Improving the effectiveness of your social marketing campaign

Measuring the effect of adding a rule of exchange to a social marketing program and exploring whether this effect is stronger for individuals who score low on agreeableness.

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Abstract

Social marketing has the goal to influence voluntary behavior to improve the personal welfare of the individual and society. It is a field that is far less researched than the traditional marketing methods. This study researches a method to potentially improve the effectiveness of a social marketing campaign. It does so by using the existing Dutch government campaign 'een tegen eenzaamheid', which is launched to counter loneliness that has increased due to Covid-19. An important aspect of a social marketing campaign is the rule of exchange, which explains the benefits an individual gets in return for changing their behavior. It is believed that implementing this tool in a campaign can significantly improve the effectiveness of a social marketing campaign, in other words, it leads to individuals being more intent to change their behavior. The campaign 'een tegen eenzaamheid' was used in this study since it has not implemented a rule of exchange. Furthermore, this study researched whether the effect is stronger for individuals with lower levels of agreeableness as a personality trait. This leads us to the research question of this study: *"Can the effectiveness of the Dutch governmental social marketing program 'een tegen eenzaamheid' be improved by adding the rule of exchange, and is this effect stronger for individuals who score low on agreeableness (as a personality trait)?"*

An online experiment with a between-subjects design was performed. The experiment had a test group, who was exposed to the campaign with a rule of exchange, and a control group, who was exposed to the campaign without a rule of exchange. They firstly watched the manipulated campaign, after which they filled in a questionnaire. An ANCOVA analysis has revealed that adding a rule of exchange to the social marketing campaign 'een tegen eenzaamheid' does not lead to individuals being more intent to change their behavior. Furthermore, it cannot be concluded that individuals who score low on agreeableness are more affected by the rule of exchange.

The results of this specific study indicate no reason to believe that adding a rule of exchange is a crucial element to include in a social marketing campaign. Thus, social marketing campaigns seem to require different tactics to influence behavior.

Table of content

List of tables and figures

List of tables

Table 1. Word count per campaign

Table 2. An overview of the constructs

Table 3. Overview of the sample description

Table 4. Pre-test manipulation and credibility check

Table 5. Main study manipulation and credibility check

Table 6. Confirmatory Factor Analysis

Table 7. Factors and corresponding items

Table 8. Translation factors and corresponding items

Table 9. ANOVA assumptions

Table 10. ANOVA analysis

Table 11. ANCOVA assumptions

Table 12. ANCOVA analysis

Table 13. Overview of the hypothesis

Table 14. Regression analysis agreeableness as main effect

List of figures

Figure 1. Conceptual model

1. Introduction

This chapter will explain what social marketing is, why social marketing is important and what the research question of this research will be.

1.1 Social problems that are reinforced by Covid-19

"Alleen samen krijgen we Corona onder controle" (only together we can get control of Corona), is the slogan of the Dutch governmental program to inform society about how to stay safe during this global pandemic. The Covid-19 outbreak forced a lot of changes in people's lives. 2020 in particular has been a year of adaptation and getting used to the 'new normal': keeping distance, don't gather with too many people and keep the elderly and vulnerable groups in our society safe. This global epidemic has also increased the presence and impact of several already existing social problems, such as increased degrees of loneliness among members of society (CBS, N.D.). The Dutch government has introduced various marketing programs in 2020 to create more awareness among its citizens about these social problems and to inform them about how they can contribute. An example of one of these marketing programs is the 'een tegen eenzaamheid' program (Een tegen eenzaamheid, N.D.). This program was launched to make society aware that many individuals are feeling lonely during this pandemic. The campaign points out that anyone can help and that a small gesture, such as asking how someone is doing or going on a walk with someone can already make a difference. It also advises visiting the campaign website for more tips on how to help someone who is experiencing loneliness (Een tegen eenzaamheid, N.D.).

1.2 Social marketing

As can be seen from the program mentioned in the previous paragraph, marketing is not only used for commercial objectives, it can also serve a social purpose. Especially non-profit organizations and governmental bodies have recognized the effectiveness of using marketing for a social cause (Smith, 1999; Kotler & Lee, 2008). A few other examples of this kind of marketing are programs by Greenpeace to protect the environment or governmental campaigns to help individuals to quit smoking. This study will look into this type of marketing, which is called 'social marketing' (Kotler & Lee, 2008).

According to Kotler and Lee (2008), social marketing refers to marketing efforts that influence behavior to protect the environment, improve health or contribute to communities. Smith (1999) states that social marketing is not only about education but also about behavior change. This behavior change is voluntary and social marketing uses commercial marketing techniques to reach its goals (Andreasen, 1994; Kotler and Lee, 2008). The following definition

best explains what social marketing is: "*social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society*" (Andreasen, 1995). A successful social marketing campaign should consist of: 1) a description of concrete behavior change, 2) consumer research, 3) segmentation and targeting, 4) marketing mix, 5) rule of exchange and 6) a competition analysis (Andreasen, 2002; Stead et al., 2007). A detailed description of these six criteria can be found in the literature review.

1.3 The rule of exchange

The core idea of marketing is a process of exchange: two or more parties are involved, each of who have something in exchange (Kotler & Zaltman, 1971). In traditional marketing, this often translates into offering money in exchange for a product or service. For social marketing, this translates into changing behavior in exchange for a benefit for the individual or society. For social marketing to be successful it is important to include a 'rule of exchange': the target group should be offered a considerable benefit/incentive for behavior change to occur (Andreasen, 2002; Stead et al., 2007). As the rule of exchange seems to be an important aspect to include in a social marketing program, it is important to research whether or not this criterion significantly improves the effectiveness of a social marketing campaign.

1.4 The goal of this study

A social marketing program usually consists of various campaigns. This study will zoom in on a specific campaign; the Dutch governmental social marketing campaign 'een tegen eenzaamheid', to see whether the effectiveness of the campaign can be improved. The objective of this social marketing campaign is to motivate individuals to reach out to someone who may experience loneliness, to decrease feelings of loneliness in the Dutch society. This campaign has been chosen because with the current Covid-19 situation, loneliness is a relevant topic. Since the pandemic, feelings of loneliness in the Dutch society have increased (Sociaal en Cultureel Planbureau A, 2020). The idea is that a small gesture can already make a big difference and if everybody initiates a small gesture towards someone who is feeling lonely, this strongly decreases the degree of loneliness in society. This study will measure effectiveness as the respondents' intention to change behavior, as studies have proven that this is a good predictor of actual behavior change (Ajzen & Madden, 1986; Webb, Thomas L, Sheeran, 2006). More specifically, this study measures effectiveness as the individuals' intention to perform a self-chosen activity at least an hour per week with at least one individual who is experiencing

loneliness. The activities that one could engage in after seeing the social marketing campaign are wide-ranging: from having a coffee with someone to starting a new hobby together. Because of the variety and intensity of activities, this study will ask its respondents to self-report an activity they are interested in.

The social marketing campaign 'een tegen eenzaamheid' has been tested against Andreasen's six principles of a successful social marketing campaign (Andreasen, 2002). It has become clear that one of the criteria, the 'rule of exchange', has not been implemented. Details of this analysis can be found in the literature review. This raises questions in whether the ability of this social marketing campaign in terms of the ability in reaching its goal, to influence the respondents' intention to perform a self-chosen activity, can be increased. Therefore, this study aims to manipulate the social marketing campaign by adding the rule of exchange, to determine whether this will improve its effectiveness.

The social marketing campaign 'een tegen eenzaamheid' has a broad target group: the entire Dutch population (Een tegen eenzaamheid, N.D.). As a result of the diversity of this target group, it is questionable whether adding the rule of exchange will be effective for everybody. Studies have proven that personality traits can predict many aspects of an individuals' life, such as social status and behaviors (Azucar et al., 2018). Subsequently, it can be assumed that personality traits determine the effectiveness of a 'rule of exchange'. Individuals who score high on the personality trait agreeableness are helpful, altruistic, and engage in pro-social behavior (Huang et al., 2018; Graziano & Tobin, 2009). One would expect that individuals who score high on this trait might not need a rule of exchange in a social marketing campaign to increase the individuals' intention to change behavior. On the contrary, it is expected that individuals who score low on this trait might be more affected by a rule of exchange, to motivate them to intent to change behavior. This study will therefore examine whether the rule of exchange is more effective for individuals who score low on the personality trait 'agreeableness'. More about this personality trait can be found in the literature study. The personality trait 'agreeableness' is the moderator of this study.

1.5 Research question
The information described in the previous paragraphs leads us to the following research question: *"Can the effectiveness of the Dutch governmental social marketing program 'een tegen eenzaamheid' be improved by adding the rule of exchange, and is this effect stronger for individuals who score low on agreeableness (as a personality trait)?"*

1.6 Practical and scientific relevance

Social marketing nowadays is a well-established part of marketing and a topic many studies have dedicated time to (Andreasen, 1994). Andreasen (2002) has formulated guidelines on how to set up a successful social marketing campaign. Many studies have reviewed the effectiveness of social marketing campaigns based on the six principles by Andreasen (Andreasen, 2002; Stead et al., 2007). However, these studies have studied the effect of implementing the six principles together. This study will deviate from existing literature and isolate the impact of one of the criteria, the rule of exchange, and study its sole effect on the effectiveness of the social marketing campaign. The study will compare the effectiveness of a social marketing campaign with the rule of exchange, with the effectiveness of a social marketing campaign without the rule of exchange. This will give insight into whether implementing the rule of exchange leads to individuals being more intent to change their behavior.

Not many studies in the field of social marketing have implemented personality traits in their studies, even though personality traits are important predictors of an individual's behavior (Azucar et al., 2018). That is why this study includes a personality trait, more specifically the trait agreeableness. As explained before, individuals who score high on this personality trait are more likely to help another person than an individual who scores low on this trait (Komarraju et al., 2011). This study will contribute to the existing literature by examining whether personality trait agreeableness is important to take into account when examining the effectiveness of a social marketing campaign. Furthermore, this study will contribute to the existing literature by revealing whether there is a difference in the effectiveness of the rule of exchange for individuals with a low and high score on agreeableness.

This study also has relevant contributions for practitioners, more specifically for social marketing managers. This study will give the practitioner more insight into whether adding a rule of exchange will lead to individuals being more intent to change their behavior, thus to a more successful social marketing campaign. Subsequently, this study will determine for which type of individual the rule of exchange is most effective; individuals who score high or low on agreeableness. With this information, the practitioner will be given more knowledge about whether or not to include a rule of exchange in a social marketing campaign and how to include this.

1.7 Thesis outline

Firstly, a literature review about social marketing will be performed to gain a vast theoretical background of the topic. The rule of exchange, intention to change behavior, and personality trait agreeableness will be discussed. Secondly, the methodology will be explained. Thirdly, the results of the study will be elaborated on. Fourthly, the study will provide conclusions and recommendations. Lastly, the limitations and suggestions for further research will be discussed.

2. Literature review

This chapter will provide a literature review of the following concepts: history of social marketing, social marketing definition, the six criteria of a social marketing program, the exchange process, and individual personality characteristics. The chapter will conclude with a conceptual model.

2.1 History of social marketing

The term 'social marketing' originates from a paper in the Journal of Marketing in 1971, written by Kotler and Zaltman (Andreasen, 1994; Kotler & Zaltman, 1971). They proposed that social problems can be more successfully marketed by applying the principles of traditional marketing analysis and control (Kotler & Zaltman, 1971). Their research was based on an article by psychologist Wiebe, who wondered why 'selling' social causes is generally less effective than selling an article such as soap. Wiebe studied 4 social campaigns and their characteristics to find out what made them successful or not. The results showed that social campaigns that applied traditional marketing tools and techniques were more successful than those that did not (Wiebe, 1951). Kotler and Zaltman firstly defined what traditional marketing is. They found that there is a lot of confusion about what the exact definition of marketing is, but that all definitions come down to an exchange process: marketing only occurs when there are 2 or more parties who each have something in exchange (Kotler & Zaltman, 1971). This also applies in the case of social marketing. Another core concept they defined is marketing management: which involves the analysis, planning, implementation, and control of marketing programs (Kotler & Zaltman, 1971). An important aspect of marketing management, mentioned by the authors, is the 4 P's: product, promotion, place, and price (Kotler & Zaltman, 1971).

Since its introduction in 1971, social marketing has been further developed and used by many researchers and practitioners to analyze and influence behavior change (Andreasen, 1994; Stead et al., 2007). Nowadays it can be called a globally known phenomenon that is used to improve health and other social problems (Stead et al., 2007). Social marketing can benefit the individual, society at large, or both. A considerable amount of research has contributed to the social marketing field. In their research, Velema, Vyth and Steenhuis (2017) have proven that nudging and social marketing techniques in work cafeterias can lead to healthier food choices. The goal was to change the eating habits of customers to decrease the level of obesity in The Netherlands. Cismaru, Lavack and Markewich (2009) found in their literature study, that highlighting 'threat' variables such as severity in a social marketing program, in combination

with advice on how to avoid drunk driving are effective in combatting driving under the influence.

A social marketing program the Dutch reader might know is the Dutch governmental campaign 'Mono', which discourages people to use a mobile phone while driving. The result of the campaign was that the number of cyclists that found it important to take precautions, to prevent getting distracted by for example their phone while on the road, had significantly increased (Ministerie van Algemene Zaken, 2020). Another example is the current campaign 'Een tegen eenzaamheid', which encourages society to reach out to people who are experiencing loneliness (Rijksoverheid, n.d.).

