre bevorzugte Sprache im Aufklappmenü in der rechten oberen Ecke.*

Lieber Teilnehmer,

Vielen Dank für Ihre Teilnahme an dieser Forschung. Die Studie ist über Lesen und besteht aus zwei Teilen: einem Text und einem Fragebogen. Die ganze Studie wird etwa 20 Minuten dauern. Es gibt keine "richtigen" oder "falschen" Antworten im Fragebogen, es kommt nur auf Ihre persönlichen Erfahrungen an. Wählen Sie die Antwort, die am besten zu Ihnen passt. Reagieren Sie so spontan wie möglich auf die Fragen. Fahren Sie fort, wenn Sie alle Fragen beantwortet haben.

Bevor Sie beginnen können, den Fragebogen auszufüllen, ist es wichtig, dass Sie die folgenden Informationen aufmerksam lesen.

Mit freundlichen Grüßen,

Kim Nölke  
Enschede, April 2016

"Ich erkläre hiermit, dass ich auf eine mir deutliche Art und Weise über die Art und Methode der Untersuchung informiert worden bin. Ich stimme aus eigenem freiem Willen zu, an dieser Forschung teilzunehmen. Ich behalte mir das Recht vor, diese Zustimmung ohne Nennung eines Grundes zurückziehen zu können, und bin mir bewusst, dass ich meine Teilnahme jederzeit widerrufen kann. Falls meine Forschungsergebnisse in wissenschaftlichen Publikationen verwendet oder auf irgendeine andere Art veröffentlicht werden sollen, werden sie vollständig anonymisiert. Meine persönlichen Daten werden vertraulich behandelt und nicht ohne meine ausdrückliche Zustimmung an Dritte weitergegeben werden. Falls ich, jetzt oder in Zukunft, weitere Informationen anfordern möchte oder Fragen über die Forschung habe, so kann ich [k.j.nolke@student.utwente.nl](mailto:k.j.nolke@student.utwente.nl) kontaktieren. Falls Sie Beschwerden über diese Forschung haben, wenden Sie sich bitte an die Sekretärin der Ethikkommission der Fakultät für Verhaltenswissenschaften an der Universität Twente, Drs. J. Rademaker P. O. Box 217, 7500 AE Enschede (NL), Telefon: +31 (0) 53 489 4591; E-Mail: [j.rademaker@utwente.nl](mailto:j.rademaker@utwente.nl). Mir wurden Erklärungen über die Studie zur Verfügung gestellt und bin gewillt, auf die mir bestmögliche Weise zu antworten."

Wenn Sie Ihre freiwillige Zustimmung an der Teilnahme dieser Forschung geben und mit der Verarbeitung Ihrer Daten einverstanden sind, können Sie nun fortfahren.

## B. Condition 1: Personal Text

### B.1 English Version

You cannot go back to this page, so please read the following text attentively in a quiet environment where you will not be disturbed. In order to obtain good results in this study, it is of importance that you read the text completely and carefully.

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 and his brother '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 I've seen since tell me that in fact what happened was that our father handed us over to the Orphanage in the hope that he might be able to retrieve us at some unspecified future date, but in fact he never did. That was the last we ever heard of him, so he just disappeared from our lives. 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. 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. There was a space at the Orphanage at that time for very young children under five years of age, called the 'Nursery'. There were always, for the twelve years I was there, there were never fewer than twelve infants there. That's children from a few weeks old to about five. They were then separated and put into houses, either a girl's house or a boy's house." "No child had contact with any parent.

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 and his brother 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 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 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 I was one of them, we stayed on until we were 17, and that was only a handful of boys who did that."

"Occasionally you stayed together with pals of the same age as you 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 we went back to the boy's wing, and we didn't see each other. 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. You had to hold your hands out, both hands, palm upwards, and then he lashed you across the palm, and it might be three or four, you know, if it was perceived as a serious misdemeanour and you'd have these welts across your hand and up your wrist...red and then it would turn blue and you could date the punishment from the colour of the stripe on your wrist. We just accepted it I suppose. It was part of our upbringing. Sometimes a cane would be used."

## B.2 German Version

Sie können nicht zu dieser Seite zurückkehren, darum lesen Sie den folgenden Text bitte in einer ruhigen Umgebung, wo Sie nicht gestört werden, aufmerksam durch. Um in dieser Studie gute Ergebnisse zu erhalten, ist es von Bedeutung, dass Sie den Text vollständig und sorgfältig lesen.

