The effect of reading narratives

How does perspective taking influence prosocial behavior?

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Abstract (English)

Prosocial behavior plays a large role in today's society; helping behavior can be found in many different situations. The reasons why people help can be different. The goal of this research was to explore the influence of reading narratives on prosocial behavior and acceptance of antisocial behavior. To study this, it was tested if the style of a text could have an influence on participants (N=103) behavior. In the experimental group, participants have read a personal narrative about the experience with depression. The control group also received a text about depression, but a more factual text without any personal context. After reading the text, the constructs empathy, perspective taking, acceptance of antisocial behavior and prosocial behavior were measured. Prosocial behavior was measured by three Pay what you want questions. It was expected, that participants in de personal narrative condition will show more prosocial behavior than in the factual text condition. Further, less acceptance of antisocial behavior in the person narrative condition was expected. However, this was not the case. The results show that there was no difference between the two conditions, although participants with a higher score of empathy show less acceptance of antisocial behavior. A possible reason for this is that the manipulation of the text might have no effect.

Keywords: prosocial behavior, empathy, perspective taking, acceptance of antisocial behavior, reading

Abstract (Dutch)

Prosociaal gedrag speelt een grote rol in de huidige maatschappij; hulpgedrag kan gevonden worden in veel verschillende situaties. De redenen waarom mensen helpen kunnen verschillend zijn. Het doel van dit onderzoek was de invloed van het lezen van verhalen op prosociaal gedraag en acceptatie van antisociaal gedraag te verkennen. Om dit te onderzoeken, it werd getest of de stijl van een tekst zou kunnen invloed hebben op het gedrag van deelnemers (N = 103). In de experimentele groep hebben de deelnemers een persoonlijk verhaal over de ervaring met depressie gelezen. De controlegroep heeft ook een tekst over depressie, maar een feitelijke tekst zonder persoonlijke context ontvangen. Nadat de tekst werd gelezen de constructen empathie, perspectief nemen, acceptatie van antisociaal gedrag en prosociaal gedrag werden gemeten. Prosociaal gedrag werd gemeten door drie 'Pay what you want' vragen. Het werd verwacht dat de deelnemers in de persoonlijke verhaal conditie meer prosociaal gedrag dan in de feitelijke tekst conditie tonen. Verder minder acceptatie van antisociaal gedrag werd verwacht in de persoonlijke verhaal conditie. Echter was dit niet het geval. De resultaten tonen aan dat er geen enkel verschil tussen de twee condities was, hoewel de deelnemers met een hogere score van empathie minder acceptatie van antisociaal gedrag toonden. Een mogelijke reden hiervoor is dat de manipulatie van de tekst mogelijk geen effect had.

Sleutelwoorden: prosociaal gedrag, empathie, perspectief nemen, aanvaarding van antisociaal gedrag, lezen

„I do believe something very magical can happen when you read a good book"

- J.K. Rowling

Introduction

In today's society, prosocial behavior is seen in many different and also simple ways. Helping people who are in distress, donating money to charity and volunteering are examples of prosocial behavior. For many people helping others is just naturally, even if there is no reward to expect. Children begin to display prosocial behavior at an early stage by sharing and are encouraged to continue this behavior. This kind of social behavior is seen as a benefit to other people or society as a whole (Twenge, Ciarocco, Baumeister, & Bartels, 2007). But what leads people to display prosocial behavior and helping other people who are in distress? Prosocial behavior is motivated by both situational such as the bystander effect and individual factors.

One of the essential aspects of prosocial behavior is empathy. Stotland (1969, p.275) defines empathy as involving an observer perceiving the other's emotions and respond to other's experiences as he perceives them. It is even possible to empathize with "nonexistent' emotions." Thus, empathy is a respond to emotions that another is experiencing. This can be by face-to-face situations and even in literature.

In his book "The Better Angels of Our Nature" Pinker (2011) discussed how violence has strongly declined in the past decades. The Human Security Report (2013) has shown that the number of international wars has fallen since 1950s; from more than six to less than one a year. Further, the number of deaths caused by war has fallen from 250 to less than 10 per million people. Pinker tried to explain the decline of violence by identifying the changes in our culture that had a positive impact on prosocial behavior and decreases violence. One of these described cultural changes is the intervention of the printing press and increase in literacy levels. Novels have an influence on our empathic abilities, such a better understanding of the emotional state of other people and react to it, and can even increase those (Pinker, 2011). Further, novels have an impact on social competence. Whalen (1989) stated that both fiction and nonfiction narratives can increase social and emotional competences. These competences includes among other the ability to simulate others' emotions, predict behavior and adapt the own behavior. Reading narratives is not only a leisure activity anymore, but creates a simulative experience of social interactions for readers

(Mar and Oatley, 2008). Thus, reading narratives leads to learning and development of social competence by increasing empathy.