To conclude, social marketing is most successful when traditional marketing tools are applied. Both traditional and social marketing are about an exchange process: two or more parties should have something in exchange for one another. Various researchers and practitioners have adopted and implemented social marketing.

2.2 Social marketing definition

Andreasen (1994) argues that for social marketing to be effective, a concrete definition and concept are needed. Various definitions exist in the literature, yet not all of them are complete enough to fully cover what social marketing is.

In their article Kotler & Zaltman (1971) have defined social marketing as follows: "*social marketing is the design, implementation and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution and marketing research*" (p. 5). This definition is not complete enough, because it does not mention that it uses tools and techniques from traditional marketing. Furthermore, the definition does not acknowledge that it wants to influence behavior, it only notes that it wants to influence attitudes, while the goal of social marketing is to influence behavior (Andreasen, 1994).

In their book, Kotler and Lee (2008) do mention traditional marketing tools/techniques and behavior change in their definition: "*social marketing is a process that applies marketing principles and techniques to create, communicate and deliver value in order to influence target audience behaviors that benefit society (public health, safety, the environment, and communities) as well as the target audience*" (p. 23). Nonetheless, there is still an important aspect missing in this definition; behavior should be voluntary; in the end, the choice is still up to the consumer whether to adopt the behavior change or not (Andreasen, 1994).

In his book 'Marketing Social Change: Changing Behavior to Promote Health, Social Development, and the Environment', Andreasen (1995) defines social marketing as follows: "*social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society*" (p. 7). This definition can be considered to be the most complete definition of social marketing because it acknowledges: 1) the use of traditional marketing techniques, 2) that social marketing wants to influence voluntary behavior and 3) that the goal is to improve the well-being of the individual and that of society. Because Andreasen's definition covers the most important aspects of social marketing and has been confirmed by other authors of its usefulness, this definition of social marketing will be implemented in this research (Stead, Ross, Angus & McDermott, 2007).

Social marketing should not be confused with other types of marketing such as societal marketing and social advertising. Societal marketing is marketing activities performed by the organization, next to their traditional marketing program, and include social, ecological and ethical considerations in their product and market activities (Abratt & Sacks, 1989). According to Abratt and Sacks (1989), this can also be referred to as the social responsibility of marketing. Furthermore, social marketing should not be confused with social advertising (Stead et al., 2007). According to Andreasen (1994), social advertising is a campaign, with a relatively short start and end date. Social marketing on the other hand is a program that can last for years and can have several campaigns. In short, social advertising is a part of social marketing. Additionally, several authors mention that social marketing benefits the individual or society at large, marketing that benefits the organization itself is not social marketing (Andreasen, 1994; Stead et al., 2007).

To summarize, the most complete definition of social marketing, which will be used in this research, is by Andreasen, because it covers all important aspects of social marketing. The definition: "*social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society*" (Andreasen, 1995, p. 7). Social marketing should not be confused with other types of marketing such as social advertising and societal marketing.

2.3 Six criteria successful social marketing program
This paragraph will describe the quality of the campaign 'een tegen eenzaamheid', which will be tested against Andreasen's (2002) six criteria for a successful social marketing program.

Since the beginning of social marketing, various researchers have confirmed that for social marketing to be successful, it should adopt the programs of traditional marketing (Andreasen, 1994; Kotler & Zaltman, 1971; Wiebe, 1951). Andreasen (2002) has summarized these traditional marketing tools into six criteria for social marketing, which have been confirmed by Helmig & Thaler (2010) and Stead et al. (2007) in their research. These criteria should be used for the program and its related campaigns.

After analysis, it becomes clear that the campaign 'een tegen eenzaamheid' has not implemented all six principles for a successful social marketing program. It does offer concrete, measurable behavior changes (criterion 1) and implements the 4 P's of the marketing mix (criterion 2). Whether or not the social marketeers have performed consumer research (criterion 3) and competition analysis (criterion 4) cannot be confirmed. However, we assume that this has been performed. The question is how relevant a competition analysis is in this case, as more campaigns are expected to support the same cause. It becomes apparent that segmentation and targeting (criterion 5) have not been implemented. However, this is logic, as the campaign is to address a large as possible group to take action. The 6th and last criterion, the rule of exchange, has not been implemented in this study. It can therefore be questioned how motivated the target group is when no concrete rule of exchange is offered to them.

As the process of exchange is the 'core of marketing', it is important to research whether the effectiveness of the 'een tegen eenzaamheid' program can be improved by adding a rule of exchange (Kotler & Zaltman, 1971). Segmentation and targeting will not be added in this research, because we want to research the sole effect of the rule of exchange, as we deem this criterion will have more effect than segmentation and targeting.

2.4 Exchange process
This paragraph will describe the exchange process that takes place in social marketing and the rule of exchange that should be implemented.

2.4.1 Social exchange theory
Social exchange theory was first introduced by Homans in 1958, where he claimed that social behavior is based on exchange (Cropanzano & Mitchell, 2005). Since then, many scholars have further developed the theory and many marketing scholars nowadays use it to explain

exchanges (Lambe et al., 2001). Social exchange can be defined as: *"self-interested actors who transact with other self-interested actors to accomplish individual goals that they cannot achieve alone"* (Lawler & Thye, 1999, p. 217). This definition emphasizes a central theme of social exchange theory: the parties are interdependent. Interdependence means that the outcome is determined by a combination of both parties' efforts (Lawler & Thye, 1999). Furthermore, the theory builds on reciprocity: an individual exchanges resources and expects to receive something in return (Huang et al., 2018; Lambe et al., 2001). A rewarding exchange process can evolve into a trusting, loyal relationship where both parties are committed. To achieve this, both parties need to implement a rule of exchange (Cropanzano & Mitchell, 2005).

2.4.2 The rule of exchange

A rule of exchange means that both parties have something that the other party wants. As mentioned in chapter 1, in traditional marketing this often translates into customers who offer money in exchange for a product or a service, while in social marketing this means that the target group changes their behavior for a benefit for the individual or society. A rule of exchange can show three classes of meanings: 1) utilitarian exchange, where goods are given in return for money or other goods, 2) symbolic exchange, where change refers to the transfer of psychological, social or other intangible aspects between two or more parties and 3) mixed exchange, which covers both symbolic and utilitarian aspects (Bagozzi, 1975). The satisfaction of the rewards depends on the individual, one party might place more emphasis on economic rewards, where another places more emphasis on symbolic rewards.

Social marketing mainly focuses on the symbolic exchange process, where rewards are mainly social rewards such as emotional satisfaction, spiritual values, humanitarian ideals or personal advantage (Lambe et al., 2001). The drawback of symbolic exchanges is that they are not concrete; they convey a meaning that goes beyond an objective worth (Cropanzano & Mitchell, 2005). Because the campaign 'een tegen eenzaamheid' does not yet include a symbolic rule of exchange, it can be assumed that this campaign can be significantly improved by adding this tool. In this study, a significant improvement of the marketing campaign means that by adding the rule of exchange, individuals will have a higher intention to change their behavior. More specifically, individuals will be more intend to perform a self-chosen activity for at least one hour a week with at least one individual. This leads us to the following hypothesis:

H1: the campaign with the rule of exchange is more effective than the campaign without the rule of exchange.

2.5 Individual personality characteristics
This paragraph will describe the Big Five personality trait 'agreeableness' in more detail.

2.5.1 The Big Five personality traits
Research has shown that personality traits can predict many aspects of an individual's life, such as academic success, social status, health and online behaviors (Azucar et al., 2018). It can therefore be assumed that personality traits can determine the effectiveness of a rule of exchange in a social marketing campaign. A person with certain traits might be more affected by this than another individual. Various models describe personality in the literature, yet the 'Big 5 model' has been the most used and accepted in the field (Azucar et al., 2018; Paunonen, 2003; Zweig & Webster, 2004). The benefit of this model is that it simplifies the numerous traits that can be used to describe a personality into 5 broad categories (Zillig et al., 2002): 1) openness to new experiences, 2) conscientiousness, 3) extraversion, 4) neuroticism and 5) agreeableness. This last trait, agreeableness, will be implemented in this research as studies have shown this trait relates to being helpful to others.

2.5.2 Personality trait 'agreeableness'
Agreeableness has been defined by Graziano and Tobin as: *"agreeableness ... describes individual differences in being likeable, pleasant and harmonious in relations with others"* (Graziano & Tobin, 2009, p. 46). Research has shown that individuals who score high on the personality trait agreeableness tend to be altruistic (Huang et al., 2018). Altruism means that an individual is being helpful, with little or no self-interest. Hence, individuals who score high on agreeableness tend to score high on traits such as caring about others, being kind and helpful (Komarraju et al., 2011; Zweig & Webster, 2004). Moreover, individuals who score high on agreeableness are cooperative with others and tend to engage in pro-social behavior (Huang et al., 2018). Pro-social behavior is a broad category of deeds that are beneficial for other people, such as helping, donating, cooperating or volunteering (Martin-Raugh et al., 2016). Pro-social behavior can be beneficial for both parties, because the gratitude that an individual who engages in pro-social behavior receives may lead to increased positive feelings about him/herself. Furthermore, he/she is more likely to receive support back when it is needed (Martin-Raugh et al., 2016). With this knowledge, one might assume that individuals who score high on agreeableness are more likely to change behavior and reach out to another person who might feel lonely, which can be classified as pro-social behavior. Furthermore, it can be assumed that individuals who score high on agreeableness are less likely to 'need' a rule of exchange to be motivated to change behavior as they tend to be altruistic. It can therefore be assumed that

adding a rule of exchange will not lead to an increase of intention to change behavior for this group. This leads us to the following hypothesis:

H2: agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with high agreeableness will not be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.

When an individual scores low on agreeableness, this does not necessarily mean he/she does not want to help another person, but this individual might need a more concrete message before intend of behavior change occurs. A more concrete message can be translated into a rule of exchange. Thus, these individuals might be more motivated to engage in this behavior when they know they get something in return. This raises the question of whether this group of individuals will have a higher intention to change behavior after seeing a social marketing campaign with the rule of exchange compared to seeing a social marketing campaign without the rule of exchange. This leads us to the next hypotheses:

H3: agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with low agreeableness will be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.

As mentioned in paragraph 2.4.2, social marketing usually implements a symbolic rule of exchange. How this symbolic rule of exchange will be designed, will be described in chapter 3 methodology.

2.6 Conceptual model
The literature review leads us to the following conceptual model (see Figure 1).

Figure 1
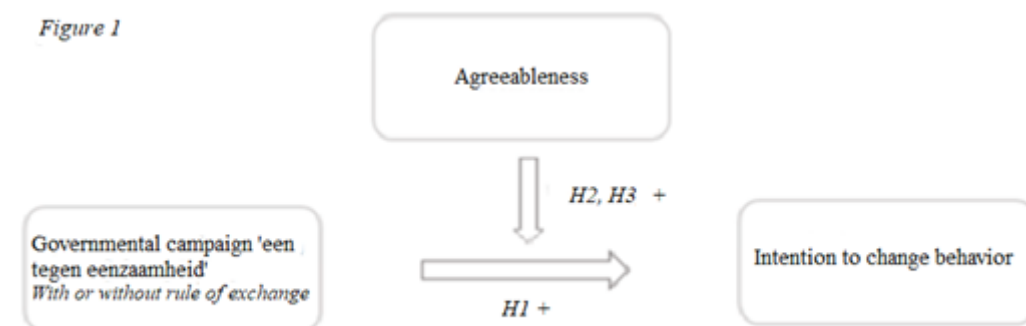
3. Methodology

This chapter will describe the methodology of the research, including the research strategy, the rule of exchange, the questionnaire, limitations and research ethics.

3.1 Research design

This paragraph will dive into the design of the experiment, pilot questionnaire, manipulation check and construct measurement.

3.1.1 Type of research: experiment

An experiment is suitable for this study because we can directly manipulate the campaign by adding the rule of exchange and assess its effect on the intention to change behavior (Hair et al. 2018). The hypotheses were tested with an online experiment, with a between-subjects design. The behavior change is measured in the individual's intention to perform a self-chosen activity at least one hour a week with at least one individual who is feeling lonely. Due to the Covid-19 restrictions, the experiment was conducted online and administered via Qualtrics. The experiment consisted of a test group and a control group. The test group was exposed to the campaign with the rule of exchange, while the control group was exposed to the campaign without the rule of exchange. A control group is a group of respondents identical to the test group, only this group does not receive the treatment, in this case, the rule of exchange. The control group is used to compare with the test group, to measure the effect of adding a rule of exchange (Hair et al., 2018). Participants were randomly assigned to one of the groups.

Before starting the experiment, the respondent was exposed to an introductory text, which explained that the respondent would firstly watch a campaign video and then fill in a questionnaire. The respondent was asked to watch the video until the end and to fill in every question. Moreover, the introductory text mentioned that data is processed anonymously and that the privacy of respondents is protected. Lastly, it mentioned that the respondent can withdraw from the experiment at any moment and the researcher's e-mail address was given, in case the respondent had any questions.

