Radboud Universiteit Nijmegen

Altruism towards refugees and perceived interpersonal closeness

Experimental method

Bettina Nyeste
(s4239261)

Supervised by
Dr. Jana Vyrastekova

Second reader
Dr. Sascha Füllbrunn

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Abstract: We investigate the altruism towards refugees through laboratory experiments. We measure altruism by dictator games. We propose that the perceived intergroup and interpersonal closeness towards refugees can influence the degree of altruism. We find that people are as altruistic towards refugees as to their own compatriots – or even more. While we find some evidence of the relevance of perceived closeness to the refugees as an explanation for the degree of altruism, we do not find perceived intergroup closeness relevant to explain altruism. We also find that Social Dominance Orientation is highly and Unconditional Respect moderately correlated with altruism towards refugees.

Keywords: *Altruism, dictator game, refugees, perceived interpersonal closeness, perceived intergroup closeness, Social Dominance Orientation, Unconditional Respect*

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"Recognize yourself in he and she who are not like you and me."

— Carlos Fuentes

Introduction

Since the end of the Second World War, Europe is experiencing the most significant mass migration of refugees from Syria and the surrounding areas. (European Commission, 2016). Supporting these of refugees creates a significant burden on the budget of the European Union. *The EU has dedicated over €10 billion from the EU budget to dealing with the refugee crisis in 2015 and 2016"* (European Commission, 2016). Moreover, this issue carries other relevant social and economic implications that the national and European governments have to manage, like housing, employment, social unrest and discrimination against refugees and overall support to accommodate to help them integration into the society.

In order to prevent long-term unemployment and poverty among these fleeing people, their integration into our society is crucial. Integration can be considered a two-sided process: the refugees not only have to make significant effort to learn the language of the recipient country and search for connections to the local network to integrate, but also the *recipient society needs to be open to the arriving refugees*. Thus, one of main problems with integration is the openness of the recipient society, which is the core of this research.

One aspect in fostering integration of the refugees is openness of the recipient society towards refugees by seeing them as equal members of their own society. However, people behave differently with individuals who belong to their own group opposed to individuals who are considered out-group members (Tajfel 1971). People tend to act more generous towards people who they feel familiar with; their family members, their friends, their neighbours, simply with people who look similar to themselves or with who they are connected in any even arbitrary manner (Tajfel 1971).

The question is how connected can Dutch people feel to these refugees arriving in the Netherlands. Refugees can be easily regarded as out-group members from the perspective of Dutch individuals. This means that Dutch people might behave less altruistic towards refugees relative to Dutch people who belong to their own group.

In this research the Dutch attitude, in particular the degree of altruism towards refugees relative to their Dutch compatriot is investigated by laboratory experiments. In these experiments we question if people are more altruistic towards their in-group members; namely their Dutch compatriot relative to refugees living in the Netherlands. We measure

altruism by a dictator game, which was initially developed by Kahneman and his colleagues. (Kahneman et al. 1986). This game is one of the most widely-used methods in experimental economics as a tool measuring the degree of altruism.

In particular, we examine the altruism towards refugees by researching if the in-group / out-group view - from the perspective of the self - can contribute to the explanation for the degree of altruism towards refugees. We would like to see if the perceived interpersonal closeness could provide an explanation for the altruism towards refugees arriving in the Netherlands. We capture interpersonal closeness from three perspectives by applying the "*Overlap of self, in-group and out-group (OSIO) scale"* (Schubert and Otten, 2002). First, the perceived closeness of the Dutch society and the group of refugees living in the Netherlands is measured. Secondly, the participants are asked to indicate how close the feel to their own Dutch society members and lastly to the group of refugees in the Netherlands. These three measures are used to investigate if perceived interpersonal closeness can help to explain altruistic behaviour towards refugees - and towards Dutch people as well.

However, perceived relationships as well as the degree of altruism can be easily influenced. The general view about the society and people can have an effect on the perceived relationships and in turn our behavior. Thus, we also investigate the effect of unconditional respect (Lallje, et al., 2009) and social dominance orientation (Pratto, 1999) as an additional explanation factor influencing the perceived closeness and altruism.

This paper is structured as follows: in section 2, the theoretical background and previous findings are discussed, in section 3 the research question and the hypotheses of this research are introduced. In section 4, we turn to the extensive explanation of the experiment design and description of the process of the experiment. In section 5, we discuss the variables and show descriptive statistics in order to gain a deep understanding of the data used further in the statistical analyses. In the last section, we discuss the results, conclude and end with policy recommendations.

Theoretical background

In this section, the theory on which we build our experiment is discussed. In the introduction, we mentioned that the perception of groups can have an effect on our prosocial behaviour, in particular altruism – which is in the focus of our research. We first extensively discuss this in-group bias from an evolutionary perspective and then from an emotional or empathetic

viewpoint. From an evolutionary perspective, previous studies can explain why we are more altruistic towards kin-related people, but it is not capable to give an explanation for the fact that we also behave altruistic towards non-related individuals. For this reason, we also introduce empathy based altruism, which leads us to the discussion about the difference between impure and pure altruism.

Then, as we are interested in the relationship between the perceived interpersonal closeness and the extent of altruism towards the refugees as the out-group, we introduce the Overlap of self, in-group and out-group (OSIO) scale and extensively analyse its development and utilization.

Besides, perceived interpersonal closeness, there are other factors, which can influence the extent of altruism, namely Social Dominance Orientation and general respect towards others. Thus, these factors will be analysed as well.

Lastly, we turn to the explanation of the measure of altruism, as it is applied in our experiment. Altruism is measured by dictator games. We discuss some implication and factors which can influence the outcome.

In-group bias

Minimal Group Paradigm

Perception of group affiliation is a strong driver of behaviour. The mere awareness of belonging to a group results in decisions favouring members of the own group and negatively differentiates the out-group. This phenomenon is called in-group bias (Tajfel 1971). In-group bias has been widely researched in the past decades. Tajfel (1970) has developed the Minimal Group Paradigm method to show how easily discrimination can occur among different groups.