In his bachelor thesis, Van de Pieterman (2015) has shown that participants were more willing to show prosocial behavior when they read a text in which they were asked to take the perspective of another person. In this study, participants had to read a story and imagining how a character or oneself would feel in the given situation. He also has shown that empathy was significantly correlated to the participant's extent of helping with picking up papers. The study indicates that perspective taking and empathy leads to prosocial behavior. The question that now remains is if reading narratives also influences people to decrease the acceptance of antisocial behavior and show more prosocial behavior. The research question, therefore, is the following:

How does perspective taking influence prosocial behavior?

Theoretical framework

Narratives stories can be based on facts (nonfiction) or can be imaginary (fiction). One of the strongest benefits of reading fiction or nonfiction narratives besides language development is increasing the competence of social and emotional functioning such as empathy and perspective taking (Whalen, 1989). Different studies has shown that reading personal narratives can have a positive impact on empathy and perspective taking (e.g. Mar, Oatley, Hirsh, Paz & Peterson, 2006; Shen, Ahern & Baker, 2014). Reading fiction narratives can have a greater impact on social competence than nonfiction. Furthermore, news narratives can also have an influence on individuals' issue attitudes. A study where narrative and informational news were compared has shown that narrative informational news had a greater impact than informational news on attitudes, because it is more effective in evoking empathy (Shen, Ahern & Baker, 2014). Another study by Mar and Oatley (2008) also indicated that personal narratives are more likely than expository text, which have the purpose to be informational, to evoke mirror neuron-invoked empathy. A possible reason for increasing empathy by reading narratives is that readers simulate the character's worlds, emotions and behavior into the real world. It seems that reading narratives can produce a social-processing mode in readers. Reading about a character's emotions and behavior can have an impact on the own emotions and behavior when facing a similar situation in real life. Furthermore, readers construct emotions over the situation they read about, even when they never

experience a similar situation. Narratives could also be used to change the reader's attitude and reduce prejudice.

Vezalli, Stathi, Giovannini, Capozza and Trifiletti (2015) have shown that reading parts of Harry Potter which are dealing with prejudice can improved the attitudes towards minority groups such as refugees or homosexuals. Further, the studies have shown that people not only form attitudes by conforming to positive relevant others, but also by distancing themselves from negative relevant others. Younger participants positively changed attitudes by strongly identifying with the positive main character, whereas older participants changed attitudes by strongly do not identify with evil characters. This study also stated that reading to fiction narratives can improve social traits such as empathy and perspective taking. One concept that can be influenced by narratives is the concept of empathy.

Empathy is the key to understanding social interaction and plays an essential role in interpersonal relations including care for the wellbeing of another person (Decety & Cowell, 2014). De Vignemont and Singer (2006) indicated that empathy is an affective state and that observation and imagination of another person both can activate empathy. The concept of empathy consists of three different aspects, namely emotional sharing, empathic concern and perspective taking (Decety & Cowell, 2014). Each of these aspects uniquely influence moral cognition and predicts outcomes in moral behavior.

Emotional sharing is described as the fundamental role in generating the motivation to care and help another person in distress (Decety, Chen, Harenski & Kiehl, 2013). This leads to the experience of emotional similarity, which is associated with a variety of interpersonal benefits including greater cooperation among group members and reduced stress (Barsade, 2002; Townsend, Kim & Mesquita, 2014).

Another component of empathy is empathic concern, which means being affected by other's emotional states. One example for empathic concern is parental care, but it is also important for all other kinds of social relationships. People are able to feel concern for a wide range of targets, including non humans. This is possible when cues of vulnerability and need are high salient (Batson, 2010).

The third component of the construct of empathy is perspective taking which refers to the ability to put oneself into the mind of another and imagine what that person is thinking or feeling (Decety & Cowell, 2014).

Perspective taking is one essential trait to display prosocial behavior. Affective perspective taking is a way to produce empathy and concern for others (van Lange, 2008). It can also reduce prejudice towards out groups. Taking the perspective of an out group member

can lead to a decrease of stereotypes and to a positive evaluation of that out group (Galinsky & Moskowitz, 2000). There exist two types of perspective taking: one is imaging how others would feel while the other is imaging how you would feel in this situation (Batson, Early & Salvarani, 1997). In their study, they stated that imagining how the other would feel produced empathy whereas that imagining how you would feel can also produce personal distress, which has been found to evoke egoistic motivation. These differences between the two types could explain differences in behavior. Research on perspective taking is consistent with the results of Batson, Early and Salvarani. In a study by Jackson,Brunet, Meltzoff and Decety (2005) participants had to rate pictures of painful situation and the level of pain perceived from different perspectives. Participants in the self perspective condition rated the pain higher than participants who imagined the situation from a different perspective. Similar studies to this one had same results, which confirm the hypothesis about the two different types of perspective taking and the emotional consequences (e.g. Lamm, Batson & Decety, 2007).