Billy P. wurde in einem Armenviertel in Glasgow, Schottland, im Jahre 1933 geboren. Seine Mutter starb während einer Entbindung im Jahr 1936, als Billy drei Jahre alt war. Billys Vater, der ein zur See fahrender Kaufmann war, hatte das Sorgerecht für ihn und seinen zwei Jahre älteren Bruder. Billy erinnert sich, dass ihm im Jahr 1938, zur Zeit der Großen Depression als sein Vater arbeitslos war, von einer „matronenhaften Dame in einer grauen Uniform“ erzählt wurde, dass er und sein Bruder „auf einen Tagesausflug in die Highlands gehen würden“. Die „matronenhafte Dame in der grauen Uniform“ nahm die Jungen mit auf eine Zugfahrt von Glasgow nach Aberlour Station, die etwa eine halbe Meile vom Waisenhaus entfernt war: „Wir wussten nicht, dass wir in ein Waisenhaus gingen. Uns wurde nur gesagt, dass wir auf einen Tagesausflug in die Highlands gingen. Unterlagen die ich seitdem gesehen habe zeigten mir, was wirklich passiert war: dass unser Vater uns an das Waisenhaus übergab, in der Hoffnung, dass er zu einem unbestimmten späteren Zeitpunkt in der Lage wäre, uns zurückzuholen, doch in Wirklichkeit hat er es nie getan. Das war das letzte, das wir je von ihm gehört haben, er verschwand einfach aus unseren Leben. Wir bekamen nie eine Weihnachtskarte, nie eine Geburtstagskarte, hatten absolut keinen Kontakt und bis heute habe ich keine Informationen oder Benachrichtigungen darüber bekommen, was mit ihm passiert ist. Ich war mir damals über keine anderen Familienmitglieder bewusst, und weiß noch heute von keinen Onkeln oder Tanten oder Cousins. Wir waren komplett allein. Jedoch gab es viele Jungen die, falls das möglich war, in einer noch schlimmeren Situation waren. Sie waren von irgendjemandem, der sich um sie gekümmert hatte, auf der Türschwelle des Waisenhauses abgelegt worden, und einige von ihnen hatten nicht einmal Namen. Das Waisenhaus dachte sich Namen aus bis man ihnen eine neue Identität geschaffen hatte. Zur damaligen Zeit gab es einen Raum in dem Waisenhaus für sehr junge Kinder unter fünf Jahren, das sogenannte „Kinderzimmer“. In den zwölf Jahren, die ich in dem Waisenhaus war, waren dort nie weniger als zwölf Kleinkinder. Es waren Kinder die zwischen wenigen Wochen und etwa fünf Jahren alt waren. Danach wurden sie getrennt und in Häuser verlegt, entweder ein Mädchen- oder ein Jungenhaus.“ Kein Kind hatte Kontakt zu einem Elternteil.

Das einzige Mal, dass Billy mit seinem Bruder zusammen untergebracht wurde, war für die ersten paar Tage nach der Ankunft im Waisenhaus im Krankenflügel. Danach lebten Billy und sein Bruder in getrennten Jungenhäusern, da die Kinder nach Alter und Geschlecht getrennt in verschiedenen Häusern im Waisenhaus untergebracht wurden. Mädchen hatten ihren eigenen Abschnitt im Waisenhaus. Während Billys Zeit im Waisenhaus: „Jungen wurden in die „wee kids“, die kleinen Kinder, aufgeteilt, die fünf bis sieben Jahre alt waren. Und dann gab es ein Mitchell-Flügel und einen Mount Stephen-Flügel, benannt nach einem kanadischen Philanthropen, Lord Mount Stephen. Und dann wurde man wieder aufgeteilt, im Alter von 11, in zwei Häuser für die größeren Jungs, Jupp's und Gordon's, dort war man zwischen 11 und 14, was das Abgangsalter war. 1945 nach dem Krieg änderten sie das Ende des schulpflichtigen Alters auf 15. Und dann in Ausnahmefällen, ich war einer von ihnen, blieb man bis man 17 war, und das war nur eine Handvoll Jungen, die das getan hat.“

„Gelegentlich blieb man mit gleichaltrigen Kameraden zusammen während man von Haus zu Haus umzog.“ Billy verbrachte 10 Jahre in der Gesellschaft von einer Reihe von Freunden: „Wir schliefen im gleichen Schlafsaal, wir waren in der gleichen Klasse in der Schule, wir spielten Fußball und Cricket, wir gingen zusammen schwimmen. Mein Bruder war zweieinhalb Jahre älter als ich, sodass er immer ein Haus vor mir war, während meiner ganzen Zeit im Waisenhaus. Und als ich dann in einem der Häuser für die Ältesten war, war er weg, weil er die Schule verlassen hatte als er 14 war, um auf einer Farm zu arbeiten.“