Tajfel's Minimal Group Paradigms was based on the preference for a Klee or Kandinsky picture. Participants were divided into groups depending on if they liked one or the other picture more. This division is highly arbitrary since the participants were not even informed about the artists of the shown pictures. After the division, they had to indicate how much monetary rewards they assign to a participant in their own group (person who liked the same picture) and to a participant in the other group (person who liked the other picture). Results show considerable in-group favouritism; participants contributing significantly more to their own group, namely to participants opting for the same picture. Tajfel's Minimal Group

Paradigms indicates that the in-group bias is so pervasive that it can be observed even in the absence of social interaction, when the group membership is randomly assigned.

Another, more real life experiment was conducted by Rand et al (2009). This experiment supports the existence of in-group bias, but it also points out the gender differences in biased intergroup behaviours. The experiment was conducted during the 2008 American Presidential Elections. Participants were asked to participate in a dictator game, where they had to divide $6 between themselves and a recipient, who was another participant in the experiment. The recipient stayed anonymous, only the candidate supported in the Democratic Primaries by the recipient was revealed. The results show that men were highly biased towards the in-group indicated by a significantly higher transfer to the recipient supporting the same candidate – especially further away from the Election Day. On the other hand, this in-group bias was not significantly present among woman dictators in any of the periods before the Election Day.

These experiments indicated that even arbitrary and meaningless attributions – like preference of Kandinsky's picture over Klee's or democratic presidential candidate – can trigger significant favourable distinction towards in group members.

Social Identity theory

There is an underlying process linked to group membership and in-group favouritism, known as the Social Identity theory developed by Tajfel (1979). The evaluation of an individual as in-group or out-group member is described as a three-step process. The first is categorization, when we identify others as well as ourselves with a category. In general, we apply some social categories like race, gender, nationality, etc., which can provide us with relevant comparable information. Likewise, we categorize ourselves and observe the behaviours of the others belonging to our group. Based on this observed dominating in-group behaviour, we perceive and internalize the norms of our own group. The second step is the social identification. In other words, we adapt to the in-group and start to behave according to the observed norms. This identification has a relevance regarding emotions and self-esteem since they will be closely associated with group affiliation. The last step in this process is the social comparison, when we compare our group with the other groups and start to focus on the observed differences.

Ellemers, et al. (1999) interpreted this process slightly differently. He divided the components of social identity into three parts. The first component is the cognitive component, when we recognize the self as a member of a category. In this stage, we observe the similarities in our

characteristics and the attributes of this category and realize the belongingness based on the recognized resemblances. The second component is the evaluative component, when we assess the values of that group and internalize them. Lastly, we have the affective component including the emotional relevance of the group, when we become attached. Thus, social identity is not only a matter of categories and values it represents but also the matter of feeling towards the group.

Evolutionary perspective

In order to preserve positive emotions and self-esteem, the in-group members tend to perceive themselves superior to the out-group. One way to maintain a positive social identity is driven by "*social competition strategy",* which *"involves intergroup bias"* (Everett, et al., 2015, p. 3). This inter group competition and intergroup bias can be traced back to our early ancestors. From an evolutionary perspective, some explanations can be provided for the understanding of the deep roots of group biases.

Cognitive short-cuts for survival

From evolutionary perspective, it can be highly beneficial to use heuristics, which can be understood as cognitive shortcuts. They can help to categorize people into groups, without high cognitive efforts. When people are faced with complex situations and incomplete information, it is highly beneficial to rely on these short-cuts, which provide simple guidance to solve the problems and situations without high effort. In these complex social situations, *"humans must be equipped biologically to function effectively in many social situations without excessive reliance on cognitive processes"* (Everett, et al., 2015, p. 3). This means that people evolutionarily develop intuitive responses in order to be able to react quickly instead of energy and time-consuming cost-benefit analyses. This can lead to application of the heuristics approach (Everett, et al., 2015). This was especially useful from an evolutionary perspective, when our ancestors had to quickly recognize out-group members as a potential danger and threat to their chance of survival. Relying on shortcuts to categorize people based on some easily observable clues could help them evaluate who is a danger as an out-group member and who is an ally as an in-group member for survival.

It is argued that intergroup biases develop due to group-living motivations for survival (Mahajan, et al., 2011). Due to the scarcity, humans had to fight for resources in order to survive, leading to rivalries among groups. Most species, including humans, have a desire to belong to a group. Group life can provide protection from out-group members by recognizing

potential threats and working together to fight against the competitor for scarce resources. (Ben-Ner, et al., 2009). Therefore, it was crucial to see individuals as a member of either their own genetically related group or a rival, dangerous group. This simple differentiation between "us" and "them" enhanced the chance of survival of the self by staying protected from rival groups.

This can also explain why our brains automatically evaluate in-group as positive and out-group as negative from an evolutionary perspective (Mahajan, et al., 2011). Such an evolutionary process to rely on groups for survival generates an in-group biased perception, where the in-group is regarded in a positive light.

It is clear that these processes were extremely useful in the old times in order to prevent danger and enhance the chance of survival. Even today, they can be beneficial since they help to reduce the complexity in our social world, which can be hard to fully oversee without applying these automatic social processes. Especially regarding the fact that we are becoming more and more mobile not only geographically but in our social network as well. It means that we meet and interact with more and more people every day. There is little time to consider all the information given about the individuals we interact with day to day. It means that cognitive shortcuts to categorize people can help us to better handle all the modern day interactions.

However, it can have some disadvantageous consequences nowadays as well: people have the tendency for giving preference for the in-group without considering relevant information, which can lead to an unjustified refusal of out-group members. This can easily lead to discrimination in several fields of our life.

Theory of kin selection

Besides, using heuristics, kin selection theory provides other explanations for the evolvement of group biases. In order to enhance the chance of survival, human priority is to promote *"the reproductive success of genetically related individuals"* (Cornelissen, et. al, 2007, p. 5). However, since genetic relatedness is hard to trace directly, we are forced to rely on easily observable signals and cues, which can suggest shared gene pool (Krebs, 1991). We primarily rely on families and kinship, but in a broader sense, we search for similarities to the self as a suggestive cue for relatedness. This implies that we are more cooperative with individuals who are genetically related or similar to ourselves and more competitive with the dissimilar ones.