Purpose of this study

This study will investigate if reading a narrative or factual text influences prosocial behavior and decreases resistance towards antisocial behavior. Therefore, participants were randomly assigned to one of two text conditions and read either a personal narrative or a factual text. To see, if the manipulations works constructs such Empathy, Perspective Taking and Acceptance of antisocial behavior were also measured. Perspective taking was measured to check if the manipulation worked. Furthermore it was investigated if reading a personal narrative story can predict a higher level of Empathy, which should decrease Acceptance of antisocial behavior and increase prosocial behavior. Figure 1 illustrates the relationships between the respective variables.
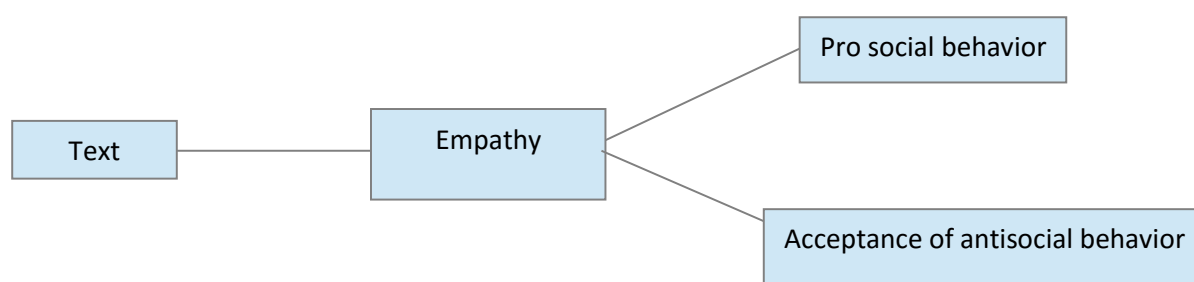

Figure 1. Conceptual Model of Current Research

To be able to answer the research question following hypotheses, resulting from the conceptual model, have been formulated:

1. Participants in the personal narrative condition show a higher level of empathy than participants in the factual text condition.
2. Participants in the personal narrative condition will display more prosocial behavior than in the factual text condition.
3. Participants in the personal narrative condition will display less acceptance of antisocial behavior.
4. Participants with a higher level of empathy will show more prosocial behavior.
5. Participants with a higher level of empathy will show a lower level of acceptance of antisocial behavior.

Method

Design and Participants

This study is a cross-sectional true online experiment with a between subjects design. Participants were randomly assigned to one of the two conditions: 'personal narrative' or 'factual text'. The conditions belonged to the independent variable Text. A questionnaire survey design was used to measure the scores on the dependent variables Empathy, Acceptance of Antisocial behavior and Prosocial behavior. Furthermore, the dependent variable Perspective Taking was measured as a manipulation check for the independent variable. Data collection took place between April12th and May 9th 2016. The participants were approached via social media, personally and SONA system from the University of Twente.

A total of 108 people participated in the study. Cases that were estimated as not valid have been taken out of the dataset. 'Not valid' data consisted of participants who have been considered as not having answered seriously. This was mainly characterized by the seriousness they have read the text. This was measured by asking the respondents to give a short summary of the text and indicate to which level they read the text carefully. Thus the data from respondents who indicated that they read the text 'not at all' or 'a little' carefully has been removed from the dataset. In total, data of 5 people has been removed from the file;

the final sample consisted of 103 people. There were in total 58 participants in the first condition 'personal narrative' and 45 in the second 'factual text'.

Of these 103 people, 71 (69%) were female, 31 (30%) were male and one other, 18 (18%) persons of the sample were Dutch, 82 (79%) German and three participants had another nationality: two were Austrian and one Swiss. The participants were between 15 and 53 years old, the average age was 22.83 ($SD = 7.29$). At the time of this study, one person's highest achieved level of education was secondary modern school. Middle school was the highest achieved level of education of 15 participants (14%), whereas 72 people (69%) had finished high school. Furthermore, 12 respondents (11%) had got their bachelor diploma and two person's highest achieved level of education was the master degree.

Randomization checks have been conducted to determine differences among the conditions. According to the results, there were no differences among the conditions concerning age and gender and participants were evenly distributed. The details of the randomization checks can be found in the results section.

Procedure

One restriction for the sample have been set: It was important that the respondents had to be able to understand English to understand the text and fill out the questionnaire. Besides this limitation, all kinds of people have been approached.