Then the experiment started. The respondents in the test group saw the campaign with rule of exchange. The video started with the slogan *"een ander helpen heeft ook **voordelen voor uzelf."**,* (translated as *"helping another person also is **beneficial for yourself"**),* followed by the 35 second lasting video 'buurttuin', which is one of the ad-videos that is part of the overall 'een tegen eenzaamheid' program (een tegen eenzaamheid, z.d.). The video ends with an image with the text: *"een uurtje per week spenderen met iemand die zich eenzaam voelt heeft ook veel voordelen voor uzelf: u leert van een ander, het verbreedt uw netwerk, u kan uw eigen verhaal*

kwijt of zet het op uw CV als vrijwillligerswerk", (translated as *"spending an hour a week with someone who is feeling lonely is also beneficial for yourself: you learn from another, you extend your network, you can share your own story or put it on your resumé*). The added images at the beginning and at the end show the rule of exchange, these can be found in Appendix A.

The control group saw the campaign without rule of exchange. The video started with the slogan *"help **een ander** met een klein gebaar"*, (translated as *"help **someone** with a small gesture"*), after which they also saw the ad campaign buurttuin. This video ends with an image with the text: *"spender wekelijks een uurtje met uw buurvrouw op leeftijd of die vriend die veel alleen is. Geef een klein gebaar, <u>ook al krijgt u daar niet meteen iets voor terug</u>"*, (translated as *"spend an hour a week with your elderly neighbour or that friend who is alone a lot. Give a small gesture, <u>even though you might not get something in return</u>"*).

For both groups, the frame at the beginning of the video was shown for 5 seconds, the frame at the end of the video was shown for 25 seconds to give the respondent enough time to read it. More information about the video campaign can be found in Appendix A. Both groups saw a campaign with the same length, with two added frames with the same layout. This minimizes the possibility that differences between the groups are attributable to other effects than the manipulation. The only difference between the two campaigns is the difference in the word count of the two frames that have been added at the beginning and the end. However, this difference is not substantial. The difference between these texts can be seen in the table below.

Campaign with the rule of exchange	Word count	Campaign without the rule of exchange	Word count
"Een ander helpen heeft ook voordelen voor uzelf"	8	"Help een ander met een klein gebaar"	7
"Een uurtje per week spenderen met iemand die zich eenzaam voelt heeft ook voordelen voor uzelf: u leert van een ander, het verbreedt uw netwerk, u kan uw eigen verhaal kwijt of zet het op uw CV als vrijwilligerswerk"	39	"Spendeer wekelijks een uurtje met uw buurvrouw op leeftijd of die vriend die veel alleen is. Geef een klein gebaar, al krijgt u daar niet meteen iets voor terug"	29

Table 1.Word count per campaign

After watching the campaign, the respondents filled in the online questionnaire to determine their level of agreeableness and intention to perform the self-reported activity with an individual who is experiencing loneliness. The variety and intensity of activities that can be

performed after seeing the social marketing campaign are wide-ranging. Therefore, in this study we asked the respondent to indicate a self-reported activity they would like to perform with someone who is feeling lonely. This allows the respondent to pick an activity they feel most comfortable with. This reduces the risk of respondents filling in the questionnaire differently as a result of not being able to relate to the proposed activity. After the respondent has completed the questionnaire, he or she was thanked for participation. The questionnaire can be found in Appendix B.

3.1.2 Pilot questionnaire

Before the experiment, the questionnaire was pre-tested among a small group of respondents. Their feedback was used to improve the experiment. The respondents suggested changes in wording and tested the flow of the survey. Furthermore, the manipulation and reality checks were tested in a pre-test, using an independent samples t-test. A total of seven versions of the campaign were tested before the manipulation was found to be significant and the reality check to be not significant. These versions one up until version six had a manipulation that was not strong enough. Thus, the respondents did not perceive the campaign with the rule of exchange as having significantly more benefits for oneself than the campaign without the rule of exchange. After every version, the content of the campaign was changed to make the differences between the campaigns bigger. In the last version, version seven, the two campaigns were found to be significantly different and credible. The text of the manipulation was adjusted in such a way that the rule of exchange became more visible for respondents.

3.1.3 Manipulation check

Instructional manipulation check: this manipulation was implemented to check whether the respondent has watched the video until the end. This is important because if the respondent did not watch the video until the end, he/she might not be affected by the manipulation (Hair et al., 2018). This manipulation check was the first question of the survey as research suggests this is the best place for this check (Kane & Barabas, 2019). The respondents had to answer a question about information that was given at the end of the video. Respondents who answered wrongly were removed from the sample.

Factual manipulation check: this check will show whether significant differences in responses exist between the test group and control group, which will show whether the manipulation has had its intended effect (Kane & Barabas, 2019). This will be the second question of the survey; *"Deze campagne laat zien welke voordelen het voor mijzelf heeft"*, (translated as: this campaign

shows how I personally benefit from helping someone else). This question was answered on a 7-point Likert scale ranging from not convinced at all – very convinced.

Reality check: a reality check was implemented in this study to measure whether the respondents find the campaign credible. The question was: "*Ik vind deze campagne geloofwaardig"*, (translated as: I find this campaign credible). This item was also answered on a 7-point Likert scale.

3.1.4 Definition & construct measurement

Independent variable: social marketing campaign 'een tegen eenzaamheid'. This is a dichotomous variable with 2 categories: 1) campaign with the rule of exchange and 2) campaign without the rule of exchange.

Dependent variable: intention to change behavior. This is an interval variable measured on a 7-point Likert scale. The questions to determine a respondents' level of intention to change behavior have been derived from a questionnaire by Icek Ajzen and have been based on the theory of planned behavior, which has been written by Ajzen as well (Ajzen & Madden, 1986). This theory is well supported by empirical evidence and has proven to be a good determinant of intention to change behavior (Ajzen, 1991). The items can be found in table 2. The questions have been translated from English to Dutch, these translations can be found in Appendix C.

Moderator: agreeableness is an interval variable measured on a 7-point Likert scale ranging from completely disagree up to completely agree. The questions to determine a respondents' level of agreeableness have been derived from the BFI questionnaire, which is a reliable self-report scale often used in the literature (Benet-Martínez & John, 1998). The items can be found in table 2. The questions have been translated from English to Dutch, the translations can be found in Appendix C.

The items in the table on page 23 are in Dutch. The English version of this table can be found in Appendix D.

Construct	Definition	Measurement
Manipulation: social marketing campaign 'een tegen eenzaamheid', with or without rule of exchange	"Social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society" (Andreasen, 1995, p. 7).	**MAN1:** Deze campagne laat zien welke voordelen het voor mijzelf heeft. **MAN2:** Ik vind deze campagne geloofwaardig.
Intention to change behavior	".... behavioral intentions are self-instructions to perform particular actions directed towards attaining … [desired] outcomes" (Sheeran & Webb, 2016, 503).	**BEH1:** Ik heb plannen om de *zelf gekozen activiteit* tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt. **BEH2:** Ik ga een poging doen om de *zelf gekozen activiteit* tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt. **BEH3:** Ik heb de intentie om de *zelf gekozen activiteit* tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.
Agreeableness	"Agreeableness … describes individual differences in being likeable, pleasant and harmonious in relations with others" (Graziano & Tobin, 2009, p. 46).	**AGR1:** Ik herken de kwetsbaarheden van iemand **AGR2:** Ik ben behulpzaam naar andere mensen **AGR3:** Ik begin discussies met anderen **AGR4:** Ik vergeef andere mensen makkelijk **AGR5:** Normaal gesproken vertrouw ik andere mensen **AGR6:** Ik kan soms wat koeltjes over komen en me distantiëren van anderen **AGR7:** Ik ben aardig en attent naar bijna iedereen **AGR8:** Ik kan soms wat onbeleefd zijn naar andere mensen **AGR9:** Ik kan goed met andere mensen overweg

Table 2. An overview of the constructs

3.2 Limitations of the method

This paragraph will describe the limitations of the research method, population, sample, channels and circumstances.

Limitation of the rule of exchange: as mentioned in paragraph 2.4.2 the drawback of using a symbolic rule of exchange is that they are not very concrete. There is no existing symbolic rule of exchange in the literature that could be implemented in this research, which is why this study has formulated its own rule of exchange. The consequence is that this specific rule of exchange has not been tested on its effectiveness by prior research and therefore is not confirmed to be

effective. Therefore, effectiveness was tested before and during the analysis with a manipulation check. More information about the manipulation checks can be found in paragraph 4.3.

Limitation of population: as mentioned before, the target group of this social marketing campaign is the entire Dutch population. This is a very broad population that is not easily defined. A large number of respondents is needed to form a representative sample. As a result, the results of this study are not representative of the population. This affects external validity.

Limitation of sample: the study needs to have an equal distribution of respondents who score high versus low on agreeableness in both the control and test group. However, this even distribution cannot be guaranteed, because participants are randomly assigned to the control or test group and the level of agreeableness will be determined during the experiment, not before the experiment. However, an independent samples t-test has pointed out that the test group ($\mu_{\text{with rule of exchange}}$= 5.09, SD= .952) and control group ($\mu_{\text{without rule of exchange}}$= 5.13, SD= .667) don't significantly differ from each other on the personality trait agreeableness (t= -.252, P= .802). With these results, it can be assumed that the groups have an even distribution (Appendix E).

Limitation of channels: this study used online channels Facebook and LinkedIn and the researcher's network to find respondents. By using these channels, some groups of the population, for example, the age groups of 76-85 and 86 years and older, are underrepresented (0%) because many of this target group might not be active on these particular channels. Vice versa, other groups, such as 18-25 are overrepresented (50.6%). This affects external validity. More information about the sample descriptives can be found in paragraph 4.1.

Limitation of the circumstances: due to the Covid-19 restrictions it is not possible to experiment in real life. The experiment will therefore be performed online and administered via Qualtrics. A limitation of this method is that the researcher cannot eliminate external factors that might influence the respondents' behavior during the experiment. This has an impact on the internal validity of the study.

3.3 Research ethics
The general principles of professional academic conduct will be complied with during this study and will be discussed below.

This study will comply with the principles of professional academic conduct at all times. The study is focused on understanding a specific research problem. However, it is important to foster integrity and transparency as well. During and after the study, the researcher will act honestly

and professionally towards the parties involved. Before starting the experiment, the respondent will be informed about all his/her rights. Furthermore, the respondent will be provided with the researcher's e-mail address, should the participant want more information or have questions.

Transparency of the goals: before starting the experiment the participant will be told that the goal is to measure the effectiveness of a social marketing campaign. Furthermore, if requested by the participant, he or she will receive the results of the study.

Treatment of participants: the participants are a crucial part of the study as they will contribute to the results of this study. The participants will always be treated with respect during the experiment. More specifically, the data of the participants is confidential and will therefore not be shared with external parties. The data of the participants will also be processed anonymously. Furthermore, the participant participates voluntarily and is allowed to leave the experiment at any time.

Reporting the results: the data that will be reported is based on the results of the experiment. Data will not be fabricated and the existing data will not be falsified. Furthermore, all available data that results from the study will be used, thus no data will be omitted to favor the results of the study.

4. Results

This chapter will give an overview of the sample description, show the results of the manipulation checks, give insight into the validity and reliability of the study and present the conclusions of the hypothesis.

4.1 Missing data

Before starting any analyses, the data was checked for missing data. It is important to check whether the data is missing at random or completely at random. Data missing at random may lead to bias of the observed data (Hair et al., 2018). The univariate descriptives have shown that there are no missing values, therefore it is not necessary to perform a test to determine whether data is missing completely at random. For the missing value univariate statistics, please consult Appendix F.

4.2 Sample description

This paragraph will describe the characteristics of the sample of the main study.

Hair et al. (2018) state that every group in an experiment should consist of at least 20 respondents to get significant results. Therefore, for this study, the minimum number of respondents per group is 20 and the total number of respondents to have a representative sample is 40. The total sample of the experiment consisted of 117 respondents. Respondents who failed the inclusion criteria or did not finish the survey were removed from the sample, after which the sample consisted of 83 respondents, 41 respondents for the test group, and 42 respondents for the control group. 34.9% of the respondents are male and 65.1% of the respondents are female. The majority of the respondents (50.6%) are between 18 and 25 years old. Other relatively large age groups are 26-35 (21.7%) and 56-65 (13.3%). 44.6% of the respondents have indicated the University of Applied Sciences to be their highest level of education, 30.1% of the respondents have a university Master's degree and 19.3% have a university Bachelor's degree (Appendix G). The respondents were recruited online via LinkedIn and the researcher's network. Table 3 on page 27 will provide an overview of the sample description.

Overview sample description	
Number of respondents per group	Test group (campaign with the rule of exchange): 49.4%
	Control group (campaign without the rule of exchange): 50.6%
Gender	Male: 34.9%
	Female: 65.1%
Age in years	< 18: 0%
	18-25: 50.6%
	26-35: 21.7%
	36-45: 6%
	46-55: 6%
	56-65:13.3%
	66-75: 2.4%
	76-85: 0%
	> 85: 0%
Level of education	No education: 0%
	Elementary school: 0%
	High school: 3.6%
	Vocational secondary education: 2.4%
	University of Applied Sciences: 44.6%
	University Bachelor: 19.3%
	University Master: 30.1%
	PhD: 0%

Table 3. Overview of the sample description

4.3 Manipulation check & credibility

This paragraph describes the manipulation and credibility checks that have been performed to make sure that the manipulation works properly and that the campaign is perceived as credible. The paragraph firstly describes the results of the pre-test, subsequently the results for the main study.