Thus, intergroup conflicts can be defined as *"the readiness to benefit the in-group (in-group love) and to harm the out-group (out-group hate)"* (Dorrough et al. 2015, p. 11). We can observe in several cases that individuals are ready to benefit the in-group even at their own cost, which implies altruistic behaviour. "*Altruism is a form of behaviour that benefits other individuals at the expense of the one that performs the action; the fitness of the altruist is diminished by its behaviour"* (Encyclopaedia Britannica, 2009).

Individuals that behave altruistically (self-sacrificial) can increase the chance of survival of the related genes. This is the theory of kin selection, where altruism is a mean for inclusive fitness. This theory was developed by Hamilton (1964). Hamilton's rule provides profound explanations for this altruistic behaviour. According to this rule, altruism is evolving when there is a high relatedness and benefit for the recipient as well as low cost for the giver. This is expressed with a simple formula of $rb–c>0$. Here, r refers to the genetic relatedness, b is the benefit for the recipient and c is the cost for the giver. If it is possible, we are continuously searching for a high level of *relatedness* (*r),* since that leads to the highest gain as a compensation for the cost for the self. This rule helps us explain altruism in the case when the in-group is genetically related. However, genetic relatedness cannot give us enough explanation for why we also behave altruistic with other who are not sharing the same gene pools. This will be discussed on the next section.

Altruism

The effect of perceived relatedness

Several studies found that this relatedness has a significant effect on interpersonal interactions and behaviours. For instance, Barber (1994) showed that *Machiavellianism* – deceiving people in order to benefit the self - was more frequent in case of general people relative to family members. Moreover, he also proved that *helping attitude* decreases with the increasing distance of relatedness even for the own cost indicating a higher level of altruism (Barber, 1994).

It is found that actual relatedness and perceived relatedness are linked to each other. Post et al (2012) argues that actual relatedness and perceived relatedness are significantly and positively related. Perceived relatedness however is not exclusively driven by actual relatedness by kinship, but familiarity is also found to be an influencing factor. We perceive people, who are related to us closer, like kin or friends relative to non-relatives or strangers (Hinde, 2008).

Like actual relatedness, perceived relatedness can also affect the degree in which individuals tend to have a positive behaviour towards others. If we perceive closeness to others based on familiarity or some easily observable characteristics, we tend to behave more altruistic than when we perceive someone distant from ourselves. (Krebs, 1991). This implies that altruism is not necessarily driven by genetic relatedness explained by kin-selection altruism, but other factors can influence as well, like perception, familiarity or empathy, which is discussed below.

Empathy

The theory of kin-selection, as it was mentioned before, cannot give an explanation why people also behave altruistic towards non-related people. Therefore, beside the kin closeness, we have to consider psychological closeness as well, providing us an empathy-based altruism theory. This theory can explain that we are willing to be altruistic with non-kin related individuals, because it is not driven by related genes but by human emotion empathy. This empathy can primarily motivate altruistic behaviour even towards non-related individuals, since it is driven by feelings towards others not by direct relatedness. Batson et al (1981) explain kin-selection from a perspective of self-sacrifice while, empathy altruism as a means to increase the welfare of the others regardless what we can gain from it. People help not out of self-interest. Empathy altruism is driven by the pleasure of helping other people's reliefs. However, he also found that there is no immediate effect of empathy on altruism. People might feel empathy but refuse to help.

Impure / pure altruism

Besides empathy, we could encounter different motives for being altruistic like strategic decision in an expectation for reciprocity, avoidance of public shame/sanctions or it can be a sign of internal values. In these cases, we encounter some form of impure altruism. It means that, people can act *not* selfish in order to feel pride or avoid public or even personal shame. One of the most observed actions, where these factors can play a significant role, is donating to charities. Becker (I974) explained this behaviour by fear of scorn, or desire for public acclaim. Thus, this impure altruism mostly driven by internal forces and psychological factors in order to avoid negative perception or to appear in a positive light for the self or for the public. It was found that individuals who engage in charitable activities, can increase their utilities even if the donation is neither publicly observable nor can increase the welfare of the recipient (Saito, 2013) This means that we do not even need the public pride to donate, but the

internal pride can work similarly efficient. Such a form of altruism is defined as the pure type of altruism. In the case of pure altruism *self-interest motives are completely absent and there is absolutely no gain for the self* (Stanford Encyclopedia of Philosophy, 2016).

However, it is highly questioned by researchers if pure altruism can exist. It might be explained by the previously discussed empathy-based altruism, which focuses on the raise of the welfare of others and not on indirect self-benefit. Thus, besides beliefs about reciprocity, empathy is also found to be an influencing factor shaping our social behaviour. Perception of people in need evokes empathy, which is found to enhance altruistic motivations and foster general prosocial responses (Everett, et al., 2015).

Internal values

Moreover, internal values play a significant role. Doluca et al. (2016) investigate the relevance of subjective internal values in altruistic behaviour. They find that personal values highly matter and solidarity was found the greatest driver of altruism.

Tao and Au (2014) investigate how activating these subjective values of the individuals can influence social behaviour like altruism. *"Values are conceptually distinct from other constructs such as attitudes or preferences, by virtue of being general, abstract, and cross-situational… values are generalized beliefs or principles (e.g. valuing honesty or equality) which can be applied across a number of situations, even ones that have never been encountered before"* (Tao and Au, 2014, p. 48). Besides activating the values, the self-concept can be also activated. It is researched, how making oneself salient can affect other regarding behaviours. It is argued that if the self is activated, it will result in salient values as well since the internalized values are part of the self.

Thus, making oneself salient will automatically activate the values, which can lead to a behaviour change. This behaviour is consistent with the subjective internalized values and not necessarily with self-interest. Thus, when we consider Homo sociologicus rather than Homo economicus, we do not deal with an instantly selfish actor but an actor who is led by values and norms internalized from the social environment.

The values are argued to be general principles like honesty and desire for equality. These values are context independent thus we are able apply them even if we have never been encountered in a particular situation where the values needed to be applied (Tao and Au, 2014).

Values like aiming for equality and low social dominance were considered in other studies as well as an influencing factor on our behavior. People who have a desire for equality were found to behave more altruistic in general as well in order to support overall increase in welfare of each groups in the society. Pratto (1999) argues that altruism is effected by the Social Dominance Orientation (SDO) (Pratto, 1999). He defines SDO as "*general psychological motivation towards group dominance*" (Pratto, 1999, p. 205) He found that people *"who are empathic and generally concerned about others, regardless of the others' group membership…,"* (Pratto, 1999, p. 209) are statistically more altruistic.