First, the participants were asked to read some information about the study and give their permission to the informed consent. To avoid that the answerswere influenced, participants were not informed about the whole purpose of the study. After this, participants were randomly assigned to one of the two conditions. In both conditions they had to read a short text about depression. In one condition the text was a personal story how a woman experienced her anxiety whereas the text in the other condition was a more factual text where a doctor described the symptoms of depression. Examples of the differences between the two texts can be found in Table 1. After reading the text participants had to give a short summary about the text they just read. This was done to control if every participant really read the text carefully.

Table 1

Examples of differences between the two
texts

Personal Narrative	Factual text
About two years ago, I imploded. I couldn't sleep – spending nights tossing, turning, and staring into space. I was exhausted, emotionally and physically, and I couldn't think straight. I could barely bring in the mail, let alone open it. The mail piled up, as did the weeks' newspapers. I didn't have the energy to face any of it.	A lot of people with depression feel they cannot function. They do not understand what is wrong with them. They cannot sleep –spending nights tossing, turning, and staring into space. They cannot think straight and are so emotionally and physically exhausted that for instance, they can barely bring in the mail, let alone open it. Mail piles up, as do the weeks' newspapers. They often do not have the energy to face anything. And some report that, eventually, they implode.
Gradually things improved. I found myself able to open the mail and read the newspaper again. I started making bigger changes, too. Things I never thought I'd do – like disclosing to friends, taking a holiday, changing jobs, tackling long-standing health issues and, recently, group therapy.	When therapy and medication is successful, they begin to make changes and do things that make them happy, like taking holiday, changing jobs or tackling long standing health issues.

Next, they were asked to rate different statements about the text on a 5 point Likert scale. With these statements the variables 'empathy' and 'perspective taking' were measured. After that, a self report about flaming attitude was held to measure 'acceptance of antisocial behavior'. This consists of ten statements about flaming, which had to be rate on a 5 point Likert scale.

In the last part of the study, 'prosocial behavior' was measured. Participants were asked to imagine their selves in three different situations (eating in a restaurant, watching a movie, buying a music album) and indicate an amount of Euro they were willing to pay for

this situation. At the end, there were some questions about demographic data. Furthermore, participants were asked to indicate to which level the read the text at the beginning carefully. This was done to avoid answers that were not serious.

　　　After completing the questionnaire, participants were thanked for they participation and were fully informed about the purpose of the study and were given the possibility to give feedback on the study.

Measurements

Empathy
The construct Empathy consisted of the mean score on 17 items. Because all items referred to the text they asked for empathy not in general but specifically for the text. Of these items, six were based on the "Empathic Concern Scale" of Davis (1980). The other 11 items were based on Batson, Early and Salvarani (1997). No item had to be deleted. With a cronbach's alpha of .83 and Lambda 2 of .84 the scale is quite reliable.

Perspective Taking
The scale for Perspective Taking consisted of 10 items. Of these 10 items, three (such as "Before judging the people described in the text, I try to imagine how I would feel if I were in their place") were based on the "Perspective-Taking Scale" (Davis, 1980). Further, five items were based on the "Transportation Scale Items" by Green and Brock (2000) and the last two were formulated by the researcher. It was decided to recode two items (see Appendix D). In order to get a higher reliability one item had to be deleted ("I recognized that I was wondering how the text could have run out differently"). Before deleting the item, Cronbach's alpha was .76. After deleting the item, Cronbach's alpha of this scale is .81 and Lambda 2 is .81 as well.

Acceptance of antisocial behavior
In order to assess Acceptance of antisocial behavior, participants were asked to fill out a self-report of (online) flaming behavior. The self report consisted of 10 statements that were picked from the originally set of 30 items on Flaming developed by Klein-Menting (2014). Only the items which asked about the participant's opinion on Flaming (such as "I think flaming is annoying"and "I think flaming is usually meant to be funny") because questions about the own intention to flame were not relevant for this study. Acceptance of antisocial behavior consisted of the average of the scores. It was decided to recode two items (see Appendix D). One item ("I think flaming has no dramatic consequences for the flamer

himself") was deleted from the set in order to improve the reliability, which was .71 before deleting the item. The calculated Cronbach's alpha is .75 and Lambda 2 is .73.

Prosocial behavior

The construct prosocial behavior was measured by giving the participants three different scenarios. The results of the questions were combined to one dependent variable consisted of the mean score of the questions. The scenarios are listed below.

1. You are in a restaurant, which offers a Pizza buffet. The buffet has a quite big selection of different Pizza varieties and you have some slices of Pizza and a drink of your choice. Everything was tasty and you are satisfied.

    What are you willing to pay for your meal?
2. You are going to the cinema and watch a premiere of a movie that you wanted to see for a long time. In the break, you are buying a snack and a drink for yourself.

    What are you willing to pay for the whole evening (movie and snacks/drink together)?
3. Your favorite band made a new album, which includes some songs that will be not available on Spotify (or any other music streaming site). They offer it on their website as a download and let everyone pay what they want. You can pay anonymously.