Andere Erinnerungen an das Waisenhaus beinhalten die Schulausbildung. Das Schulgebäude trennte den Jungen- vom Mädchenflügel und der Klassenraum war die einzige Umgebung, wo ein Junge neben einem Mädchen sitzen konnte. „Aber sobald die Schulglocke läutete, 16 Uhr, Ende der Schule, gingen sie zurück zum Mädchenflügel und wir gingen zum Jungenflügel zurück, und wir sahen einander nicht. Ich habe angenehme, sogar gute Erinnerungen an fast alle Lehrer, jedoch keine guten an das Hauspersonal, die Häuserleiterinnen und -leiter, von denen einige für die Verantwortung für kleine Kinder ziemlich ungeeignet waren.“

Einige waren „Peitscher“, sagt Billy, ein Lehrer besonders:

„... war ein notorischer Peitscher. Körperliche Züchtigung war sowohl im Haus als auch in der Schule üblich. Als Junge traf es mich ein paar Mal. Man musste seine Hände ausstrecken, beide Hände mit den Handflächen nach oben, und dann peitschte er einem über die Handflächen, vielleicht drei bis vier Mal, wenn es als ernstes Fehlverhalten wahrgenommen wurde. Und man hatte diese Striemen quer über die Hände und die Handgelenke hinauf... Rot und dann würde es blau werden und man konnte die Dauer seit der Bestrafung von der Farbe der Striemen an den Handgelenken herleiten. Wir haben es einfach akzeptiert, vermute ich. Es war Teil unserer Erziehung. Manchmal wurde ein Rohrstock verwendet.“

## C. Condition 2: Factual Text

### C.1 English Version

You cannot go back to this page, so please read the following text attentively in a quiet environment where you will not be disturbed. In order to obtain good results in this study, it is of importance that you read the text completely and carefully.

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 doorstep, 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 smaller children would be hung on coat hooks as punishment or repeatedly locked into a dark cloak room, leaving some of the children being afraid of the dark forever. The older ones were often beaten, leaving bruises and red and blue stripes, or had to shovel snow without gloves, just to pass out from the shock of frostbite. Moreover, it was often the case that the children had to work and do the chores at the orphanages. Scrubbing the floor, weeding the gardens, doing the laundry and kitchen duties were not rarely seen. The children, however, just accepted it, as it was part of their upbringing.

### *C.2 German Version*

Sie können nicht zu dieser Seite zurückkehren, darum lesen Sie den folgenden Text bitte in einer ruhigen Umgebung, wo Sie nicht gestört werden, aufmerksam durch. Um in dieser Studie gute Ergebnisse zu erhalten, ist es von Bedeutung, dass Sie den Text vollständig und sorgfältig lesen.

Kinderheime existieren seit dem Mittelalter, als Städte, Gemeinden oder kirchliche Organisationen obdachlose Kinder versorgten. Doch insbesondere in den 1930er Jahren waren Waisenhäuser zunehmend überfüllt. Es war die Zeit der Großen Depression und viele Menschen waren arbeitslos. Viele Eltern konnten ihre Kinder nicht mehr versorgen. Sie gaben ihre Kinder an die Einrichtungen ab – viele in der Hoffnung, dass sie zu einem unbestimmten späteren Zeitpunkt in der Lage wären, sie zurückzuholen. Doch in Wirklichkeit taten es viele nie. Dies hatte mehrere Gründe, unter anderem, weil viele Familien in finanziellem Rückstand waren, wegen des Krieges oder aufgrund von Todesfällen. Sehr oft waren Waisen vernachlässigte Kinder alleinerziehender Eltern, oder der Vormund wollte sich einfach nicht mehr um das Kind kümmern.

Häufig wurden die Kinder von einem Mitarbeiter des Waisenhauses abgeholt. Es wurden ihnen gesagt, dass sie auf einen Ausflug gehen würden, stattdessen wurden sie in das Waisenhaus gebracht. Für die meisten Kinder war es das letzte Mal, dass sie ihre Eltern sahen. Andere Kinder wurden, ohne Informationen über ihre Identität, auf der Türschwelle des Waisenhauses abgelegt.