Besides desire for equality, respect towards others is also found to be a relevant influencing factor in our behavior towards others, including altruism. It is argued that "*respecting people involves … paying thoughtful consideration to their views, as well as not harming them physically or psychologically. On this basis it is expected that those who are more orientated toward respecting others to be more likely to perform positive actions toward them*" (Lallje, et al., 2009 p. 667). In their paper, they discuss the role of unconditional respect for persons in intergroup relations. They show through experiments that unconditional respect has a significant positive effect on our behavior towards others. If we believe in the principle of fundamental equality and respect others unconditionally, we can more easily form a positive attitude towards out-groups (Laham et al., 2009).

Interpersonal closeness

IOS scale

As it was discussed, perceived relatedness and values can significantly influence other-regarding behaviours, like altruism. In our research, we investigate the effect of such perceived relationships by observing the perceived interpersonal closeness. Interpersonal closeness is a highly subjective concept, which is hard to measure directly. Aron et al. (1992) developed a graphical measure of interpersonal closeness building on the spatial metaphors of social relatedness. They set up the Inclusion of Other in Self (IOS) scale (Figure 1). This pictorial measure, which is built up as a seven-item scale, containing two circles. One circle represents the *self* and the *other* circle is the other. On the beginning of the scale, the circles are barely touching each other, then they are increasingly overlapping and at the end of the scale, the circles are becoming as one. Subjects are asked to select the pair of circles that is the most representative for his/her relationship with the *other*. Thus, they have to pick the one of the seven localizations of the two circles depending on how *close* they feel to the *other*.

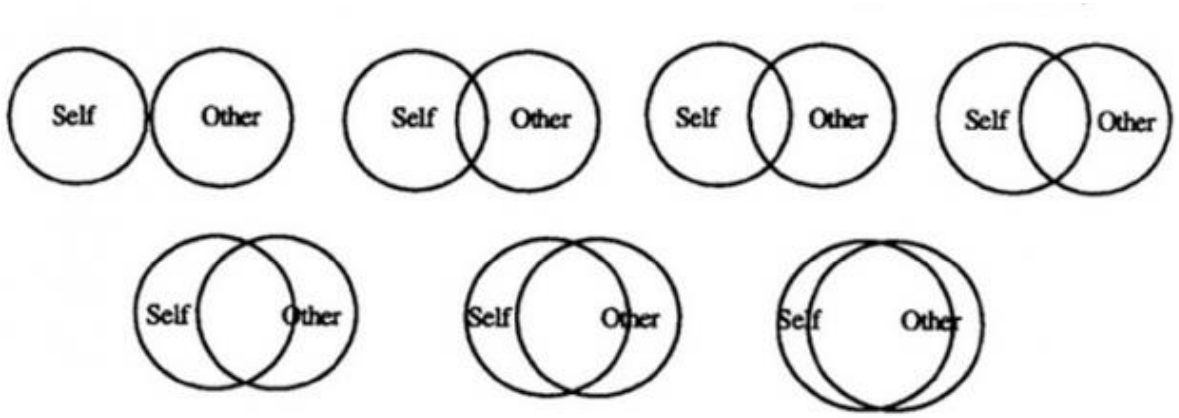


Figure 1 - the Inclusion of Other in Self (IOS) scale

This measure is widely accepted by the literature due to several positive attributes. Firstly, it is easily comprehendible as the interpersonal closeness is spatially and visually represented by the circles. Secondly, it is also found to be highly correlated with other scales measuring relationship closeness. Besides the fact that it is easily comprehensible, it is significantly intuitive and simple to administer (Gachter, et al., 2015).

It is also found to be highly correlated with both *feeling close* and *behaving close* based on romantic relationship measures. Subjects were asked to complete the IOS measure regarding their partners. Three months later, they were asked to report if they had stayed together and to fill out the IOS test again. The first IOS test could significantly predict if the couples stayed together after three month based on the reported closeness to their partners (Aron and Fraley, 1999). Moreover, IOS scale was also highly correlated with cognitive measure of relational closeness in the same study. First, 90 traits were listed to rate their applicability to the self and then for the spouse separately. Then, they applied a reaction time paradigm, as a cognitive measure of closeness. Participants were asked to record as quickly as possible if the traits are *applicable to the self* or *not applicable to the self*. The reaction time was significantly lower when the traits could be attributed to both of the spouse relative to the situation when the trait was only true for the self. The greater reaction time is explained by the fact that when we evaluate if the trait is true to the self, we also need time to consider if it is true for the spouse because the spouse is part of the self. When a trait is not applicable to both of them, then confusion arises since there is a contradiction between the self and the other who is *inside* the self.

In addition, it is closely related to other scales, like Index of Relationship Closeness[1] (IRC) as well as highly correlated with for example the Loving and Liking Scale[2], or PAM scale[3] (Gachter, et al., 2015). All in all, IOS scale is regarded as a considerably reliable instrument to measure interpersonal closeness, which involves the benefits of simplicity, portability and comprehensibility.

However, the IOS scale is incapable of incorporating in-group and out-group aspects, which is highly relevant in our research, since we are interested in the presence of altruism towards in-groups/out-group and its behavioural mechanism. Therefore, we rather utilize the upgraded IOS scale, developed by Schubert and Otten (2002), where in/out-group considerations are also involved. This measure is built upon the Inclusion of In-group in the Self (besides the IOS scale).

IIS Scale

Inclusion of In-group in the Self (IIS) scale is developed by Coats et al. (2000), where one circle represents the *self* and the other one is the *in-group*. By this measure, we can observe the degree in which the in-group is included in the self. This measure is based on three important elements of social psychology. First is the previously discussed social identity theory pointing that we perceive ourselves as part of different social groups, which builds up our self-concept. The second is the self-categorization theory (SCT). "*SCT is a theory of the nature of the self that recognizes that perceivers are both individuals and group member, explains how and when people will define themselves as individual and group entities and its implications, and examines the impact of this variability in self perception ('I' to 'we') for understandings of mind and behaviour"* (Turner & Reynolds, 2016, p. 1).