    What are you willing to pay for this album?

Results

Manipulation check

First, it was tested if the manipulation of the text had the intended effect on the participants. It was intended that participants in the personal narrative condition were supposed to take perspective. To test this, a One-Way ANOVA was conducted to measure if there is a difference in perspective taking between the personal narrative condition and the factual text condition. No difference could be found in perspective taking of the participants ($F(1,101) = 0.17, p = .69$). Thus, the manipulation of the two text conditions had no effect.

Randomization check

To check if the randomization was successful and the participants were evenly distributed among the conditions in terms of age and gender, a t-test and chi-square test were computed.

A t-test was run to check if participants were evenly distributed regarding age. The results suggested that no statistically significant differences existed ($t(101) = 0.22$, p > .05) between the conditions. Participants do not differ in the conditions regarding age and were evenly distributed.

To test if the randomization was effective in terms of gender, a chi-square test was done. The results were not significant ($\chi^2(2) = 2.60$, p > .05). Thus there was no difference among the conditions concerning gender.

Because of the results it can be said that there were no significant differences among the two text conditions regarding the variables age and gender. The randomization was therefore successful. Both age and gender were not handled as a possible covariate variable.

Descriptive Statistics

A Spearman correlation was run to determine the relationship between the dependent variables Empathy and Acceptance of Antisocial behavior. A significant negative correlation between empathy and acceptance of antisocial behavior was found (r = -.22, p < .05). Thus, the fifth hypothesis was accepted.

After this, a Pearson correlation was computed to assess the relationship between the variables age, Empathy, Acceptance of antisocial behavior and Pay what you want. The results can be found in Table 2. There was a significant positive correlation between age and acceptance of antisocial behavior (r = .18, p < .05). The result between empathy and prosocial behavior was non-significant (p > .05); the fourth hypothesis could therefore not be confirmed.

Table 2

Correlation coefficients values between Empathy, Acceptance of antisocial behavior, Pay what you want and Age (N = 103)

	1	2	3	4
1 Empathy		-.18*	.11	-.15
2 Acceptance of antisocial behavior			-.08	.18*
3 Pay what you want				-.02
4 Age				

* p<.05; ** p < .0. (one-tailed)

A One way ANOVA was conducted to compare the effect of personal narrative and factual text condition on Empathy, Acceptance of antisocial behavior and Pay what you want. An overview of the means and standard deviations of the dependent variables can be found in Table 3. Because there were significant results found (p>.05), it can be indicating that there were no significant effects of the independent variables on one of the dependent variables. Thus, hypothesis one, two and three could not be confirmed.

Table 3
One-way ANOVA between Empathy, Acceptance of antisocial behavior, pay what you want and reading condition (N = 103)

	Personal narrartive			Factual Text			F (1,101)	p
	M	SD	n	M	SD	n		
Empathy	3.33	.49	58	3.24	.57	45	0.70	.40
Acceptance of antisocial behavior	2.19	.56	58	2.17	.63	45	0.03	.81
Pay what you want	15.92	5.61	58	16.59	6.44	45	0.32	.58

Discussion

This research aimed to investigate if reading a personal narrative or a factual text predicts prosocial behavior and acceptance of antisocial behavior. The main conclusion of this research was that there are no significant differences between participants in the personal narrative or factual text condition on the extent of prosocial behavior and acceptance of antisocial behavior. A link between empathy and acceptance of antisocial behavior could be found. It seemed that participants who scored high on empathy scored lower on acceptance of antisocial behavior. Therefore, the fifth hypothesis could be accepted. However, no other significant results could be found and no other hypotheses were confirmed. Further, another link between age and acceptance of antisocial behavior could be found. In this research older participants seemed to show more acceptance of antisocial behavior. Besides this, it could not conclude that reading a narrative text can predict prosocial behavior or reduce acceptance of antisocial behavior. Regardless of the reading condition, the differences between the two texts seem to not have an effect on the participants at all. Furthermore, the manipulation of the text did not work. Participants in the personal narrative showed not more perspective taking than participants in the factual text. Therefore, it is difficult to draw relevant conclusions on how reading narratives can change our behavior through perspective taking. There might be other variables besides perspective taking which could have an influence on prosocial behavior. To summarize the findings, it cannot be confirmed that reading narratives have an impact on perspective taking, which could influence prosocial behavior or acceptance on antisocial behavior.

The results fit poorly with the expectations that were set by analyzing previous research for example by Mar and Oatley (2008). In their study, they have shown that narrative stories as compared to informational texts leads to more empathy. As a reason, they explained that reading about another characters' emotion could have an impact on own emotions. Therefore, it was expected that participants would show more empathy when reading the personal narratives, which was not the case. In addition, another research by Shen, Ahern and Baker (2014) could confirm these results by finding out that narrative news have a greater effect on empathy than more factual news. Overall, these findings give the impression that the type of text could have an impact on behavior and empathy. However, the findings could not be confirmed with the results of this research. Possible reasons for this were discussed in the following.