Die Waisenhäuser wurden von einer strikten Trennung dominiert. Es gab verschiedene Gebäude für Mädchen und Jungen. Das einzige Mal, dass Jungen und Mädchen Kontakt hatten, war im Klassenraum and manchmal, abhängig vom Waisenhaus, zu den Mahlzeiten. Unmittelbar danach mussten sie zurück in ihre Häuser gehen, sodass sie einander nie sahen. Darüber hinaus gab es Häuser für verschiedene Altersgruppen. Die Kinder, zwischen einigen Wochen und 15 Jahren alt, wurden in die Säuglinge, Kinder jüngeren und mittleren Alters und die älteren Kinder aufgeteilt und mussten die Häuser durchlaufen. Sie zogen alle paar Jahre um. Die Trennung war so streng, dass man sogar von seinen Geschwistern getrennt wurde. Wenn man nicht in der gleichen Altersgruppe war, hatte man beinahe nie Kontakt.

Nach heutigen Maßstäben waren viele Lehrer und Mitarbeiter ungeeignet für die Verantwortung für kleinen Kindern. Sie waren streng und es war nicht ungewöhnlich, Gebrauch zu machen von körperlicher Züchtigung für das geringste Fehlverhalten in den Häusern oder in der Schule, um die Kinder disziplinierter werden zu lassen. Die kleineren Kinder wurden zur Strafe auf Kleiderhaken aufgehängt oder wiederholt in eine dunkle Garderobe eingesperrt, wodurch einige der Kinder für immer Angst vor der Dunkelheit haben würden. Die Älteren wurden oft geschlagen, wodurch Prellungen und rote und blaue Streifen zurückblieben, oder mussten Schnee ohne Handschuhe schaufeln, nur um aufgrund des Schocks der Erfrierungen das Bewusstsein zu verlieren. Darüber hinaus war es häufig der Fall, dass die Kinder in den Waisenhäusern arbeiten und den Haushalt machen mussten. Das Schrubben des Bodens, das Jäten der Gärten, Wäschewaschen und Küchenarbeiten wurden nicht selten gesehen. Die Kinder akzeptierten es jedoch einfach, da es Teil ihrer Erziehung war.



## D. Summary and Scales on Empathy, Perspective-Taking and Acceptance

### D.1 English Version

Please summarize the content of the text you just read briefly. \_\_\_\_\_

In the following, there will be some statements that deal with the feelings, thoughts and experiences you had during reading. Please indicate how much you agree with the statements.

There are no 'right' or 'wrong' answers, it just comes to your personal experiences. Select at each statement the answer that best fits you. React as spontaneously as possible to the questions.

Through this text I feel alarmed.  
 Through this text I feel upset.  
 Through this text I feel disturbed.  
 Through this text I feel compassionate.  
 Through this text I feel moved.  
 Through this text I feel warm-hearted.  
 Through this text I feel sad.  
 Through this text I feel burdened.  
 Through this text I feel warm.  
 Through this text I feel worried.  
 The text had an emotional impact on me.  
 I felt kind of protective toward the people described in the text.  
 I felt pity for the people described in the text.  
 During reading I had tender, concerned feelings for people less fortunate than me.  
 I didn't feel sorry for the described people when they were having problems. (\*)  
 The people's misfortunes described in the text did not disturb me a great deal. (\*)  
 I was touched by the things I read.

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

*Note.* Items with (\*) were recoded.

In the following, there will be some statements that deal with the feelings, thoughts and experiences you had during reading. Please indicate how much you agree with the statements.

There are no 'right' or 'wrong' answers, it just comes to your personal experiences. Select at each statement the answer that best fits you. React as spontaneously as possible to the questions.

Before judging the people described in the text, I try to imagine how I would feel if I were in their place.  
 I tried to understand the people described in the text better by imagining how things look from their perspective.  
 I found it difficult to see things from the point of view of the people in the text. (\*)  
 As I read the text, I could easily imagine the events that occurred.  
 I could imagine myself being in the situation that was described in the text.  
 I was mentally involved while I was reading the text.  
 When I had finished reading the text, I could easily put it out of my head. (\*)  
 I recognized that I was wondering how the text could have run out differently  
 I could identify myself with the described people.  
 I asked myself what I would have done in the described situation.

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

*Note.* Items with (\*) were recoded.



The following statements have nothing to do with the text you read in the beginning, but deal with your general opinion on "flaming". A definition of "flaming" is stated below.