4.3.1 Pre-test manipulation, credibility and instructional check

Before distributing the survey, a pre-test was used to test whether the manipulation has worked and whether the study was perceived as credible. The sample description in paragraph 4.1 is the sample of the main study, the pre-test was conducted with a sample of 15 respondents. The pre-test was conducted with an independent samples t-test. The manipulation in this study is the addition of the rule of exchange to a social marketing campaign. The manipulation was tested with item *"deze campagne laat zien welke voordelen het voor mijzelf heeft"*, (translated as: this campaign shows how I personally benefit from helping someone else). The pre-test has shown that the campaign with the rule of exchange scored significantly higher ($\mu_{\text{with rule of exchange}}$= 5.38, SD= .916) on this item than the campaign without rule of exchange ($\mu_{\text{without of exchange}}$= 2.14, SD= 1.464). This difference was found to be significant (t= 5.203, P<.001), which indicates that

respondents who saw the campaign with the rule of exchange saw more benefits for themselves in the campaign than the respondents who saw the campaign without the rule of exchange.

The credibility of the study was pre-tested by comparing item *"ik vind deze campagne geloofwaardig"* (translated as: I find this campaign credible), between both groups. This was found to be not significant (t= 1,250, P= .252). This means that the campaign with the rule of exchange ($\mu_{\text{with rule of exchange}}$= 5.75, SD= .463) and the campaign without the rule of exchange ($\mu_{\text{without rule of exchange}}$= 5.00, SD= 1.528) are both credible and do not differ significantly in credibility. For more information, please consult Appendix H.

An instructional check was used to make sure the respondents had watched the whole video. The video with the rule of exchange mentions some benefits that one experiences when helping someone who is feeling lonely at the end of the video, the video without the rule of exchange mentions two people who can be helped. This information is displayed at the end of the video. After watching the video, the respondents are asked to mention at least one benefit or individual that was mentioned in the videos. In total 18 respondents filled in the questionnaire, yet three respondents did not pass the instructional check, which led them to be removed from the sample.

Pre-test manipulation check	Pre-test credibility
Significant t-test (t= 5.203, P<.001)	Non-significant t-test (t= 1,250, P= .252).
Test group ($\mu_{\text{with rule of exchange}}$= 5.38, SD= .916)	Test group ($\mu_{\text{with rule of exchange}}$= 5.75, SD= .463)
Control group ($\mu_{\text{without of exchange}}$= 2.14, SD= 1.464).	Control group ($\mu_{\text{without rule of exchange}}$= 5.00, SD= 1.528)

Table 4. Pre-test manipulation and credibility check

4.3.2 Main study manipulation, credibility and instructional check
The results of the main study have also shown that the rule of exchange has been successfully implemented. This means that respondents who saw the campaign with the rule of exchange perceived more benefits for themselves by watching the campaign than the respondents who saw the campaign without the rule of exchange. This manipulation has been tested by using an independent samples t-test, to measure whether the means of both groups are significantly different. For item *"deze campagne laat zien welke voordelen het voor mijzelf heeft"* (translated as: this campaign shows how I personally benefit from helping someone else), the mean of the test group, who have seen the campaign with the rule of exchange ($\mu_{\text{with rule of exchange}}$= 5.05, SD= 1.465), is higher than the mean of the control group, who have seen the campaign without the

rule of exchange ($\mu_{\text{without rule of exchange}}$= 3.81, SD= 1.612). The differences between these two means have been found significant (t= 3.667, P< 001). This means that the manipulation in the experiment has worked and that adding the rule of exchange to the campaign led to respondents seeing more benefits for themselves.

The credibility check was found to be not significantly different between the test and control group (t= -.928, P= .356). This was tested with item *"ik vind deze campagne geloofwaardig"* (translated as: I find this campaign credible). The mean of the test group ($\mu_{\text{with rule of exchange}}$= 5.41, SD= 1.378) and the mean of the control group ($\mu_{\text{without rule of exchange}}$= 5.67, SD= 1.074) are not significantly different in credibility. Furthermore, this result indicates that both campaigns are perceived to be credible. For more information about the credibility and manipulation check please consult Appendix I.

The study has implemented an instructional check to test whether respondents have watched the entire video campaign. This instructional check was the same as the instructional check for the pre-test: the video with the rule of exchange mentions some benefits that one experiences when helping someone who is feeling lonely at the end of the video, the video without the rule of exchange mentions two people who can be helped at the end. After watching the video, the respondents are asked to mention at least one benefit or individual that was mentioned in the videos. The instructional manipulation check pointed out that 12 respondents did not watch the entire video. These respondents have not been exposed to the manipulation effect and were therefore excluded from the sample.

Main study manipulation check	Main study credibility
Significant t-test (t= 3.667, P< 001)	Non-significant t-test (t= -.928, P= .356).
Test group ($\mu_{\text{with rule of exchange}}$= 5.05, SD= 1.465)	Test group ($\mu_{\text{with rule of exchange}}$= 5.41, SD= 1.378)
Control group ($\mu_{\text{without rule of exchange}}$= 3.81, SD= 1.612)	Control group ($\mu_{\text{without rule of exchange}}$= 5.67, SD= 1.074)

Table 5. Main study manipulation and credibility

4.4 Validity and reliability
This paragraph will give insight into the factor analysis, explain the internal validity, external validity, discriminant validity, and convergent validity of this study. Furthermore, the reliability of the study is explained.

4.4.1 Confirmatory factor analysis
A confirmatory factor analysis (CFA) tests how well the prespecified items fit the actual data (Hair et al., 2018). The two factors and corresponding items for this study have been derived

from the literature in chapter 2 and have been tested with a CFA to determine how well they fit the actual data. The KMO (.745) and Bartlett's Test of Sphericity (P< .000) have shown that factor analysis is suitable. The two factors together explain 60.3% of the variance. All correlations in the factor correlation matrix were below .30. Therefore, we have used Varimax rotation. During the factor analysis, three cross-loaders have been deleted, which can be found in the table below. The confirmatory factor analysis can be found in Appendix J.

Confirmatory factor analysis
KMO (.745) & Bartlett's Test of Sphericity (P< .000)
Two factors explain 60.3% of the variance
Varimax rotation (correlations <.30)
Cross-loaders deleted:
○   Item "REV_ik begin discussies met anderen" (.139)
○   Item "ik ben behulpzaam naar andere mensen" (.071)
○   Item "ik herken de kwetsbaarheden va niemand" (.195)

Table 6. Confirmatory Factor Analysis

4.4.2 Validity

Internal validity: internal validity is important to be able to make causal conclusions (Hair et al., 2018). Lack of randomization may cause a threat to internal validity, therefore this study randomly assigned participants to the control or test group (Hair et al., 2018). Furthermore, three manipulation checks were implemented to check 1) whether the respondent perceives the manipulation correctly, 2) whether respondents watched the whole video and 3) whether the manipulation was perceived to be credible. As mentioned in paragraph 4.2, the manipulation has worked; the study was found to be credible and respondents who did not watch the entire video were removed from the sample. The experiment took place online. Due to this setting, the researcher could not eliminate external factors that might have influenced the participation of the respondent. Some factors have been covered with the manipulation checks, but possibly not every factor was covered. This might have affected the internal validity as a result that the respondent filled in answers differently than he/she would have done in a controlled setting. Unfortunately, these cases cannot be determined due to the setting of the study.

External validity: refers to the extent to which the results can be generalized to other contexts (Hair et al., 2018). The experiment is conducted in a natural setting which increases the external validity. Furthermore, random sampling was used to select respondents to prevent selection bias from occurring. Lastly, the Hawthorne effect was diminished. This effect means that the

respondent starts behaving differently because he/she knows they are participating in an experiment (Adair, 1983; Jones, 1991). This effect was diminished by telling the respondents they are participating in a research, not in an experiment. However, the sample of respondents of 81 is not representative of the entire population due to the sample size and sampling method. Therefore, the results cannot be generalized to the population.

Discriminant validity: measures the degree to which the constructs are sufficiently distinct (Hair et al., 2018). This was tested with CFA by comparing the average variance-extracted (AVE) values for the constructs with the square of correlation estimate between constructs. The AVE of factor 1: intention to behavior change (.853), explains more than the squared correlation estimates between factor 2 (.035). The AVE of factor 2: agreeableness (.340), explains more than the squared correlation estimates between factor 1 (.035). The AVE is larger than the correlation estimate, which confirms good discriminant validity and thus means that the latent construct explains more of the variance in the items than it shares with another construct (Hair et al., 2018). For details of the discriminant validity consult Appendix K.

Convergent validity: measures the degree to which the items of one construct are correlated (Hair et al., 2018). This measures whether the items are measuring the intended concept and is tested by looking at the AVE, which should be at least .5. The AVE of factor 1: intention to change behavior (.853) is high enough, which means the items are measuring the intended concept. The AVE of factor 2: agreeableness (.339) is too low, which indicates the convergent validity of these measures is not good enough. The items of agreeableness have been based on previous studies and the reliability of the construct, which is an indicator of convergent validity, is good (Hair et al., 2018). Based on this, we assume that the low score on convergent validity does not have a major impact on the study. More information about convergent validity can be found in Appendix K.

4.4.3 Reliability
Reliability: a reliability analysis was conducted for the two constructs to ensure their internal consistency. A Cronbach's alpha of >.60 indicates that the constructs are reliable (Hair et al., 2018). This study will aim for a Cronbach's alpha of .80 because this indicates good reliability. The Cronbach's alpha for factor 1, intention to change behavior, is .948. This confirms that this factor has high internal reliability. The Cronbach's alpha can be increased to .958 by deleting one item. However, we want the factor to consist of at least 3 items to provide enough coverage of the theoretical domain and to provide the right amount of identification of the construct (Hair et al., 2018). Because this item currently consists of 3 items, we will not delete any to increase

the internal consistency. The Cronbach's alpha for factor 2, agreeableness, is .659. The Cronbach's alpha for this factor could be increased significantly to .704 by deleting one item. Therefore, this item was deleted and the Cronbach's alpha ends up being .704, which can be considered to be a good internal consistency. For details about the reliability analysis, please consult Appendix L.

4.4.4 Overview of the factors and items
Based on the factor and reliability analysis, a few items have been deleted to avoid cross-loaders and improve the reliability. Table 7 below gives an overview of the final items per construct that have been used for the statistical tests. Table 8 gives an English translation of the items.

Intention to change behavior	Agreeableness
Item 1: "ik heb plannen om de *zelf gekozen activiteit* tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"	**Item 1:** "normaal gesproken vertrouw ik andere mensen makkelijk"
Item 2: "ik ga een poging doen om de *zelf gekozen activiteit* tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"	**Item 2:** "ik ben aardig en attent naar bijna iedereen"
Item 3: "ik heb de intentie om de *zelf gekozen activiteit* tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"	**Item 3:** "ik kan goed met andere mensen overweg"
	Item 4: "Reversed_ik kan soms wat koeltjes over komen en me distantiëren van anderen"
	Item 5: "Reversed_ik kan soms onbeleeft zijn naar andere mensen"

Table 7. Factors and corresponding items

Intention to change behavior	Agreeableness
Item 1: "I plan to perform the *self-chosen activity* with someone who is feeling lonely at least 1 hour a week"	**Item 1:** "I usually trust other people easily"
Item 2: "I will make an effort to perform the *self-chosen activity* with someone who is feeling lonely at least 1 hour a week"	**Item 2:** "I am kind and considerate to almost everyone"
Item 3: "I intend to perform the *self-chosen activity* with someone who is feeling lonely at least 1 hour a week"	**Item 3:** "I get along with others"
	Item 4: "Reversed_I can be cold and distant with others"

Table 8. Translation factors and corresponding items

4.5 Hypotheses
This paragraph will present the results of the ANOVA and ANCOVA analysis.

4.5.1 ANOVA assumptions
The ANOVA analysis tests whether the average intention to change behavior between the test group and control group is significantly different (Field, 2013). Before the ANOVA analysis can be performed, several assumptions relating to the ANOVA have been tested. Testing the assumptions is important to discover potential sources of bias (Field, 2013). The assumptions of having a metric dependent variable and categorical independent variable have been met. Likewise, the assumption of homogeneity has been met. This was tested with Levene's test which was found to be not significant (P= .801). A non-significant Levene's test indicates homogeneity. Lastly, the assumption of normality of the variables has been met. This has only been tested for the dependent variable 'intention to change behavior', because the independent variable 'campaign een tegen eenzaamheid' is categorical, which means that this variable is always normally distributed (Hair et al., 2018). Please consult Appendix M for more information about the assumptions.

Assumption	Conclusion
Metric dependent and categorical independent variable	**Assumption has been met**, based on: Type of variable
Normality of the variable 'intention to change behavior'	**Assumption has been met**, based on: Skewness/ SD skewness: -1.269 Kurtosis/ SD kurtosis: -1.883
Homogeneity	**Assumption has been met**, based on: Levene's test not significant (P= .801)

Table 9. ANOVA assumptions

4.5.2 ANOVA analysis
The ANOVA analysis has shown that the control and test group do not significantly differ from each other regarding the intention to change their behavior. This has been based on a non-significant ANOVA analysis ($F_{(1, 81)}$= 2.145, P=.147). This means that the test group, who has been exposed to the social marketing campaign with the rule of exchange, does not have a higher intention to change behavior than the control group, who has been exposed to the social marketing campaign without the rule of exchange. In fact, the average of the test group ($\mu_{\text{with rule of exchange}}$= 3.76, SD= 1.63) is lower than the average of the control group ($\mu_{\text{without rule of exchange}}$= 4.29, SD= 1.62). If the ANOVA analysis would have been significant, this would mean that the control group actually has a higher intention to change behavior than the test group, which is

the opposite of our expectation. Based on these data, we conclude that adding a rule of exchange to a social marketing campaign does not lead to an increase in the respondent's intention to change behavior. In other words; adding a rule of exchange does not lead to an improvement in effectiveness. Based on these results we can reject hypothesis 1:

H1: the campaign with the rule of exchange is more effective than the campaign without the rule of exchange.