The current research is characterized by some weak points and limitations, which could have an influence on the results. For one, one might argue that the manipulation did not work because the two text conditions did not differ much from each other. The two texts were dealing with the topic about depression. On the one hand described by someone experienced depression; with described emotions and the own perspective. On the other hand, depression described by someone else, for example a doctor. Though Green and Brock (2000) argued that stories with a negative topic have the most impact and are the most powerful, this was for this research not the case. One reason is that the content, the facts and some words were still the same in both versions and therefore no differences in perspective taking could be found. Differences between the two conditions should be clearer. Offering the questionnaire only in English, although the participants were mostly German, might have affected the validity of the data. It is possible that not every participant understood everything and interpreted a question wrong. However, it seems unlikely that would heavily influence the results of this research, especially because participants were asked to only start the questionnaire if they understand good English.

The variables empathy, perspective taking and acceptance of antisocial behavior were measured by quite many items. For example, the construct empathy consisted in total of 17 items based of two different scales. It was chosen to do so, to be sure to contain all important aspects of the construct empathy. Using one scale might have been enough and could have been more meaningful. However, because of a high reliability it seems unlikely that the amount of items could have a negative impact on the results.

Furthermore, pay what you want questions might not be the best way to measure pro social behavior. While research by León, Noguera and Tena-Sánchez (2012) stated that pay what you want questions are a good way to measure social motivation, there are also other factors such as trust in the offered service, which can influence the results. In their research, they stated, that self-interested behavior could also have an impact on the results. Therefore, this method does not only measure prosocial motivations. In the current study, three different situations were given. In these situations, it was not clear enough that a specific person could benefits from paying more for a service. For example, the described situation in the restaurant only asked for the amount of money participants would pay for the meal. A mentioned waiter, who would benefit of paying more, could have change the result of this. Further, participants were asked to give an amount of Euro they are willing to pay. Although it was asked not to state an amount that participants are able to pay but would be willing to pay it is possible that

participants did not do that. It is only a vague and abstract estimation, because it is rather asked by intentions towards a behavior and not an accurate social behavior.

Another possible weakness is the way how the construct acceptance of antisocial behavior was measured. Not every participant knew what Flaming is and the given description and example were perhaps not clear enough. Especially older participants mentioned this. This could explain the positive link between age and acceptance of antisocial behavior. Older participants who did not spent a lot of time on social media could have difficulties with the meaning of flaming and therefore misunderstood the questions. Choosing for real life examples of antisocial behavior could have prevent this effect.

Besides these disadvantages, there are also some strength points of this study. Participants had to understand English, but no other limitations to participating in the survey were set. In this way, not only one group participated in this study and a broad picture was obtained. People with different backgrounds participated in this study and gave the insight into a representative sample of the total population. Further, the motivation of the participants seemed high. After filling out the questionnaire, many participants gave positive feedback saying that the text was about an interesting topic. Because of this it can be assumed that most participants filled out the questionnaire seriously.

Implications

In spite of the non significant results a replication of this study with certain changes which are listed above is meaningful, because considering previous research, reading seems to have an impact on behavior and thoughts. Future research should therefore try to find out which factors are important so reading can actually be a positive effect to act prosocial behavior. Although this study could not found differences in perspective taking, there could be other variables that could influence prosocial behavior. Research to find out which variables have an effect should be done. Findings could improve for example helping behavior of children. To know which type of narratives could change behavior, it could be easy to select certain types of books to give children to read. Whalen (1989) stated that both fiction and nonfiction narratives can increase social and emotional competences. Improvement of emphatic abilities, perspective taking and prosocial behavior could be positive consequences of this. Hence, a replication of this study should consider, among other factors, the effect of reading different types of narratives and how to implicate the results in the practice.

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Appendix

Appendix A – Opening Page
Welcome to this research about reading.

Dear participant,
Thank you for your participation in this research. The following task will require you to read a text about depression; the subsequent questions aim to assess how this text influences opinions about the subject. The aim of this study is to get a better understanding on how to create more informative texts.
Before you can start to complete the questionnaire, it is important for you to read the information on the following page attentively.

Yours sincerely,

Charline Albrecht

Enschede, April 2016

Appendix B – Informed Consent

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

Filling in the following questionnaire will take about 15 to 20 minutes. 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. Click the arrow at the bottom right of the page when you have finished answering all the questions.
If you give your voluntary consent to participate in this research and agree with the processing of your data, you can now start with the questionnaire by clicking on the button on the right at the bottom of this page

Appendix C.1 – Personal Narrative condition

Please read the following text attentively in a quiet environment where you will not be disturbed (by other people, loud sounds,...). Once you have pressed the "next" button you can't go back, so it's important that you read the text with your full attention.