There are no 'right' or 'wrong' answers, it just comes to your personal experiences. Select at each statement the answer that best fits you. React as spontaneously as possible to the questions.

Flaming is a hostile online interaction that involves insulting messages, or flames, between users. Flaming may occur in the context of Internet forums, chat rooms, Usenet groups, social networks and game lobbies, where there is a mix of people with differing ideologies from different cultures.

An example of flaming is:

"Hello "Deutsche Bahn (DB)", I also always wanted to say: I hate you, your "service", your exaggerated prices and especially your horrendous communication."



- I think flaming is annoying. (\*)
- When I see flaming behaviour on Facebook or other social media, I find it amusing.
- I think flaming is usually meant to be funny
- I think flaming is a norm for communicating in the digital world.
- I think flaming is just an honest way of expressing disagreement.
- In my opinion people flame because they just have to pass time when they are bored. (\*)
- I think flaming has no dramatic consequences for the flamer himself.
- I think flaming has no dramatic consequences for the victim who gets flamed.
- I think it is the victim's own fault for getting flamed.
- I think flaming is under certain conditions acceptable.

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Note. Items with (\*) were recoded.

## D.2 German Version

Bitte fassen Sie den Inhalt des Textes, den Sie soeben gelesen haben, kurz zusammen.

---

Im Folgenden finden Sie einige Äußerungen, die sich mit den Gefühlen, Gedanken und Erfahrungen beschäftigen, die Sie während des Lesens hatten. Bitte geben Sie an, wie sehr Sie mit den Äußerungen übereinstimmen.

Es gibt keine "richtigen" oder "falschen" Antworten im Fragebogen, es kommt nur auf Ihre persönlichen Erfahrungen an. Wählen Sie die Antwort, die am besten zu Ihnen passt. Reagieren Sie so spontan wie möglich auf die Fragen.

Durch den Text fühle ich mich alarmiert.

Durch den Text fühle ich mich aufgeregt.  
Durch den Text fühle ich mich verstört.  
Durch den Text fühle ich mich mitfühlend.  
Durch den Text fühle ich mich bewegt.  
Durch den Text fühle ich mich warmherzig.  
Durch den Text fühle ich mich traurig.  
Durch den Text fühle ich mich belastet.  
Durch den Text fühle ich mich warm.  
Durch den Text fühle ich mich besorgt.  
Der Text hatte einen emotionalen Einfluss auf mich.  
Ich fühlte mich, als wolle ich die Menschen die im Text beschrieben sind schützen.  
Ich hatte Mitleid mit den Menschen, die im Text beschrieben sind.  
Während des Lesens fühlte ich mit den Menschen mit, die es nicht so gut haben wie ich.  
Ich empfand kein Bedauern für die beschriebenen Menschen wenn sie Probleme hatten. (\*)  
Das Unglück der Menschen im Text störte mich nicht besonders. (\*)  
Ich war berührt von dem was ich gelesen habe.

1 = trifft überhaupt nicht zu, 2 = trifft nicht zu, 3 = neutral, 4 = trifft zu, 5 = trifft voll und ganz zu

*Anmerkung.* Items mit (\*) wurden umkodiert.

Im Folgenden finden Sie einige Äußerungen, die sich mit den Gefühlen, Gedanken und Erfahrungen beschäftigen, die Sie während des Lesens hatten. Bitte geben Sie an, wie sehr Sie mit den Äußerungen übereinstimmen.

Es gibt keine "richtigen" oder "falschen" Antworten im Fragebogen, es kommt nur auf Ihre persönlichen Erfahrungen an. Wählen Sie die Antwort, die am besten zu Ihnen passt. Reagieren Sie so spontan wie möglich auf die Fragen.

Bevor ich über die im Text beschriebenen Menschen urteile, versuche ich mir vorzustellen, wie ich mich in ihrer Situation fühlen würde.

Ich versuchte, die Menschen im Text besser zu verstehen, indem ich mir vorstellte, wie es aus ihrer Perspektive ist.

Ich fand es schwierig, Dinge aus der Perspektive der im Text beschriebenen Personen zu betrachten.

(\*)

Während des Lesens konnte ich mir die Geschehnisse leicht vorstellen.

Ich könnte mich in die beschriebene Situation einfühlen.

Als ich den Text las war ich mental eingebunden.

Als ich fertig war mit dem Lesen des Textes, konnte ich ihn leicht wieder vergessen. (\*)

Ich merkte, dass ich mich fragte, wie die Geschichte anders hätte ablaufen können.