Furthermore, intention to change behavior is measured on a 7-point Likert scale. Based on this we can conclude that the average intention to change behavior of the test group is medium ($\mu_{\text{with rule of exchange}}$= 3.76, SD= 1.63). The average of the control group can be considered moderately high ($\mu_{\text{without rule of exchange}}$= 4.29, SD= 1.62). More information about the ANOVA analysis can be found in Appendix M.

ANOVA analysis
Main effect of the campaign 'een tegen eenzaamheid' on intention to change behavior not significant $(F(1, 81)= 2.145, P=.147)$.
Test group ($\mu_{\text{with rule of exchange}}$= 3.76, SD= 1.63)
Control group ($\mu_{\text{without rule of exchange}}$= 4.29, SD= 1.62)
Conclusion: test and control group do not significantly differ from each other regarding the intention to change behavior

Table 10. ANOVA analysis

4.5.3 ANCOVA assumptions

The ANCOVA analysis tests whether there are significant differences in the intention to change behavior between the test and the control group while controlling for the respondent's level of agreeableness (Field, 2013). Before the analysis, the assumptions of ANCOVA will be tested to determine potential sources of bias (Field, 2013). The assumptions of having a metric dependent variable, a categorical independent variable, and a metric covariate have been met. Just as with the ANOVA analysis, the assumption of normality has been met.

The assumption that the covariate agreeableness and the dependent variable intention to change behavior should correlate has been met. This was tested with a Pearson Correlation. The observed significance is .023, which is smaller than the critical value of .05. These results indicate that there is a correlation.

Subsequently, the assumption that the covariate agreeableness and the independent variable campaign 'een tegen eenzaamheid' are independent has been met as well. This was

tested with an independent samples t-test. The observed significance is .802, which is higher than the critical value of .05. This means that there is independence between the covariate and the independent variable.

Lastly, it can be confirmed that there is homogeneity. This was tested with regression. The interaction effect of the independent variable campaign 'een tegen eenzaamheid' and the covariate agreeableness was not significant (P= .628), which confirms that the regression lines are parallel and thus there is homogeneity. Details about the assumptions of ANCOVA can be found in Appendix N.

Assumption	Conclusion
Metric dependent variable and covariate. Categorical independent variable	**Assumption has been met**, based on: Type of variable
Normality of the variable 'intention to change behavior' & 'agreeableness'	**Assumption has been met**, based on: Variable: intention to change behavior Skewness/ SD skewness: -1.269 Kurtosis/ SD kurtosis: -1.883 Variable: agreeableness Skewness/ SD skewness: -1.720 Kurtosis/ SD kurtosis: .052
Covariate 'agreeableness' and dependent variable 'intention to change behavior' should correlate	**Assumption has been met**, based on: Pearson Correlation significant (P= .023)
Covariate 'agreeableness' and independent variable 'campaign 'een tegen eenzaamheid'' are independent	**Assumption has been met**, based on: t-test not significant (P= .802)
Homogeneity	**Assumption has been met**, based on: Regression. The interaction effect of the independent variable and covariate is not significant (P= .628)

Table 11. ANCOVA assumptions

4.5.4 ANCOVA analysis

The ANCOVA analysis has shown that the main effect of the independent variable campaign 'een tegen eenzaamheid' on the dependent variable intention to change behavior is not significant (F(1, 80)= 2.066, P= .154). As well as with the ANOVA, the average of the test group ($\mu_{\text{with rule of exchange}}$= 3.76, SD= 1.63) is lower than the average of the control group ($\mu_{\text{without rule of exchange}}$= 4.29, SD= 1.62).

Furthermore, the analyses demonstrated that the covariate agreeableness is significant (F(1, 80)= 5.215, P<.05). The covariate has a positive direction (B= .489), which means the covariate would have a positive effect on the relationship between the independent variable campaign 'een tegen eenzaamheid' and the dependent variable intention to change behavior. This would imply that the higher an individual scores on agreeableness, the larger the positive effect is on the relationship between the dependent intention to change behavior and the independent variable campaign 'een tegen eenzaamheid'. However, we may not interpret the covariate, because there is no significant main effect. This means that agreeableness does not moderate the relationship between the social marketing campaign and intention.

Based on the results, it cannot be confirmed that individuals who score high on agreeableness are equally likely to change behavior after seeing the social marketing campaign with the rule of exchange compared to the campaign without the rule of exchange. With this knowledge, hypothesis 2 was rejected: *agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with high agreeableness will not be more likely to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.*

Lastly, it cannot be confirmed that an individual who scores low on agreeableness is more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange. Thus, we also reject hypothesis 3: *agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with low agreeableness will be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.*

More information about the ANCOVA analysis can be found in Appendix N.

ANCOVA analysis
Main effect campaign 'een tegen eenzaamheid' on intention to change behavior not significant ($F(1, 80)= 2.066$, $P= .154$).
Test group ($\mu_{\text{with rule of exchange}}= 3.76$, $SD= 1.63$)
Control group ($\mu_{\text{without rule of exchange}}= 4.29$, $SD= 1.62$)
Covariate agreeableness is significant ($F(1, 80)= 5.215$, $P< .05$)
Covariate has a positive direction ($B= .489$)
Conclusion: test and control groups do not significantly differ from each other regarding the intention to change behavior, when controlling for agreeableness. Covariate agreeableness is significant, but may not be interpreted due to a non-significant main effect.

Table 12. ANCOVA analysis

4.5.5 Overview results of the hypothesis

Hypothesis	Conclusion
H1: the campaign with the rule of exchange is more effective than the campaign without the rule of exchange.	Rejected
H2: agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with high agreeableness will not be more likely to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.	Rejected
H3: agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with low agreeableness will be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange.	Rejected

Table 13. Overview of the hypothesis

4.5.6 Explorative study: covariate agreeableness as the main effect

In paragraph 4.4.4 we determined the significance of the covariate agreeableness. To further look at the influence of agreeableness on the intention to change behavior, we have performed an explorative study, where agreeableness has been implemented as the main effect in a regression analysis. The study has shown that agreeableness explains 6.2% (R^2= .062) of variation in intention to change behavior. This is a low explanatory power because this means that 93.8% of the variation in the intention to change behavior is caused by other factors. The univariate regression was found to be significant ($F_{(1, 81)}$= 5.336, P<.05), R^2= .062). This means that agreeableness as the main effect has a significant effect on the intention to change behavior. This effect was found to be positive (β= .498; t(81)= 2.310; P< .05). The assumptions of univariate regression have all been met. Please consult Appendix O for more details about the regression analysis.

Regression analysis
Agreeableness explains 6.2% of the variation in intention to change behavior (R^2= .062)
Main effect 'agreeableness' on dependent variable is significant
($F_{(1, 81)}$= 5.336, P<.05), R^2= .062)
Agreeableness has a positive effect (β= .498; t(81)= 2.310; P< .05).

Table 14. Regression analysis agreeableness as main effect

5. Conclusions

This chapter will answer the research question of this study. The results will be reflected in the discussion. This chapter will also discuss some managerial implications, limitations of the study and suggestions for further research.

5.1 Conclusion

The purpose of the study was to assess whether adding a rule of exchange to a social marketing campaign would increase the effectiveness of the campaign and whether this effect would be stronger for individuals who score low on the personality trait agreeableness. The research question for this study was formulated as follows: *"Can the effectiveness of the Dutch governmental social marketing program 'een tegen eenzaamheid' be improved by adding the rule of exchange, and is this effect stronger for individuals who score low on agreeableness (as a personality trait)?"*. This research question was answered with three hypotheses, which represent the conceptual model of the study. These will be discussed below.

This experiment consisted of two groups of respondents, a test group and a control group. The test group was exposed to the social marketing campaign with the rule of exchange, the control group was exposed to the social marketing campaign without the rule of exchange. Based on previous studies about social marketing effectiveness, such as the studies by Andreasen (2002) and Stead et al. (2007), one would expect that adding a rule of exchange improves the effectiveness of a campaign. Contrary to our expectations, this study has found that adding a rule of exchange to the social marketing campaign 'een tegen eenzaamheid' does not improve its effectiveness. As a matter of fact, the average intention to change behavior for the test group was lower than for the control group. Even though this difference was found to be not significant, it is still worth mentioning because if this had been significant, this would have meant that respondents who saw the campaign with the rule of exchange were less intended to change behavior than respondents who saw the campaign without rule of exchange. Based on the results we can conclude that individuals are not more intended to change behavior after seeing a campaign with the rule of exchange, compared to seeing a campaign without the rule of exchange. With this information, hypothesis 1: *the campaign with the rule of exchange is more effective than the campaign without the rule of exchange,* was rejected.

According to Azucar et al. (2018), personality traits are important predictors of the behavior of an individual. Individuals who score high on the personality trait agreeableness are helpful, altruistic and engage in pro-social behavior. These individuals are usually more likely

to help another person. One would therefore expect that agreeableness is an important personality trait to take into account for this study. Even though agreeableness was found to significantly influence the relationship between the campaign 'een tegen eenzaamheid' and the intention to change behavior, the effect could not be interpreted because the campaign with the rule of exchange did not lead to a significantly larger effect on the intention to change behavior, compared to the campaign without rule of exchange. Consequently, we cannot conclude that agreeableness moderates the relationship between the social marketing campaign and intention to change behavior. Therefore, we have to disregard our assumption that individuals who score high on agreeableness will not be more intended to change behavior after seeing the campaign with the rule of exchange compared to the campaign without the rule of exchange. This leads us to the rejection of hypothesis 2: *agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with high agreeableness will not be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange*.

Finally, it can be concluded that individuals who score low on agreeableness are not more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange. Therefore, we also reject our third and last hypothesis: *agreeableness moderates the relationship between the social marketing campaign 'een tegen eenzaamheid' and intention to change behavior as such that individuals with low agreeableness will be more likely to intend to change behavior after seeing the campaign with the rule of exchange compared to seeing the campaign without the rule of exchange*.

Based on the hypotheses above we can answer our main question of the study. It can be concluded that the effectiveness of the Dutch governmental social marketing campaign 'een tegen eenzaamheid' was not be improved by adding the rule of exchange. The respondents who saw the campaign with the rule of exchange did not show a significantly higher intention to change behavior than the respondents who saw the campaign without the rule of exchange. Following this, it cannot be concluded that the rule of exchange has a stronger effect on individuals who score low on personality trait agreeableness.

5.2 Discussion

This study has contributed to the scientific literature of social marketing. This paragraph will discuss the theoretical implications.

Kotler & Zaltman (1971) published their paper about social marketing in 1971. The authors suggested that a successful social marketing program should apply the principles and tools of traditional marketing. Wiebe (1951) confirmed this idea in his study, where he found that social marketing programs that apply traditional marketing tools and techniques were more successful than those that did not. Andreasen (2002) further developed this idea by identifying six criteria that a successful social marketing plan should consist of. According to Stead et al. (2007), a program should meet all these six criteria to be called a social marketing program. Previous studies have studied the success of various social marketing programs that applied the six criteria (Stead et al., 2007). This study deviates from previous literature, because it does not study the effect of all six criteria combined, but studies the effect of a sole criterion, namely the effect of the so-called rule of exchange. This will give insight into what effect the rule of exchange has on the effectiveness of a social marketing campaign. As mentioned in paragraph 2.3 it appeared that the social marketing campaign 'een tegen eenzaamheid' applied most of the criteria but not the rule of exchange.

The rule of exchange is based on the phenomenon of social exchange. Homans, who developed the social exchange theory, believed that social behavior is based on an exchange and that there should be reciprocity; when an individual exchanges a resource, he/she expects something in return (Cropanzano & Mitchell, 2005; Huang et al., 2018; Lambe et al., 2001). Based on the social exchange theory and the six principles by Andreasen, one would expect that adding an element of exchange to a social marketing program would improve its effectiveness. This study has implemented a rule of exchange in a campaign. The campaign with the rule of exchange shows significantly more benefits that the respondent would get in return for helping someone than the campaign without the rule of exchange. Contrary to our expectations, this study has shown that adding the rule of exchange does not improve the effectiveness of the campaign. Even though the campaign with the rule of exchange shows more benefits, the respondents are not more likely to intend to change behavior. According to Wymer (2011) this can be explained. The researcher suggests that currently, social marketing campaigns are overly relying on traditional marketing tactics. Wymer explains that social problems are complex, always changing and therefore, for many social problems the traditional marketing tools and techniques do not apply. Smith (1998) and Wymer (2011) both emphasize

the importance of not just looking at the behavior of the individual, but that a social marketing program should also take environmental, structural factors into account, which can prevent behavior change from happening. In the case of this study, an environmental factor could be that it is 'taboo' in this society to talk about being lonely. As a result, people do not know whether an individual is feeling lonely and are therefore are less or not intending to reach out to someone.