I couldn't function. I didn't understand what was wrong with me

About two years ago, I imploded. I couldn't sleep – spending nights tossing, turning, and staring into space. I was exhausted, emotionally and physically, and I couldn't think straight. I could barely bring in the mail, let alone open it. The mail piled up, as did the weeks' newspapers. I didn't have the energy to face any of it.

I thought I had some unspecified infection so I took a day or two off work (a few times). I spent the days hiding in bed, unable to face the world or fight this infection. When I did make it to work, even just outside the house, I was so stressed by every sight and sound, I couldn't function. I didn't understand what was wrong with me.

I battled on for a month or more before seeking help from my doctor. I wasn't honest about what I was going through – I thought she'd think I was crazy – but I did agree to see a psychologist. I thought if I saw the psych once, maybe twice, everything would be alright.

It wasn't, not immediately, but the talking certainly helped. I soon realised I'd been running from my demons my whole life, using sex, drugs, food – and years of workaholism – to escape. But I'd become so trapped in my emotional prison that I couldn't function.

The psychologist diagnosed depression and anxiety, plus borderline personality disorder. I was shocked. How could I have been so highly functioning for so long with all this wrong with me? I felt broken. I felt like a freak.

At first things got worse before they got better. The sleeplessness and exhaustion continued. I drank too much. I swung wildly between eating too much and too little. I came close to ending it all.

Eventually I saw the doctor about medication. She didn't think I was "crazy". The antidepressants helped. I still don't like to admit that but now see that if you can't think, then you can't recover.

Gradually things improved. I found myself able to open the mail and read the newspaper again. I started making bigger changes, too. Things I never thought I'd do – like disclosing to friends, taking a holiday, changing jobs, tackling long-standing health issues and, recently, group therapy.

I'm much better, but I still fall over from time to time. Now, though, I don't fall as hard, and it doesn't take me as long to get back up again.

I'm grateful for the support of my psychologist. With her help I'm learning to think differently and to live differently.

Despite the horrors, living with mental illness has changed my life in positive ways: I've rediscovered hope; I'm learning to be good to and look after myself; I'm less judgmental and more compassionate; my relationships are richer; I'm becoming more confident again; and I'm discovering things that make me truly happy. Perhaps best of all, I don't feel like a freak any more.

I wouldn't give these things away for anything.

Appendix C.1 – Factual Text condition

Please read the following text attentively in a quiet environment where you will not be disturbed (by other people, loud sounds,...). Once you have pressed the "next" button you can't go back, so it's important that you read the text with your full attention.

A lot of people with depression feel they cannot function. They do not understand what is wrong with them. They cannot sleep –spending nights tossing, turning, and staring into space. They cannot think straight and are so emotionally and physically exhausted that for instance, they can barely bring in the mail, let alone open it. Mail piles up, as do the weeks' newspapers. They often do not have the energy to face anything. And some report that, eventually, they implode.

Many people with depression state that they spend the days hiding in bed, unable to face the world. When they did make it to work, they are stressed by every sight and sound.

They often battle a long time before decide to seek help from their doctors. Some of the people with depression think that if they saw psychologist just once or twice, everything would be alright.

A lot of people indicate that the talking certainly helps after a while. They realize that they have been running away from their demons for a long time and use other things, such as sex, drugs or food to escape. But this behavior results in dysfunction.

Besides depression, however, other mental illnesses like anxiety or borderline personality disorder are likely to be diagnosed as well. A lot of people with depression are shocked by this and asked themselves how they could have been so highly functioning for so long when there is something wrong with them.

Eventually, they see the doctor about medication. Many of them state that, although they sometimes do not like to admit it, antidepressants help. They realize that without medication they cannot recover

When therapy and medication is successful, they begin to make changes and do things that make them happy, like taking holiday, changing jobs or tackling long standing health issues.

With the help and support of a psychologist, they learn to think and live differently. Despite the negatives aspects, for many of the people with depression, living with mental illness also changes their lives in a positive way. They rediscovered hope; learn to look after themselves, become more confident and discover things that make them happy.

Appendix D – Questionnaire: Empathy, Perspective Taking, Acceptance of antisocial behavior, Pro social behavior, Demographic data

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

In the following you can find different statements about how you experienced the text you just read. Please read every statement and rate them on a scale from "Strongly disagree" to "Strongly agree".

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

Through this text I feel…

Alarmed	1	2	3	4	5
Upset	1	2	3	4	5
Disturbed	1	2	3	4	5
Compassionate	1	2	3	4	5
moved	1	2	3	4	5
warm-hearted	1	2	3	4	5
Sad	1	2	3	4	5
Burdened	1	2	3	4	5
Warm	1	2	3	4	5
Worried	1	2	3	4	5

The text had an emotional impact on me.