Ich konnte mich mit den beschriebenen Personen identifizieren.

Ich fragte mich, wie ich selbst in der beschriebenen Situation handeln würde.

1 = trifft überhaupt nicht zu, 2 = trifft nicht zu, 3 = neutral, 4 = trifft zu, 5 = trifft voll und ganz zu

*Anmerkung.* Items mit (\*) wurden umkodiert.

Die folgenden Aussagen haben nichts mit dem Text, den Sie zu Anfang gelesen haben, zu tun, sondern beschäftigen sich mit Ihrer allgemeinen Meinung über "Flaming". Eine Definition von "Flaming" ist unten angegeben.

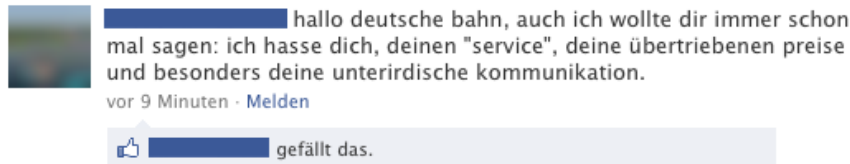
Es gibt keine "richtigen" oder "falschen" Antworten im Fragebogen, es kommt nur auf Ihre persönlichen Erfahrungen an. Wählen Sie die Antwort, die am besten zu Ihnen passt. Reagieren Sie so spontan wie möglich auf die Fragen.

Flaming ist eine feindliche Online-Interaktion, die beleidigende Mitteilungen oder Drohnachrichten

zwischen Nutzern beinhaltet. Flaming kann im Rahmen von Internet-Foren, Chatrooms, Usenet-Gruppen, sozialen Netzwerken und Onlinespielen auftreten, wo es eine Mischung von Menschen mit unterschiedlichen Ideologien aus verschiedenen Kulturen gibt.

Ein Beispiel für Flaming ist:

"Hallo deutsche Bahn, auch ich wollte dir schon immer sagen: Ich hasse dich, deinen "Service", deine übertriebenen Preise und besonders deine unterirdische Kommunikation."



Ich denke, Flaming ist störend. (\*)

Wenn ich Flaming auf Facebook oder anderen sozialen Medien sehe, finde ich es amüsant.

Ich denke, Flaming ist in der Regel lustig gemeint.

Ich denke, Flaming ist eine Norm um in der digitalen Welt zu kommunizieren.

Ich denke, Flaming ist nur eine ehrliche Art, Meinungsverschiedenheiten auszudrücken.

Meiner Meinung nach "flamen" Menschen um Zeit totzuschlagen wenn sie sich langweilen. (\*)

Ich denke, Flaming hat keine dramatischen Folgen für den "Flamer".

Ich denke, Flaming hat keine dramatischen Folgen für das Opfer hat, das "geflamt" wird.

Ich denke, es ist die eigene Schuld des Opfers, wenn es "geflamt" wird.

Ich denke, Flaming ist unter bestimmten Bedingungen akzeptabel.

1 = trifft überhaupt nicht zu, 2 = trifft nicht zu, 3 = neutral, 4 = trifft zu, 5 = trifft voll und ganz zu

Anmerkung. Items mit (\*) wurden umkodiert.

## E. Questions on Prosocial Willingness

### E.1 English Version

The following questions deal with your willingness in specific situations.

Nowadays, many people work as volunteers, either in their local community, for charities, or for organizations as Amnesty International, Greenpeace etc.

Would you, in principle, be willing to invest some of your spare time to do volunteer work for an organization of your own choosing?

Yes

No

[If No is selected]

Why not? \_\_\_\_\_

[applies for this question and all questions following: If Yes is selected]

For which organization would you be willing to invest your time? \_\_\_\_\_

How many hours per month would you be willing to invest for it? \_\_\_\_\_

Would you be willing to invest your time once or regularly?

Once

Regularly

How regularly (e.g. once a month or once a week)? \_\_\_\_\_

The questions below deal with another situation:

Imagine that you do not have to purchase anything urgently and that you therefore can spare some money.

Would you donate the spare money?

Yes  
No

*[If No is selected]*

Why not? \_\_\_\_\_

*[applies for this question and all questions following: If Yes is selected]*

Where would you like to donate it to? \_\_\_\_\_

How much money per month would you be willing to invest for it? \_\_\_\_\_

Would you be willing to donate once or regularly?