According to Azucar et al. (2018), personality traits are good predictors of many facets of an individual's life. Various studies have shown that individuals who score high on agreeableness are altruistic, helpful to others and engage in pro-social behavior (Huang et al., 2018; Komarraju et al., 2011; Zweig & Webster, 2004). It would be expected that individuals who score high on agreeableness do not need a rule of exchange to be motivated to change behavior. Subsequently, it would also be expected that individuals who score low on agreeableness actually will be more motivated to intend to change behavior after seeing a campaign with the rule of exchange compared to seeing a campaign without the rule of exchange. This study has found that agreeableness is a personality trait that would have a positive impact on the relationship between the social marketing campaign and the intention to change behavior. However, in this study, this personality trait may not be interpreted because the campaign with the rule of exchange did not lead to a significant increase in intention to change behavior compared to the campaign without the rule of exchange. We have performed an explorative study, to test agreeableness as a main effect on the intention to change behavior. The explanatory power of agreeableness on intention to change behavior is low. This suggests that other factors that explain the intention to change behavior as well. An example of another factor could be the amount of spare time someone has; if an individual has very little free time, this might negatively impact the intention to change behavior. However, the effect that was found is positive, indicating that agreeableness does have a positive effect on the intention to change behavior.

5.3 Practical implications

This study has found an important implication for managers. Previous studies suggested that adding the rule of exchange to your social marketing campaign can improve the effectiveness of that campaign. However, the results of this study indicate that adding the rule of exchange to your campaign will not necessarily lead to an increase in the individual's intention to change behavior. Thus, it is not necessary to add a slogan or other content which includes a rule of exchange to the social marketing campaign materials.

5.4 Limitations and suggestions for further research

5.4.1 Population and sample

This study has investigated the sole effect of adding a rule of exchange to a social marketing campaign. The social marketing campaign 'een tegen eenzaamheid' has a broad target group; the entire population of The Netherlands. The sample of this study is not representative of the population of 17.5 million people, due to the sample size and sampling technique. The sample size of this study is 83 respondents. A large sample size improves the statistical power, which means that the probability of correctly finding a hypothesized relationship when it exists is higher. As this sample size is small this might negatively impact the statistical power (Hair et al., 2018). Furthermore, many respondents have been recruited via the researcher's network and social media. As a result of these channels, some groups in the sample are overrepresented or underrepresented. For example, 50.5% of the respondents are between 18 and 25 years old, while only 2.7% of the sample are older than 85 years old. This is because many respondents from the researcher's network are in that age group. As a result, the findings cannot be generalized to the entire population. Future research should therefore take this study to a sample that is representative of the Dutch population.

This study has used a Dutch social marketing campaign, aimed at the Dutch population. It would be interesting to study how effective the rule of exchange is in other countries, with other cultures. However, the content of this campaign might not be as effective in other countries due to cultural differences (Kale, 1991). Alden, Hoyer and Lee (1993) found in their study about humorous communications for example, that this type of marketing can be effective internationally, but that the content of the message is variable across national cultures. National culture can be characterized by a consistent pattern of responses to (hypothetical) behavioral situations, and these responses vary per culture. These responses are based on broad cultural values (Noesjirwan, 1978). These studies imply that for a social marketing campaign to be effective, the content of the campaign should be adjusted to the national culture. This study should be conducted in different countries, with a campaign specifically adjusted for that culture, to measure the effectiveness of the rule of exchange. With those results, it would be possible to generalize the results of the effectiveness of the rule of exchange to an international population.

5.4.2 The rule of exchange

A symbolic rule of exchange was implemented in this study; the respondents of the campaign with the rule of exchange were exposed to benefits such as learning from one another or broadening one's network. However, the rule of exchange can also be implemented as a utilitarian exchange. For example that the respondent receives a monetary reward or a product. The benefit of a utilitarian exchange is that it is more concrete to the respondent what he/she will receive in return, which makes it easier to 'sell' the benefits to the target group than with a symbolic exchange (Hastings & Saren, 2003). However, it is questionable whether offering the target group a product/monetary reward to motivate them to change behavior is ethical. Deciding what utilitarian exchange could be ethical should therefore be an important aspect of the study, an important aspect here is to become self-critical in deciding what is ethical and what not (Andreasen, 2001). Future studies could dive into what effect a non-symbolic rule of exchange could have in a social marketing study. Furthermore, a study that focuses on a comparison of the effects of a campaign with a symbolic rule of exchange and a campaign with a non-symbolic rule of exchange is suggested.

The goal of this study was to influence behavior with a rule of exchange, such that the respondent would be intended to reach out to someone who is feeling lonely. The rule of exchange has often been implemented in marketing to sell products. This happens in the form of a utilitarian exchange; money is given in return for goods (Bagozzi, 1975). Studies have taken the social exchange theory to other fields, to examine for example business-to-business relational exchanges or to explain organizational behavior (Cropanzano & Mitchell, 2005; Lambe et al., 2001). As social exchange theory can be used in various contexts, it may be assumed that the rule of exchange can be effective for marketing goals, other than selling products or contributing to a social problem, as well. Future studies could therefore examine whether the rule of exchange is effective for a variety of goals such as donating to a charity, lead generation or creating brand awareness.

5.4.3 Intention to change behavior

Since the manipulation check has revealed that the campaign with the rule of exchange showed significantly more benefits for oneself than the campaign without the rule of exchange, it would be expected that the intention to change behavior would be higher for respondents who have seen the campaign with the rule of exchange. Even though the analyses have shown that there is not a significant difference in intention to change behavior between the test and control group, it is still an interesting finding that the intention to change behavior for the test group is lower

than the intention to change behavior for the control group. This could have various reasons. Firstly, it is likely that this specific rule of exchange was not suitable for this context. Future studies could therefore look into using different types of content for the rule of exchange, for example by mentioning other benefits. Furthermore, future studies could use a non-symbolic exchange to see whether that influences the intention to change behavior to a larger or smaller extend (Hastings & Saren, 2003).

It is also worth mentioning that the intention to change behavior for the test group is average and the intention to change behavior for the control group is moderately high. This means that both groups were not highly intend on changing their behavior. A possible explanation for this is that the respondents perceived the behavior change, spending one hour a week with someone, as too much. Future studies could use different types of behavior change in a similar study to see whether the level of intention to change behavior varies between these types. For example; compare the intention to change behavior with a group of respondents who are asked to perform an activity with someone once, with the intention to change behavior of a group of respondents who are asked to perform an activity with someone an hour a week. Furthermore, a possible explanation could be the Covid-19 restrictions; respondents might prefer to stay home as much as possible, since the government advices not to visit too many people. Therefore, a similar study, when the Covid-19 restrictions have been lifted, is advised to study whether participants in that situations are more intend on changing their behavior.

5.4.4 Personality characteristics

The personality trait agreeableness was used in this study to test whether this trait moderates the relationship between the social marketing campaign and intention to change behavior. However, there are other personality traits described by the Big Five Personality Traits that might have an impact on this relationship as well, such as the personality trait extraversion. This trait relates to talkativeness, assertiveness, sociability and expressiveness; characteristics that might also influence an individuals' intention to change behavior (Benet-Martínez & John, 1998; Komarraju et al., 2011). Future studies could further explore whether this personality trait has an impact on the intention to change behavior.

Subsequently, this study has used the Big Five Personality Traits theory, which has been one of the most accepted theories regarding personality (Azucar et al., 2018; Paunonen, 2003; Zweig & Webster, 2004). However, there is a wide range of personality theories that can be used which describe personality differently and thus may lead to other interesting results. Another well-known theory is the Eysenck model, which describes three dimensions of

personality, to wit extraversion, neuroticism and psychoticism (Taub, 1998). A suggestion for future research would be to perform this study with other personality theories.

5.4.5 Other factors

This study has taken into account what effect agreeableness has on the intention to change behavior. However, there may be various factors that affect the intention to change behavior. According to the Theory of Planned Behavior the factors attitude, perceived behavioral control and subjective norms influence the intention to change behavior (Ajzen, 1991). Examples of perceived behavioral control are factors such as time and money, subjective norm refers to the perceived social pressure to perform the behavior (Ajzen, 1991). Future studies could dive into what effect these factors have on an individuals' intention to change behavior.

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Appendix

Appendix A. Design of the campaign

Video: https://www.youtube.com/watch?v=-McLqgca1Ck

Campaign with the rule of exchange

Text at the beginning of the video

Text at the end of the video

Campaign without the rule of exchange

Text at the beginning of the video

Text at the end of the video

Appendix B. Design of the survey

Beste deelnemer,

Hartelijk dank voor het deelnemen aan dit onderzoek. Mijn naam is Malou Schurink, ik studeer de master Marketing aan de Radboud Universiteit te Nijmegen. Voor mijn masterscriptie doe ik onderzoek naar de effectiviteit van de overheidscampagne 'een tegen eenzaamheid'.

Allereerst zal u een campagne video te zien krijgen en daarna zal u een vragenlijst invullen. Het invullen van de vragenlijst zal ongeveer 5-7 minuten in beslag nemen. Enkele vragen zullen misschien op elkaar lijken, desalniettemin bevragen ze allen net een wat ander onderwerp. Kijk alstublieft de video tot het einde en beantwoordt alle vragen. Voor u aan de vragenlijst begint, zal er een voorbeeld vraag gegeven worden.

Uw resultaten worden volledig anoniem verwerkt en u kunt op ieder moment stoppen als u dat wilt. Mocht u naderhand nog vragen of opmerkingen hebben, neem gerust contact met mij op, mijn mailadres is malou.schurink@student.ru.nl

Alvast hartelijk dank voor het deelnemen aan dit onderzoek!

Met vriendelijke groet,

Malou Schurink

Voorbeeld

Onderstaand vind u een voorbeeldvraag om een idee te geven hoe u de vragen moet beantwoorden. De vraag kunt u een score geven die loopt van 1 tot 5. Score 1 betekent dat u het er helemaal mee oneens bent en 5 betekent dat u het er helemaal mee eens bent.

Voorbeeldvraag: ik vind het belangrijk om dagelijks minimaal 30 minuten te bewegen.

1. *Helemaal mee oneens*   2. *Oneens*   3. *Neutraal*   4. *Mee eens*   5. *Helemaal mee eens*

Vragenlijst

Instructional manipulation check

Test group

Vraag 1: In de tekst aan het eind van de video worden enkele voordelen voor uzelf genoemd. Noem één van deze voordelen.

Open answer

Control group

Vraag 1: In de tekst aan het eind van de video worden twee voorbeelden van personen genoemd om iets mee te ondernemen. Noem één van deze twee personen.

Open answer

Factual manipulation check

Vraag 2: Deze campagne laat zien welke voordelen het voor mijzelf heeft.

1. Helemaal mee oneens	*2. Oneens*	*3. Neutraal*	*4. Mee eens*	*5. Helemaal mee eens*

Reality check

Vraag 3: Ik vind deze campagne geloofwaardig.

1. Helemaal mee oneens	*2. Oneens*	*3. Neutraal*	*4. Mee eens*	*5. Helemaal mee eens*

Intention to behavior change

Zojuist heeft u een campagne gezien van 'een tegen eenzaamheid'. Denk aan een activiteit die u met iemand die zich eenzaam voelt zou willen en kunnen uitvoeren en houdt deze in uw achterhoofd bij het beantwoorden van de volgende vragen.

Vraag 4: Ik heb plannen om de *zelf gekozen activiteit* tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.

1. Helemaal mee oneens	*2. Oneens*	*3. Neutraal*	*4. Mee eens*	*5. Helemaal mee eens*

Vraag 5: Ik ga een poging doen om *zelf gekozen activiteit* tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt.

1. Helemaal mee oneens	*2. Oneens*	*3. Neutraal*	*4. Mee eens*	*5. Helemaal mee eens*

Vraag 6: Ik heb de intentie om *zelf gekozen activiteit* tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.

1. Helemaal mee oneens	*2. Oneens*	*3. Neutraal*	*4. Mee eens*	*5. Helemaal mee eens*

Agreeableness

Vraag 7: Ik herken de kwetsbaarheden van iemand

6	Helemaal mee oneens	7	Oneens	8	Neutraal	9	Mee eens	10	Helemaal mee eens

Vraag 8: Ik ben behulpzaam naar andere mensen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 9: Ik begin discussies met anderen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 10: Ik vergeef andere mensen makkelijk

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 11: Normaal gesproken vertrouw ik andere mensen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 12: Ik kan soms wat koeltjes overkomen en me distantiëren van anderen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 13: Ik ben aardig en attent naar bijna iedereen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 14: Ik kan soms onbeleefd zijn naar andere mensen

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Vraag 15: Ik kan goed met andere mensen overweg

1.	Helemaal mee oneens	2.	Oneens	3.	Neutraal	4.	Mee eens	5.	Helemaal mee eens

Inclusion criteria respondent

Vraag 16: Spreekt u Nederlands?

- o Ja
- o Nee

Vraag 17: Bent u ouder dan 18 jaar?

- o Ja
- o Nee

Demographic information respondent

Vraag 18: wat is uw geslacht?

- o Man
- o Vrouw
- o Anders
- o Zeg ik liever niet

Vraag 19: wat is uw leeftijd?

- o 18 – 25 jaar
- o 26 – 35 jaar
- o 36 – 45 jaar
- o 46 – 55 jaar
- o 56 – 65 jaar
- o 66 – 75 jaar
- o 76 – 85 jaar
- o Ouder dan 85 jaar

Vraag 20: wat is uw hoogst genoten opleidingsniveau?