It is also argued that the identification with the group affects behaviour (Tropp and Wright, 2001). It is found that people with high identification act less individualistic, stay committed to the group, feel close to the members and try to benefit them. In addition, they are concerned about the treatment of the in-group relative to the out-group (Tropp and Wright, 2001). When people perceive the self as a member of the group, the in-group represents a part of the self and the attributes of the in-group are internalized to the self. However, the degree

1 Gächter, S., Starmer, C., & Tufano, F. (2015). Measuring the closeness of relationships: a comprehensive evaluation of the'Inclusion of the Other in the Self'scale. PloS one, 10(6), e0129478.

2 Rubin, Z. (1970). Measurement of romantic love. Journal of Personality and Scoail Psychology, 16:265-273.

3 Starzyk KB, Holden RR, Fabrigar LR, MacDonald TK (2006) The personal acquaintance measure: A tool for appraising one's acquaintance with any person. Journal of Personality and Social Psychology 90: 833–847. pmid:16737376

in which the in-group is included in the self can depend on the situational and social context, the salience of the group and the other identities (Tropp and Wright, 2001).

This degree can be measured by the IIS scale, similarly to IOS scale (Figure 2).

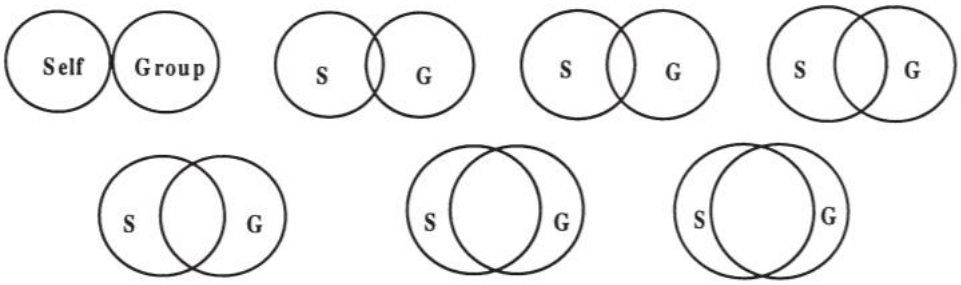


Figure 2 - Inclusion of In-group in the Self (IIS) scale

The way, in which the interconnectedness between the self and the in-group can be captured by the IIS scale, we can measure the interconnectedness between the self and the out-group as well as the perceived interconnectedness between the in-group and the out-group. When we observe all these relationship, we can obtain a more comprehensive and complete picture about the intergroup level of self-categorization.

OSIO scale

We need to take into consideration not only the inclusion of the in-group based on intragroup differences but also the intergroup variances by asking for the perceived disparities between the in-group and the out-group. For instance, the meaning of the self-intergroup overlap can be significantly different depending on the in-group-out-group overlap. Therefore, it is necessary to investigate three relations: *"the inclusion of the self in the in-group, the inclusion of the self in the out-group, and the overlap of in-group and out-group at the superordinate level"* (Schubert and Otten, 2002, p. 355).

In this case, we obtain a three-item seven-scale measure, called Overlap of self, in-group and out-group (OSIO) scale (Figure 3). This measure was originally developed by Schubert & Otten (2002). As they explain, the relationships between the self and the groups are measured by these graphical items. This measure is built up from three separate graphical items: *Overlap of in-group and out-group, Inclusion of self in the in-group* and *Inclusion of self in the out-group.* This OSIO scale is implemented in our study in order to measure intergroup and interpersonal closeness.