Once  
Regularly

How regularly (e.g. once a month or once every three months)? \_\_\_\_\_

## ***E.2 German Version***

Die folgenden Fragen befassen sich mit Ihrer Bereitschaft in bestimmten Situationen.

Heutzutage arbeiten viele Menschen als Freiwillige, entweder in ihrer Gemeinde, für wohltätige Zwecke oder für Organisationen wie Amnesty International, Greenpeace etc.

Wären Sie grundsätzlich bereit, Teile Ihrer freien Zeit zu investieren, um freiwillige Arbeit für eine Organisation Ihrer Wahl zu leisten?

Ja  
Nein

*[falls Nein ausgewählt wurde]*

Warum nicht? \_\_\_\_\_

*[gültig für diese Frage und alle folgenden Fragen: falls Ja ausgewählt wurde]*

Für welche Organisation wären Sie bereit, Ihre Zeit zu investieren? \_\_\_\_\_

Wieviele Stunden pro Monat wären Sie bereit, dafür zu investieren? \_\_\_\_\_

Wären Sie bereit, Ihre Zeit einmalig oder regelmäßig zu investieren?

Einmalig  
Regelmäßig

Wie regelmäßig (z.B. einmal im Monat or wöchentlich)? \_\_\_\_\_

Die folgenden Fragen befassen sich mit einer anderen Situation:

Stellen Sie sich vor, dass Sie nichts dringend kaufen müssen und dass Sie deswegen etwas Geld erübrigen können.

Würden Sie das übrige Geld spenden?

Ja  
Nein

*[falls Nein ausgewählt wurde]*

Warum nicht? \_\_\_\_\_

*[applies for this question and all questions following: If Yes is selected]*

Woran würden Sie es spenden wollen? \_\_\_\_\_

Wieviel Geld wären Sie bereit, dafür zu investieren? \_\_\_\_\_

Wären Sie bereit, einmalig oder regelmäßig zu spenden?

Einmalig  
Regelmäßig

Wie regelmäßig (z.B. einmal im Monat oder einmal alle drei Monate)? \_\_\_\_\_

## **F. Demographics**

### **F.1 English Version**

Finally, we would like to get some general information about you.

What is your gender?

Female  
Male  
Other

How old are you? \_\_\_\_\_

What is your nationality?

Dutch

German

Other: \_\_\_\_\_

What is your highest achieved level of education?

Secondary modern school (Hauptschule)

Middle school (vmbo, Mittlere Reife)

High school (havo, vwo, (Fach)Abitur)

Bachelor

Master

Other

## *F.2 German Version*

Zum Schluss möchten wir Sie nach einigen allgemeinen Informationen fragen.

Was ist Ihr Geschlecht?

Weiblich

Männlich

Anderes

Wie alt sind Sie? \_\_\_\_\_

Was ist Ihre Nationalität?

Niederländisch

Deutsch

Anderes: \_\_\_\_\_

Was ist Ihr höchstes erreichtes Bildungsniveau?

Hauptschule

Mittelschule (vmbo, Mittlere Reife)

Hochschule (havo, vwo, (Fach)Abitur)

Bachelor

Master

Anderes

## **G. Final Questions**

### *G.1 English Version*

This study is about the impact of reading on our behaviour, therefore it is important that you read the text in the beginning completely and attentively. If you did not read the text that attentively, please indicate it honestly. This will of course have no consequences for you.

On a scale from 1 (not at all) to 5 (very much), to what extent did you read the text in the beginning attentively?

1

☐

2

☐

3

☐

4

☐

5

☐

If you are a psychology/communication studies student at the University of Twente, please enter your SONA number here: \_\_\_\_\_

If you have any comments about this study, please report it here: \_\_\_\_\_

### **G.2 German Version**

Diese Studie befasst sich mit den Auswirkungen von Lesen auf unser Verhalten, deshalb ist es wichtig, dass Sie den Text am Anfang vollständig und aufmerksam gelesen haben. Wenn Sie den Text nicht sehr aufmerksam gelesen haben, so geben Sie dies bitte ehrlich an. Dies wird natürlich keine Folgen für Sie haben.

Auf einer Skala von 1 (trifft überhaupt nicht zu) bis 5 (trifft voll und ganz zu), wie aufmerksam haben Sie den Text zu Beginn gelesen?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Falls Sie ein Psychologie-/Kommunikationswissenschafts-Student an der Universität Twente sind, geben Sie bitte Ihre SONA Nummer hier an: \_\_\_\_\_

Wenn Sie Anmerkungen zu dieser Studie haben, nennen Sie sie bitte hier: \_\_\_\_\_

## **H. Debriefing**

### **H.1 English Version**

You have now successfully completed the research.  
Thank you very much for your participation!