- o Geen opleiding
- o Basisschool
- o Middelbare school
- o MBO
- o HBO
- o Universiteit bachelor
- o Universiteit master

Dit is het einde van de survey. Hartelijk bedankt voor het deelnemen aan deze survey. Uw resultaten zullen volledig anoniem worden verwerkt. Mocht u nog vragen of opmerkingen hebben, neem gerust contact met mij op: malou.schurink@student.ru.nl

Appendix C. Translation questionnaire English to Dutch

Construct: agreeableness

Code	English	Dutch
AGR1	I notice other people's weak points	Ik herken de kwetsbaarheden van iemand
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR2	I am helpful to others	Ik ben behulpzaam naar andere mensen
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR3	I start arguments with others	Ik begin discussies met anderen
	Completely disagree…completely agree	*Completely disagree…completely agree*
AGR4	I forgive others easily	Ik vergeef andere mensen makkelijk
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR5	I usually trust people	Normaal gesproken vertrouw ik mensen
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR6	I can be cold and distant to others	Ik kan soms wat koeltjes overkomen en me distantiëren van anderen
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR7	I am kind and considerate to almost everyone	Ik ben aardig en attent naar bijna iedereen
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR8	I am sometimes rude to others	Ik kan soms onbeleefd zijn naar andere mensen
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*
AGR9	I get along with others	Ik kan goed met andere mensen overweg
	Completely disagree…completely agree	*Totaal mee oneens…totaal mee eens*

Construct: intention to change behavior

Code	English	Dutch
BEH1	I plan to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week.	Ik heb plannen om de *zelf gekozen activiteit* tenminste één uur per weel uit te voeren met iemand die zich eenzaam voelt.
	Completely disagree…completely agree	*Helemaal mee oneens…helemaal mee eens*
BEH2	I will make an effort to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week.	Ik ga een poging doen om *zelf gekozen activiteit* tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt.
	Completely disagree…completely agree	*Helemaal mee oneens…helemaal mee eens*
BEH3	I intend to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week.	Ik heb de intentie om *zelf gekozen activiteit* tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.
	Completely disagree…completely agree	*Helemaal mee oneens…helemaal mee eens*

Appendix D. Translation table 'overview of the constructs' Dutch to English

Construct	Definition	Measurement
Manipulation: social marketing campaign 'een tegen eenzaamheid', with or without rule of exchange	"Social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behavior of target audiences in order to improve their personal welfare and that of society" (Andreasen, 1995, p. 7).	**MAN1:** this campaign shows how I personally benefit from helping someone else **MAN2:** I find this campaign credible
Intention to change behavior	".... behavioral intentions are self-instructions to perform particular actions directed towards attaining … [desired] outcomes" (Sheeran & Webb, 2016, 503).	**BEH1:** I plan to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week. **BEH2:** I will make an effort to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week. **BEH3:** I intend to perform the *self-chosen activity* with someone who is experiencing loneliness at least one hour per week.
Agreeableness	"Agreeableness … describes individual differences in being likeable, pleasant and harmonious in relations with others" (Graziano & Tobin, 2009, p. 46).	**AGR1:** I notice other people's weak points **AGR2:** I am helpful and not selfish with others **AGR3:** I start arguments with others **AGR4:** I forgive others easily **AGR5:** I usually trust people **AGR6:** I can be cold and distant to others **AGR7:** I am kind and considerate to almost everyone **AGR8:** I am sometimes rude to others **AGR9:** I get along with others

Appendix E. Distribution of respondents per group based on personality trait agreeableness

Group Statistics

	Campaign_een_tegen_e enzaamheid	N	Mean	Std. Deviation	Std. Error Mean
Agreeableness	0	41	5,0878	,95189	,14866
	1	42	5,1333	,66650	,10284

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Agreeableness	Equal variances assumed	6,038	,016	-,253	81	,801	-,04553	,18001	-,40370	,31264
	Equal variances not assumed			-,252	71,477	,802	-,04553	,18077	-,40593	,31487

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Appendix F. Missing value analysis – univariate statistics

Univariate Statistics

	N	Mean	Std. Deviation	Missing Count	Missing Percent	No. of Extremes[a] Low	No. of Extremes[a] High
Dezecampagnelaatzienwelkevoordelenhetvoormijzelfheeft	83	4,42	1,654	0	,0	0	0
Ikvinddezecampagnegeloofwaardig	83	5,54	1,233	0	,0	10	0
Ikhebplannenomdezelfgekozenactiviteittenminsteéénuurperweekuit	83	3,84	1,678	0	,0	0	0
Ikgaeenpogingdoenomdezelfgekozenactiviteittenminsteéénuurperwe	83	4,08	1,705	0	,0	0	0
Ikhebdeintentieomdezelfgekozenactiviteittenminsteéénuurperweek	83	4,16	1,763	0	,0	0	0
Ikherkendekwetsbaarhedenvaniemand	83	5,48	1,108	0	,0	6	0
Ikbenbehulpzaamnaaranderemensen	83	5,92	,799	0	,0	.	.
Ikbegindiscussiesmetanderen	83	4,43	1,450	0	,0	0	0
Ikvergeefanderemensenmakkelijk	83	4,53	1,451	0	,0	0	0
Normaalgesprokenvertrouwikanderemensenmakkelijk	83	4,76	1,376	0	,0	1	0
Ikkansomswatkoeltjesoverkomenenmedistantiërenvananderen	83	3,72	1,509	0	,0	0	0
Ikbenaardigenattentnaarbijnaiedereen	83	5,60	,896	0	,0	2	0
Ikkansomsonbeleefdzijnnaaranderemensen	83	2,81	1,254	0	,0	0	13
Ikkangoedmetanderemensenoverweg	83	5,72	,846	0	,0	1	0
WoontuinNederland	83			0	,0		
SpreektuNederlands	83			0	,0		
Watisuwleeftijd	83			0	,0		
Watisuwgeslacht	83			0	,0		
Watisuwhoogstgenotenopleiding	83			0	,0		

a. Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

Appendix G. Sample descriptives

Statistics

		Campaign_e een_tegen_ee nzaamheid	WoontuinNed erland Woont u in Nederland?	SpreektuNed erlands Spreekt u Nederlands?	Watisuwleeftij d Wat is uw leeftijd?	Watisuwgesl acht Wat is uw geslacht?	Watisuwhoog stgenotenopl eiding Wat is uw hoogst genoten opleiding?
N	Valid	83	83	83	83	83	83
	Missing	0	0	0	0	0	0
Mean		,51	1,01	1,00	3,17	1,65	5,70
Median		1,00	1,00	1,00	2,00	2,00	5,00
Mode		1	1	1	2	2	5
Std. Deviation		,503	,110	,000	1,545	,480	1,045
Skewness		-,025	9,110		1,114	-,643	-,284
Std. Error of Skewness		,264	,264	,264	,264	,264	,264
Kurtosis		-2,049	83,000		-,174	-1,626	-,287
Std. Error of Kurtosis		,523	,523	,523	,523	,523	,523
Minimum		0	1	1	2	1	3
Maximum		1	2	1	7	2	7

Campaign_een_tegen_eenzaamheid

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	41	49,4	49,4	49,4
	1	42	50,6	50,6	100,0
	Total	83	100,0	100,0	

Group 0 in the table above is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table above is the control group, who have seen the campaign without the rule of exchange

WoontuinNederland Woont u in Nederland?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	82	98,8	98,8	98,8
	2	1	1,2	1,2	100,0
	Total	83	100,0	100,0	

Woont u in Nederland group 1: the group who lives in The Netherlands

Woont u in Nederland group 2: the group that does not live in The Netherlands

SpreektuNederlands Spreekt u Nederlands?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	83	100,0	100,0	100,0

Spreekt u Nederlands group 1: the group that speaks Dutch.

Watisuwleeftijd Wat is uw leeftijd?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	42	50,6	50,6	50,6
	3	18	21,7	21,7	72,3
	4	5	6,0	6,0	78,3
	5	5	6,0	6,0	84,3
	6	11	13,3	13,3	97,6
	7	2	2,4	2,4	100,0
	Total	83	100,0	100,0	

Wat is uw leeftijd group 1: younger than 18 years

Wat is uw leeftijd group 2: 18-25 years

Wat is uw leeftijd group 3: 26-35 years

Wat is uw leeftijd group 4: 36-45 years

Wat is uw leeftijd group 5: 46- 55 years

Wat is uw leeftijd group 6: 56-65 years

Wat is uw leeftijd group 7: 66-75 years

Wat is uw leeftijd group 8: 76- 85 years

Wat is uw leeftijd group 9: Older than 85

Watisuwgeslacht Wat is uw geslacht?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	29	34,9	34,9	34,9
	2	54	65,1	65,1	100,0
	Total	83	100,0	100,0	

Wat is uw geslacht group 1: male

Wat is uw geslacht group 2: female

Watisuwhoogstgenotenopleiding Wat is uw hoogst genoten opleiding?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	3	3,6	3,6	3,6
	4	2	2,4	2,4	6,0
	5	37	44,6	44,6	50,6
	6	16	19,3	19,3	69,9
	7	25	30,1	30,1	100,0
	Total	83	100,0	100,0	

Wat is uw hoogst genoten opleiding group 1: no education

Wat is uw hoogst genoten opleiding group 2: elementary school

Wat is uw hoogst genoten opleiding group 3: high school

Wat is uw hoogst genoten opleiding group 4: middle-level vocational education (MBO)

Wat is uw hoogst genoten opleiding group 5: university of Applied Sciences (HBO)

Wat is uw hoogst genoten opleiding group 6: university Bachelor

Wat is uw hoogst genoten opleiding group 7: university Master

Wat is uw hoogst genoten opleiding group 8: PhD

Appendix H. Pre-test manipulation and credibility check

Group Statistics

	Groep	N	Mean	Std. Deviation	Std. Error Mean
Voordelen	0	8	5,38	,916	,324
	1	7	2,14	1,464	,553
Geloofwaardigheid	0	8	5,75	,463	,164
	1	7	5,00	1,528	,577

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Voordelen	Equal variances assumed	,638	,439	5,203	13	,000	3,232	,621	1,890	4,574
	Equal variances not assumed			5,041	9,828	,001	3,232	,641	1,800	4,664
Geloofwaardigheid	Equal variances assumed	5,469	,036	1,327	13	,207	,750	,565	-,471	1,971
	Equal variances not assumed			1,250	6,964	,252	,750	,600	-,670	2,170

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Appendix I. Main study manipulation and credibility check

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Dezecampagnelaatzienw elkevoordelenhetvoormijz elfheeft Deze campagne laat zien welke voordelen het voor mijzelf heeft	0	41	5,05	1,465	,229
	1	42	3,81	1,612	,249
Ikvinddezecampagnegelo ofwaardig Ik vind deze campagne geloofwaardig	0	41	5,41	1,378	,215
	1	42	5,67	1,074	,166

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dezecampagnelaatzienw elkevoordelenhetvoormijz elfheeft Deze campagne laat zien welke voordelen het voor mijzelf heeft	Equal variances assumed	4,324	,041	3,663	81	,000	1,239	,338	,566	1,912
	Equal variances not assumed			3,667	80,600	,000	1,239	,338	,567	1,912
Ikvinddezecampagnegelo ofwaardig Ik vind deze campagne geloofwaardig	Equal variances assumed	4,056	,047	-,931	81	,355	-,252	,271	-,791	,287
	Equal variances not assumed			-,928	75,593	,356	-,252	,272	-,793	,289

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Appendix J. Factor analysis

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,745
Bartlett's Test of Sphericity	Approx. Chi-Square	367,435
	df	36
	Sig.	,000

Communalities

	Initial	Extraction
Ikhebplannenomdezelfge kozenactiviteittenminsteé énuurperweekuit Ik heb plannen om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	,729	,732
Ikgaeenpogingdoenomd ezelfgekozenactiviteitten minsteéénuurperwe Ik ga een poging doen om de 'zelf gekozen activiteit' tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt.	,884	,948
Ikhebdeintentieomdezelfg ekozenactiviteittenminste éénuurperweek Ik heb de intentie om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	,863	,899
Ikvergeefanderemensen makkelijk Ik vergeef andere mensen makkelijk	,241	,150
Normaalgesprokenvertro uwikanderemensenmakk elijk Normaal gesproken vertrouw ik andere mensen makkelijk	,376	,462
Ikbenaardigenattentnaarb ijnaiedereen Ik ben aardig en attent naar bijna iedereen	,434	,542
Ikkangoedmetandereme nsenoverweg Ik kan goed met andere mensen overweg	,340	,360
REV_Ikkansomswatkoeltj esoverkomenenmedistan tierenvananderen REV	,340	,403
REV_Ikkansomsonbeleef dzijnnaaranderemensen REV	,194	,156

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,409	37,878	37,878	3,122	34,690	34,690	2,787	30,964	30,964
2	2,018	22,425	60,303	1,530	16,999	51,689	1,865	20,725	51,689
3	1,071	11,902	72,205						
4	,742	8,241	80,446						
5	,581	6,454	86,900						
6	,471	5,231	92,132						
7	,441	4,898	97,030						
8	,197	2,194	99,224						
9	,070	,776	100,000						

Extraction Method: Principal Axis Factoring.