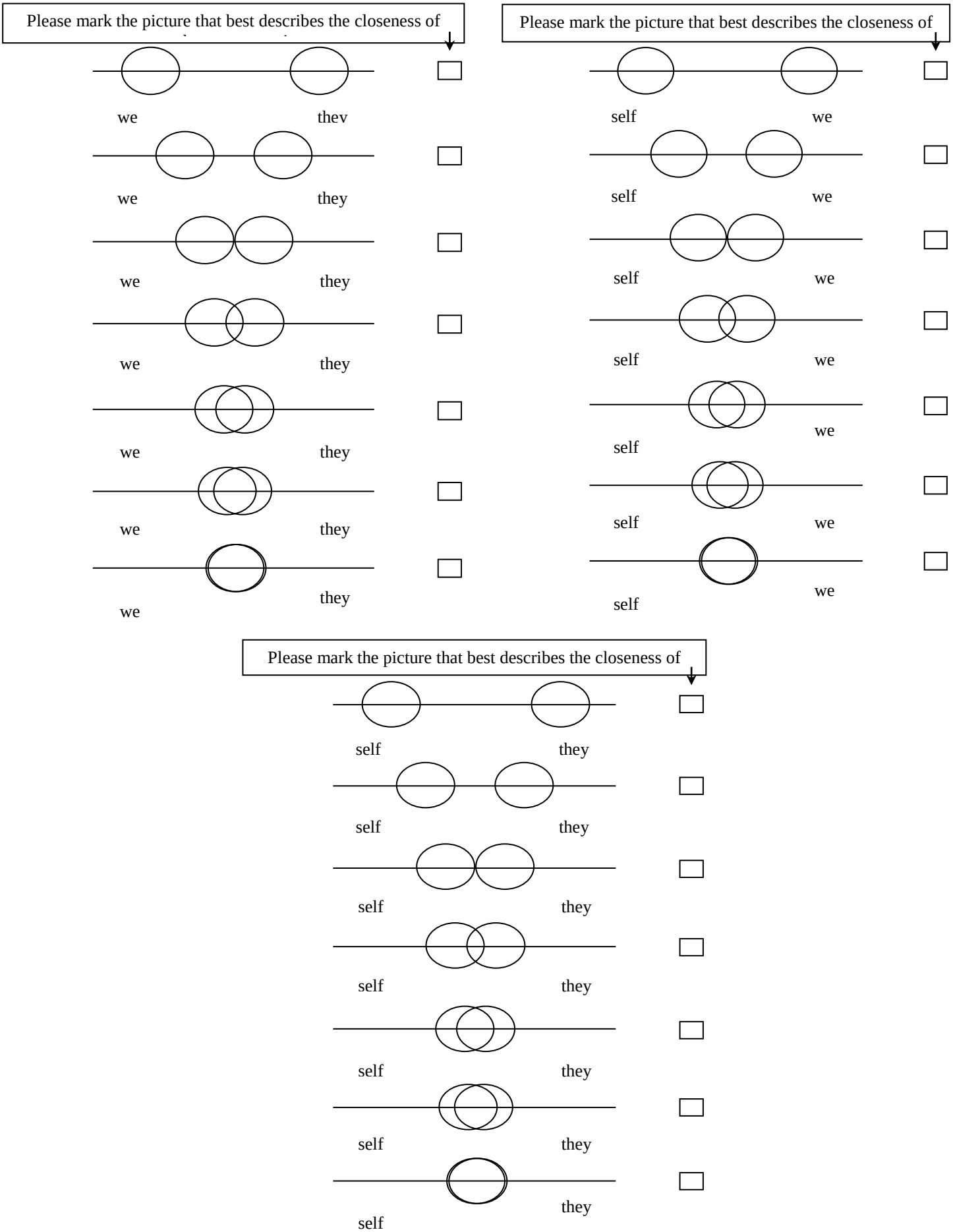


Figure 3 - Overlap of self, in-group and out-group (OSIO) scale

This measure enables us to capture the intergroup relationship of the self and observe the *"subjective perception of the self in the intergroup situation"* (Schubert and Otten, 2002, p. 355). The first item measures how close the person perceives the two investigated groups to each other. The circles represent the two groups respectively. The closer the circles are to each other the closer the relationship. Thus, the perception of relationship is graphically represented by the closeness of the circles. Similarly, the second item measures the perceived relationship between the person and their in-group. It measures how much the person feels integrated into his own in-group. The closer the circle of the self is to the "we" circle, the closer the relationship is perceived by the person. Lastly, the third item looks at the perceived closeness of the self to the out-group in the same manner.

Influencing interpersonal closeness

As we mentioned before, this subjective perception can be different based on social and situational context as well as we can use different identification depending on which group context is relevant. In the literature, there are several factors discussed, which can have an influence on the perceived interpersonal closeness measured by the previously discussed measures. Schubert and Otten (2002) found that the perceived closeness measure was mainly interpreted as *"belonging and being a part of the group; identification, similarity, positive affect towards the group, and typicality"* (Schubert and Otten, 2002, p. 367). Thus, we can expect higher self – group overlap in case people feel as a member of the group, find more similarity for example in lifestyle and daily activities (Cornelissen et al., 2007), in case of genetic relationship/ kinship (Cornelissen, et al., 2007) or when people have positive emotions towards the group (Laham et al., 2009).

Emotions can have an interesting mechanism driving interpersonal closeness. Relying on Intergroup Emotion Theory, [4] intergroup emotions are produced by cognitive dimensions, most importantly by uncertainty concerning the out-group. This uncertainty - when we are only in the possession of incomplete and/or imperfect information about the group members - can trigger negative emotion responses like fear. These negative feelings can easily lead to alienation and avoidance of the people surrounded by uncertainty (Laham et al., 2009). In other words, when we are not certain about the intentions and social representation of a group, negative emotional responses are created in order to avoid the danger of uncertainty in a similar manner as it was discussed from an evolutionary perspective.

4 Liu, F., & Zuo, B. (2010). Intergroup emotions theory and the researches. Advances in Psychological Science, 18(6), 940-947.

The perceived social context is also found to have a significant effect on the degree of circles overlaps in the OSIO scale as the measure of the interpersonal closeness. The ties and interaction between the two groups determines the closeness of the self to both the in-group and the out-group. In situations, when the two groups have a common goal, self-in-group overlap highly correlated with the self-out-group overlap. However, when groups have a conflicting target, this pattern disappears. Thus, if the relationship of the two groups is perceived as conflicting there is a high correlation between the self-out-group overlap and the in-group - out-group overlap. It means that in non-cooperative situations the connection to the groups are independent from each other and there is no correlation (Schubert and Otten, 2002). This pattern can be further strengthened when the conflicting goals are involving claims for limited resources and groups are required to complete in order to acquire these scarce resources (Sherif, 1961).

Social outcomes of the perceived interpersonal closeness

One of the most striking consequence of the perceived relation of the self and the group is the in-group favouritism or in-group–out-group bias, favouring the members from the own group over the out-group members. In case of high in-group affiliation indicated by high self-in-group overlap people behave more cooperative in prisoner dilemma game relative when they played with out-group members who were indicated far from the self (Dorrough, et al., 2015). Thus, we tend to behave more cooperatively when we consider the partners as part of "*us*" than when they are seen as others ("*them*").

Social Value Orientation

This phenomenon has several social implications. For instance, our Social Value Orientation (SVO) is highly determined by the perceived interpersonal closeness. SVO measures the "*magnitude of the concern that people have for others*" (Murphy et al., 2011, p. 771). SVO investigates how much weight individuals attributes to the well-being of the others. People have different preferences regarding resource allocation between the self and the others. Experiments show that subjects opt for a fairer resource allocation when they feel closer and they give more to someone who is assumed to be familiar than to strangers (Cornelissen et al., 2007). This voluntary transfer from the given resources and concern about the others welfare is referring to altruistic behaviour. Ben-Ner et al. (2009) measured altruism by playing dictator games, when participants can transfer any amount to a receiver from a given endowment. They observed high in-group / out-group differences regarding the amount

transferred. Dictators tend to transfer significantly more to people who are perceived close (in-group members) relative to distant receivers (out-group members). Hoffman et al. (1996) suggest a similar outcome, stating that increasing social isolation decreases the amount transferred by the dictator.

Dictators game as a measure of altruism

The above-mentioned Dictator game is widely used to measure altruism in different contexts. This experimental game is designed to observe standard economic assumption of selfishness. One participant is endowed with a certain amount, who is representing the "dictator". The dictator can decide how much of the given endowment he would like to keep and how much he would like to transfer to another or to multiple participants in the experiment. Based on standard economics assumptions, people act from pure self-interest, meaning that they are expected to keep the whole endowment. However, we usually experience different outcomes. Participants are willing to voluntarily transfer some or even the whole endowment to their recipients.