The purpose of this study is to examine if reading has an influence on behaviour. More specifically, it is tested if reading generates feelings that encourage prosocial behaviour. For this, you have been assigned randomly to one of two conditions and got to read either a narrative or a factual text. On this basis, the constructs empathy, perspective-taking, acceptance of antisocial behaviour, and prosocial behaviour have been measured.

You have not been informed previously about the whole purpose of the study because this knowledge could have influenced your answers.

If you are interested in this research and want to be informed of the results, please enter your e-mail address: \_\_\_\_\_

If you have any further questions or want to request deletion of your data, please write an e-mail to [k.j.nolke@student.utwente.nl](mailto:k.j.nolke@student.utwente.nl) within 24 hours after completion of the survey.

If you click on 'Submit', you agree to the processing of your data in this study and that you do not feel harmed or stressed by this research. If you did feel harmed or stressed, please report it via the above-mentioned e-mail address.

Thank you!

### **H.2 German Version**

Sie haben nun die Untersuchung erfolgreich abgeschlossen.  
Vielen Dank für Ihre Teilnahme!

Der Zweck dieser Studie ist es, zu untersuchen, ob Lesen einen Einfluss auf das Verhalten hat. Genauer wird getestet, ob Lesen Gefühle erzeugt, die prosoziales Verhalten fördern. Dafür wurden

Sie zufällig einer von zwei Konditionen zugeteilt und bekamen entweder eine Erzählung oder einen sachlichen Text zu lesen. Auf dieser Grundlage wurden die Konstrukte Empathie, Perspektivenehmen, Akzeptanz von antisozialem Verhalten, und prosoziales Verhalten gemessen.

Sie wurden zuvor nicht über den gesamten Zweck dieser Studie informiert, da dieses Wissen Ihre Antworten hätten beeinflussen können.

Wenn Sie an dieser Forschung interessiert sind und über die Ergebnisse informiert werden wollen, geben Sie bitte Ihre E-Mail-Adresse an: \_\_\_\_\_

Falls Sie weitere Fragen haben oder die Löschung Ihrer Daten verlangen möchten, schreiben Sie bitte innerhalb von 24 Stunden nach Abschluss der Umfrage eine E-Mail an k.j.nolke@student.utwente.nl.

Wenn Sie auf "Submit" klicken, erklären Sie sich mit der Verarbeitung Ihrer Daten in dieser Studie einverstanden und bestätigen, dass Sie sich durch die Studie nicht angegriffen oder gestresst fühlen. Sollten Sie sich angegriffen oder gestresst gefühlt haben, melden Sie es bitte über die oben genannte E-Mail-Adresse.

Vielen Dank!

## I. Tables

Table 1

### *Descriptive Statistics*

	M	SD	Min	Max
Empathy	3.24	0.65	1.18	4.35
Perspective-taking	3.25	0.53	1.80	4.90
Acceptance	2.14	0.59	1.13	3.63
Prosocial Willingness_time	14.13	18.27	0.00	150.00
Prosocial Willingness_money*	8.77	24.84	0.00	200.00

*Note.* *M* = Mean. *SD* = Standard Deviation. *Min* = Minimum. *Max* = Maximum. *N* = 112.

\**N* = 105.

Table 2

### *Simple Linear Regression Analysis with Empathy as Independent Variable*

Dependent Variable	<i>B</i>	<i>SD B</i>	$\beta$	<i>t</i>	<i>p</i>
Acceptance	-0.09	0.09	-.09	-0.97	.34
<i>F</i> (1, 110) = 0.93, <i>p</i> = .34. <i>R</i> <sup>2</sup> = .01.					
Prosocial willingness (time)	-3.37	2.69	-.12	-1.25	.21
<i>F</i> (1, 110) = 1.57, <i>p</i> = .21. <i>R</i> <sup>2</sup> = .01.					
Prosocial willingness (time frequency)	0.84	0.49	.16	1.72	.09



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$F(1, 110) = 2.96, p = .09. R^2 = .03.$					
Prosocial willingness (money)	1.32	3.58	.04	0.37	.71
$F(1, 110) = 0.14, p = .71. R^2 < .01.$					
Prosocial willingness (money frequency)	0.03	0.06	.04	0.46	.65
$F(1, 110) = 0.21, p = .65. R^2 < .01.$					

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