Rotated Factor Matrix[a]

	Factor	
	1	2
Ikhebplannenomdezelfgekozenactiviteittenminsteéénuurperweekuit Ik heb plannen om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	,853	,067
Ikgaeenpogingdoenomdezelfgekozenactiviteitten minsteéénuurperwe Ik ga een poging doen om de 'zelf gekozen activiteit' tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt.	,972	,055
Ikhebdeintentieomdezelfgekozenactiviteittenminste éénuurperweek Ik heb de intentie om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	,942	,113
Ikvergeefanderemensen makkelijk Ik vergeef andere mensen makkelijk	-,061	,383
Normaalgesprokenvertrouwikanderemensenmakkelijk Normaal gesproken vertrouw ik andere mensen makkelijk	-,038	,679
Ikbenaardigenattentnaarbijnaiedereen Ik ben aardig en attent naar bijna iedereen	,330	,658
Ikkangoedmetanderemensenoverweg Ik kan goed met andere mensen overweg	,266	,538
REV_Ikkansomswatkoeltjesoverkomenenmedistantierenvananderen REV	,207	,600
REV_Ikkansomsonbeleefdzijnnaaranderemensen REV	-,010	,394

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Factor Correlation Matrix

Factor	1	2
1	1,000	,188
2	,188	1,000

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

Appendix K. Validity analysis
AVE

Calculation of AVE for factor 1: intention to change behavior

Items	Factor loadings	Factor loadings squared	Error	N	3
"Ik heb plannen om de zelf gekozen activiteit tenminste één keer uit te voeren met iemand die zich eenzaam voelt"	0,853	0,727609	0,272391	AVE	0,853252333
"Ik ga een poging doen om de zelf gekozen activiteit tenminste één keer uit te voeren met iemand die zich eenzaam voelt"	0,972	0,944784	0,055216		
"Ik heb de intentie om de zelf gekozen activiteit tenminste één keer uit te voeren met iemand die zich eenzaam voelt"	0,942	0,887364	0,112636		
TOTAL	**2,767**	**2,559757**	**0,440243**		

Calculation of AVE for factor 2: agreeableness

Item	Factor loadings	Factor loadings squared	Error	N	5
"Normaal gesproken vertrouw ik andere mensen makkelijk"	0,68	0,46	0,54	AVE	0,339737
"Ik ben aardig en attent naar bijna iedereen"	0,66	0,43	0,57	Composite reliability	
"Ik kan goed met andere mensen overweg"	0,54	0,29	0,71		
"REV ik kan soms wat koeltjes over komen en me distantiëren van anderen"	0,60	0,36	0,64		
"REV ik kan soms onbeleefd zijn naar andere mensen"	0,39	0,16	0,84		
TOTAL	**2,87**	**1,70**	**3,30**		

Discriminant validity

Calculation of discriminant validity for factor 1: intention to change behavior

	Factor correlation with factor 2	Factor correlation squared with factor 2	AVE-Factor correlation squared
Factor 1	0,188	0,035344	0,817908333

Calculation of discriminant validity for factor 2: agreeableness

	Factor correlation with factor 1	Factor correlation squared with factor 1	AVE-Factor correlation squared
Factor 2	0,188	0,035344	0,304393

Appendix L. Reliability analysis

Factor 1: intention to change behavior

Item "ik heb plannen om de zelf gekozen activiteit tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"

Item "ik ga een poging doen om de zelf gekozen activiteit tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"

Item "ik heb de intentie om de zelf gekozen activiteit tenminste 1 uur per week uit te voeren met iemand die zich eenzaam voelt"

Reliability Statistics

Cronbach's Alpha	N of Items
,948	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Ikhebplannenomdezelfgekozenactiviteittenminsteéénuurperweekuit Ik heb plannen om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	8,24	11,551	,845	,958
Ikgaeenpogingdoenomdezelfgekozenactiviteittenminsteéénuurperwe Ik ga een poging doen om de 'zelf gekozen activiteit' tenminste één uur per week met iemand uit te voeren die zich eenzaam voelt.	8,00	10,732	,928	,896
Ikhebdeintentieomdezelfgekozenactiviteittenminsteéénuurperweek Ik heb de intentie om de 'zelf gekozen activiteit' tenminste één uur per week uit te voeren met iemand die zich eenzaam voelt.	7,93	10,556	,902	,915

Factor 2: agreeableness

Item "normaal gesproken vertrouw ik andere mensen makkelijk"

Item "ik ben aardig en attent naar bijna iedereen"

Item "ik kan goed met andere mensen overweg"

Item "REV ik kan soms wat koeltjes over komen en me distantiëren van anderen"

Item "REV ik kan soms onbeleefd zijn naar andere mensen"

Reliability Statistics

Cronbach's Alpha	N of Items
,704	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Normaalgesprokenvertro uwikanderemensenmakk elijk Normaal gesproken vertrouw ik andere mensen makkelijk	20,7952	10,653	,453	,662
Ikbenaardigenattentnaarb ijnaiedereen Ik ben aardig en attent naar bijna iedereen	19,9518	12,193	,578	,627
Ikkangoedmetandereme nsenoverweg Ik kan goed met andere mensen overweg	19,8313	12,947	,485	,659
REV_Ikkansomswatkoeltj esoverkomenenmedistan tierenvananderen REV	21,2771	9,447	,528	,630
REV_Ikkansomsonbeleef dzijnnaaranderemensen REV	20,3614	11,868	,368	,694

Appendix M. ANOVA analysis
Assumption of normality

Statistics

		Campaign_e en_tegen_ee nzaamheid	Agreeablenes s	Intention
N	Valid	83	83	83
	Missing	0	0	0
Mean		,51	5,1108	4,0281
Median		1,00	5,2000	4,3333
Mode		1	5,00ᵃ	6,00
Std. Deviation		,503	,81525	1,63316
Skewness		-,025	-,454	-,335
Std. Error of Skewness		,264	,264	,264
Kurtosis		-2,049	,027	-,985
Std. Error of Kurtosis		,523	,523	,523
Minimum		0	3,00	1,00
Maximum		1	6,80	7,00

a. Multiple modes exist. The smallest value is shown

ANOVA analysis

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Descriptives

Intention

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean Lower Bound	95% Confidence Interval for Mean Upper Bound	Minimum	Maximum
0	41	3,7642	1,62659	,25403	3,2508	4,2776	1,00	6,33
1	42	4,2857	1,61727	,24955	3,7817	4,7897	1,00	7,00
Total	83	4,0281	1,63316	,17926	3,6715	4,3847	1,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Intention	Based on Mean	,064	1	81	,801
	Based on Median	,071	1	81	,791
	Based on Median and with adjusted df	,071	1	79,910	,791
	Based on trimmed mean	,084	1	81	,772

ANOVA

Intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5,642	1	5,642	2,145	,147
Within Groups	213,070	81	2,630		
Total	218,712	82			

Appendix N. ANCOVA analysis
Assumption of normality

Statistics

		Campaign_e en_tegen_ee nzaamheid	Agreeablenes s	Intention
N	Valid	83	83	83
	Missing	0	0	0
Mean		,51	5,1108	4,0281
Median		1,00	5,2000	4,3333
Mode		1	5,00ᵃ	6,00
Std. Deviation		,503	,81525	1,63316
Skewness		-,025	-,454	-,335
Std. Error of Skewness		,264	,264	,264
Kurtosis		-2,049	,027	-,985
Std. Error of Kurtosis		,523	,523	,523
Minimum		0	3,00	1,00
Maximum		1	6,80	7,00

a. Multiple modes exist. The smallest value is shown

Assumption of correlation between the covariate and dependent variable

Descriptive Statistics

	Mean	Std. Deviation	N
Agreeableness	5,1108	,81525	83
Intention	4,0281	1,63316	83

Correlations

		Agreeablenes s	Intention
Agreeableness	Pearson Correlation	1	,249*
	Sig. (2-tailed)		,023
	N	83	83
Intention	Pearson Correlation	,249*	1
	Sig. (2-tailed)	,023	
	N	83	83

*. Correlation is significant at the 0.05 level (2-tailed).

Assumption covariate and independent variable should be independent

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Group Statistics

	Campaign_een_tegen_e enzaamheid	N	Mean	Std. Deviation	Std. Error Mean
Agreeableness	0	41	5,0878	,95189	,14866
	1	42	5,1333	,66650	,10284

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Agreeableness	Equal variances assumed	6,038	,016	-,253	81	,801	-,04553	,18001	-,40370	,31264
	Equal variances not assumed			-,252	71,477	,802	-,04553	,18077	-,40593	,31487

Assumption homogeneity

Tests of Between-Subjects Effects

Dependent Variable: Intention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	19,278ᵃ	3	6,426	2,546	,062	,088
Intercept	3,222	1	3,222	1,276	,262	,016
Campaign_een_tegen_e enzaamheid	,183	1	,183	,072	,789	,001
Agreeableness	13,418	1	13,418	5,315	,024	,063
Campaign_een_tegen_e enzaamheid * Agreeableness	,596	1	,596	,236	,628	,003
Error	199,434	79	2,524			
Total	1565,444	83				
Corrected Total	218,712	82				

a. R Squared = .088 (Adjusted R Squared = .054)

ANCOVA analysis

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

Between-Subjects Factors

			N
Campaign_een_tegen_e enzaamheid	0		41
	1		42

Descriptive Statistics

Dependent Variable: Intention

Campaign_een_tegen_e enzaamheid	Mean	Std. Deviation	N
0	3,7642	1,62659	41
1	4,2857	1,61727	42
Total	4,0281	1,63316	83

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Intention

F	df1	df2	Sig.
,132	1	81	,717

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Agreeableness + Campaign_een_tegen_eenzaamheid

F Test for Heteroskedasticity[a,b,c]

F	df1	df2	Sig.
,095	1	81	,758

a. Dependent variable: Intention

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + Agreeableness + Campaign_een_tegen_eenzaamheid

Tests of Between-Subjects Effects

Dependent Variable: Intention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	18,683[a]	2	9,341	3,736	,028	,085
Intercept	4,725	1	4,725	1,890	,173	,023
Agreeableness	13,041	1	13,041	5,215	,025	,061
Campaign_een_tegen_e enzaamheid	5,166	1	5,166	2,066	,154	,025
Error	200,029	80	2,500			
Total	1565,444	83				
Corrected Total	218,712	82				

a. R Squared = ,085 (Adjusted R Squared = ,063)

Parameter Estimates

Dependent Variable: Intention

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound	Partial Eta Squared
Intercept	1,774	1,127	1,574	,119	-,468	4,016	,030
Agreeableness	,489	,214	2,284	,025	,063	,916	,061
[Campaign_een_tegen_e enzaamheid=0]	-,499	,347	-1,437	,154	-1,190	,192	,025
[Campaign_een_tegen_e enzaamheid=1]	0ª	.	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

Estimated Marginal Means

Campaign_een_tegen_eenzaamheid

Dependent Variable: Intention

Campaign_een_tegen_e enzaamheid	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
0	3,776ª	,247	3,284	4,267
1	4,275ª	,244	3,789	4,760

a. Covariates appearing in the model are evaluated at the following values: Agreeableness = 5,1108.

Group 0 in the table is the test group, who have seen the campaign with the rule of exchange

Group 1 in the table is the control group, who have seen the campaign without the rule of exchange

# Appendix O. Regression analysis main effect agreeableness

Assumptions skewness

Statistics

		Agreeableness	Intention
N	Valid	83	83
	Missing	0	0
Mean		5,1108	4,0281
Skewness		-,454	-,335
Std. Error of Skewness		,264	,264
Kurtosis		,027	-,985
Std. Error of Kurtosis		,523	,523

Assumption linearity

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	1,028	2,097		,490	,625		
	Agreeableness	,605	,409	,302	1,480	,143	,284	3,526
	POLY2_Agreeableness	-,168	,235	-,095	-,714	,478	,666	1,503
	POLY3_Agreeableness	-,086	,197	-,100	-,439	,662	,226	4,420

a. Dependent Variable: Intention

Assumption homoscedasticity

Scatterplot
Dependent Variable: Intention
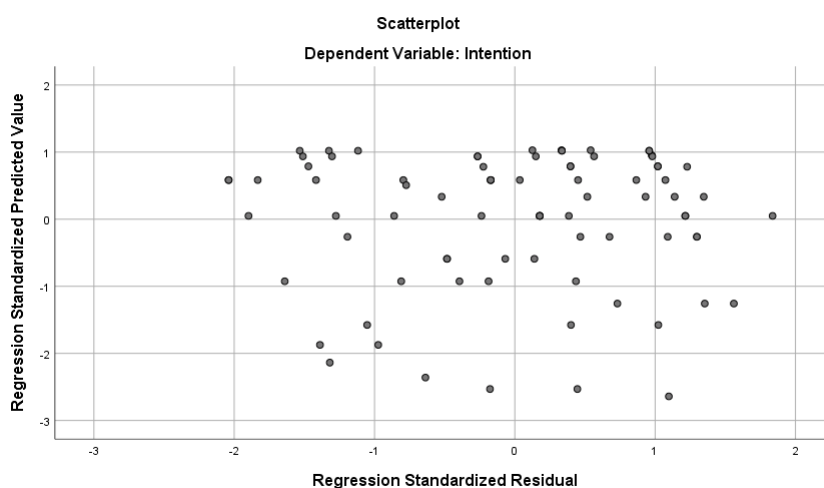
Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	,249[a]	,062	,050	1,59163	,062	5,336	1	81	,023

a. Predictors: (Constant), Agreeableness

b. Dependent Variable: Intention

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13,517	1	13,517	5,336	,023[b]
	Residual	205,196	81	2,533		
	Total	218,712	82			

a. Dependent Variable: Intention

b. Predictors: (Constant), Agreeableness

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	1,483	1,116		1,329	,188		
	Agreeableness	,498	,216	,249	2,310	,023	1,000	1,000

a. Dependent Variable: Intention