In fact, the amount transferred to the recipient can be highly influenced by the framing of the game as well as by the information available about the recipient. It is needless to say that one of the most important factors which can potentially influence the amount transferred is the identity of the receiver as it was discussed before. If participants are told that they are transferring their endowment to a close friend, there is a significantly higher transfer relative to a stranger receiver who is perceived more distant (Chen et al., 2013).

Moreover, Erckel and Grossman (1996) also found that *deservingness* plays a significant role in determining the amount participants are willing to transfer in a dictator game. When the recipient is perceived needy or poor who deserve our goodwill, there is a significantly higher transfer relative to the situation when the recipient is similar to the self. They administered a high level of donation when the recipient is a charity or people who deserves generosity in any sense. Even though deserving recipients are donated a higher amount, there is another framing issue that can change the outcome. Erckel and Grossman (1995, p. 185) warn us that the "*individual/organization characteristic of the recipient might affect the results."* Therefore, if subjects believe that a certain fraction of their donation is "wasted" on administration cost and other use and not reaching the *deserved* recipient, there is a smaller donation. People are more willing to do a transfer to a selected person from the organization who *deserves* rather than to the whole organization.

It was also found that the number of recipient does not significantly influence the total amount distributed. The total gift is the same when it is sent to only one recipient or to multiple recipients. The amount kept by the dictator is the main driving factor in decision-making and not the individual amount received by the dictator. This is called the '*fixed total sacrifice effect'* (Selten and Ockenfels, 1998). On the other hand, for example Engel (2011) argues for the opposite. "*If there is another recipient, both receive substantially more"* (Engel, 2011, p. 13).

Research question and hypothesis

Research question

In this research, we investigate how interpersonal closeness and in-group bias can affect altruism towards charities providing help to at risk youth in the Netherlands. These charities differ only on the aspect of origin of the youth: Dutch nationals versus refugees. We examine the perceived interpersonal closeness of Dutch people to the arriving refugees as well as to their Dutch compatriots, which we use as one possible explanation for the altruism. In the context of the Netherlands, refugees can be considered an out-group and the Dutch society an in-group for a Dutch individual.

In order to measure the level of altruism in relation to this perceived closeness we run laboratory experiments. By our experiment, we aim to investigate the attitudes of Dutch people towards refugees living in the Netherlands. Thus, our main question is: *how the perceived interpersonal closeness explains altruism towards Dutch as in-group members and refugees as out-group members?*

Hypotheses

In order to answer this question, we have four hypotheses:

1. *There is a general higher level of altruism towards Dutch recipients due to in-group bias.*

It is expected that people are more altruistic towards their own nationality since they are considered as in-group. People can feel closer to their own nationality, which can be one of the main factors of the process of categorization. This means that they are willing to transfer more money to Dutch compatriots in the dictator game relative to the refugees. Dutch people

can feel less genetically and socially related to refugees. This could result in less altruistic behaviour towards them.

2. *is positively affected by the perceived closeness of the in-group and out-group.*

There are different degrees of sense of closeness towards refugees as the out-group. Since, they are also living in the Netherlands, it might be the case that some people consider them an equal part of the Dutch society while others view them as outsiders. When participants feel the refugees are more integrated into the Dutch society, we expect a more altruistic behaviour towards refugees and a higher amount to be transferred to them

3. *Altruism towards the out-group is positively affected by the perceived closeness of the self and the out-group*

Moreover, it can be also the case that the person himself feels closer to the refugees. When participants feel themselves closer to the out-group, we expect a more altruistic behaviour towards refugees as well, which is indicated by a higher amount transferred.

4. *Altruism towards the out-group is positively affected by Social Dominance Orientation and Unconditional Respect measures.*

Regardless of the origin of the group of people, individuals tend to be more altruistic if they see people equal in the society and respect them without any preconditions. If the refugees are considered equal in the society and they are both equally respected within the society, we tend to behave more prosocial and help them.

Conceptual model

In figure 4, the conceptual model is displayed based on the theories and the hypotheses discussed. Based on this conceptual model, we set up our experiment.