1 2 3 4 5

I felt kind of protective toward the people described in the text.
1 2 3 4 5

I felt pity for the people described in the text.
1 2 3 4 5

During reading I had tender, concerned feelings for people less fortunate than me.

1   2   3   4   5

I didn't feel sorry for the described people when they were having problems.

1   2   3   4   5

The people's misfortunes described in the text did not disturb me a great deal.

1   2   3   4   5

I was touched by the things I read.

1   2   3   4   5

Before judging the people described in the text, I try to imagine how I would feel if I were in their place.

1   2   3   4   5

I tried to understand the people described in the text better by imagining how things look from their perspective.

1   2   3   4   5

I found it difficult to see things from the point of view of the people in the text. (*)

1   2   3   4   5

As I read the text, I could easily imagine the events that occurred.

1   2   3   4   5

I could imagine myself being in the situation that was described in the text.

1   2   3   4   5

I was mentally involved while I was reading the text.

1   2   3   4   5

When I had finished reading the text, I could easily put it out of my head. (*)
1   2   3   4   5

I recognized that I was wondering how the text could have run out differently. (**)
1   2   3   4   5

I could identify myself with the described people.
1   2   3   4   5

I asked myself what I would have done in the described situation.
1   2   3   4   5

*(Note: * = Item was recoded, ** = Item was deleted)*

The following statements have nothing to do with the text you read at the beginning, but your general opinion about "flaming". Please read every statement and state in which extent you agree or disagree with it. 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.

I think flaming is annoying. (*)
1   2   3   4   5

When I see flaming behaviour on Facebook or other social media, I find it amusing.

1   2   3   4   5

I think flaming is usually meant to be funny.
1   2   3   4   5

I think flaming is a norm for communicating in the digital world.
1   2   3   4   5

I think flaming is just an honest way of expressing disagreement.
1   2   3   4   5

In my opinion people flame because they just have to pass time when they are bored. (*)
1   2   3   4   5

I think flaming has no dramatic consequences for the flamer himself. (**)
1   2   3   4   5

I think flaming has no dramatic consequences for the victim who gets flamed.
1   2   3   4   5

I think it is the victim's own fault for getting flamed.
1   2   3   4   5

I think flaming is under certain conditions acceptable.
1   2   3   4   5

*(Note: * = Item was recoded, ** = Item was deleted)*

For the next three questions you are asked to imagine yourself in different situations and think about a possible price according to the pay what you want (PWYW) system.

Pay what you want is a pricing system where the buyer decides how much he or she wishes to pay for the commodity.

Imagine yourself in the following three situations and state the amount (in Euro) what you are willing for pay for these things. Please keep in mind that you should NOT state a number that you are currently able to pay due to your fiances, but what you would be willing to pay if you had enough money. There are no 'right' or 'wrong' answers.

Examples:

If you are willing to pay 15 Euro, write 15,00

If you are willing to pay 15,50 Euro, write 15,50

You are in a restaurant, which offers a Pizza buffet. The buffet has a quite big selection of different Pizza varieties and you have some slices of Pizza and a drink of your choice. Everything was tasty and you are satisfied.

What are you willing to pay for your meal?

You are going to the cinema and watch a premiere of a movie that you wanted to see for a long time. In the break, you are buying a snack and a drink for yourself.

What are you willing to pay for the whole evening (movie and snacks/drink together)?

Your favorite band made a new album, which includes some songs that will be not available on Spotify (or any other music streaming site). They offer it on their website as a download and let everyone pay what they want. You can pay anonymously.

What are you willing to pay for this album?

Finally, I would like to know some general information about you.

What is your age?

What is your nationality?

Dutch

German

Other

What is your gender?

Male

Female

Other

What is your highest achieved level of education?

Secondary modern school (Hauptschule)

Middle school (Mittlere Reife, vmbo)

High school (Abitur, havo, vwo)

Bachelor

Master

Other

Because this study is about the impact of reading on our behavior, it's important that you read the text at the beginning completely with your full attention. 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 about depression carefully?

1   2   3   4   5

Appendix E – Debriefing

You have now successfully completed the questionnaire.
Thank you very much for your participation in this survey!

The purpose of this study is to examine if reading has an influence on behaviour.
You have been assigned randomly to one of two conditions and got to read either a personal story about depression or from another point of view (for example: how a doctor would describe the symptoms). The questionnaire measured the constructs empathy, perspective taking and acceptance of antisocial behaviour.

To avoid that your answers are influenced on any possible way, you have not been informed previously about the whole purpose of the study.

If you have further questions, please contact: c.albrecht@student.utwente.nl
If you want to request deletion of your data, please write an email to the email address

provided above within 24 hours after completion of the survey.