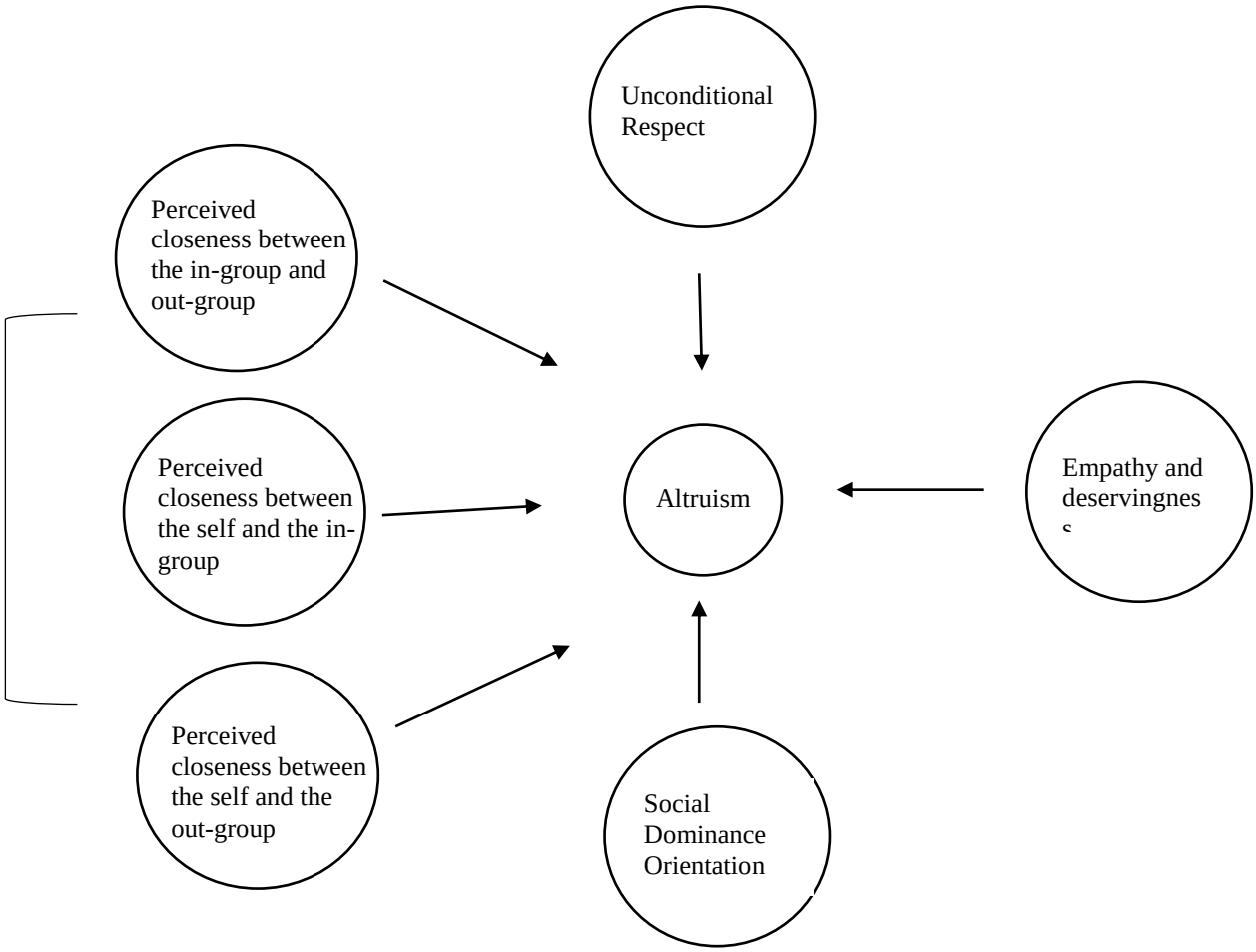


Figure 4 – Conceptual model

In the conceptual model, perceived closeness between the in-group and out-group, between the self and the in-group, and between the self and the out-group can influence the level of altruism. In our experiment, therefore, we employ the OSIO scale of Schubert & Otten (2002) to capture these perceived relationships. In particular, we investigate the perceived relationship between the Dutch as the in-group and the refugees as the out-group, the perceived relationship between the self and the Dutch youth, and the perceived relationship between the self and the group of young refugees. Then, we examine the extent of influence of these measures on altruism.

In our model, the level of altruism can also be effected by two other factors, namely Social Dominance Orientation (SDO) and Unconditional Respect (UR). As it was discussed before, people who have a desire for an equal society and respect others without any preconditions tend to care more about others and in turn behave more altruistically. Therefore, in our experiment we also incorporate items measuring the extent of Social Dominance Orientation and Unconditional Respect.

Lastly, as we discussed before, empathy towards people and the feeling of deservingness can also influence the degree of altruism. In our experiment, we do not directly measure empathy towards others and deservingness. However, we implicitly assume that people have empathy towards refugees since they are in need of help and deserve our goodwill and generosity due to their highly disadvantageous situation.

In our experiment, this altruism is intended to be measured by the amount of transfer in the dictator game – which is extensively discussed in the next section. We examine how the outcome of the dictator game can be influenced by the measures pointing towards altruism in our conceptual model.

Experiment

Treatment

In this experiment, we have three treatments. However, the first treatment is considered a control. In each treatment, the participants are asked to play a dictator game with an endowment of 11 euros. In the first treatment, dictators have to decide how much they want to give to a Dutch charity from their endowment and how much they want to keep for themselves. This charity is the Foundation CredoHuis, which supports homeless Dutch youth around 18-24 years of age. The second treatment is parallel to the control treatment when they transfer to a refugee charity instead of a Dutch charity. The refugee charity is the Foundation Jongerenhuis, which helps homeless refugee youth around 18-24 years of age. These foundations have the same aim, namely to support homeless youth, with the only difference being the origin of the target groups of their work. Since they have the same aim, comparing these two treatments, we can see how much more the participants are willing to contribute to the Dutch charity as it is assumed by the first hypothesis. The participants under the last treatment are asked to allocate their endowment between two recipients. They simultaneously

have to decide how much they would like to transfer to the Dutch charity and how much to the refugee charity from their 11-euro endowment (Table 1).

Treatments	Intervention
Treatment 1 (Dutch)	Dictator game: Dutch charity recipient
Treatment 2 (Refugee)	Dictator game: Refugee charity recipient
Treatment 3 (Dutch + Refugee)	Dictator game: Both Dutch and Refugee recipient

Table 1 – treatments

The dictator game

The first part of the experiment is an adjusted dictator game, where the recipients are charities not other participants. As it was mentioned, each participant is endowed with 11 euros, which they can divide as Dictators. The endowment of 11 euros is consciously chosen, since either two or three cannot equally divide it. Thus, participants cannot either halve the endowment in treatment 1and 2, or divide into three equal portion when they are in treatment 3 with two recipients.

These 11 euros are placed in front of the computers before the arrival of the participants. The 11 euros are provided in 1-euro coins in an envelope. In this way, the participants can come up with any allocation of full euros. In case of treatment up 1 and treatment 2, where there is only one recipient, they are asked to put the portion of these 1 euro coins, which they would like to give to the recipient, to another envelope. This second envelope is also placed in front of the computer, next to the money envelope. In case of the first treatment, Foundation CredoHuis is written on the envelope in order to indicate the Dutch charity as the recipient. In case of treatment 2, Foundation Jongerenhuis is written on the envelope as the refugee charity recipient. These charities have different aims. While Foundation CredoHuis supports homeless Dutch youth around 18-24 years of age, Foundation Jongerenhuis helps homeless refugee youth around 18-24 years of age. This difference is carefully explained to the participants.

Participants of the third treatment find three envelopes on their table. One is the money envelope with the 11-euro endowment in it, the second envelope is labelled Foundation CredoHuis indicating the Dutch charity and the third is labelled Foundation Jongerenhuis for

the refugee charity. They are also asked to divide the 11 euros to the recipients in any desired way and place the amount in the equivalent envelopes.

They are all asked to leave the amount they would like to keep for themselves in the original money envelope, seal it and take with themselves after the experiment without telling or showing to anyone how much left in that envelope. The envelopes named as Foundation CredoHuis and Foundation Jongerenhuis are also asked to be sealed after filling them with the amount participants wanted to contribute. There is a large non-transparent box placed in the laboratory behind a folding-screen. Participants are asked to drop in here the labelled envelopes one by one before leaving the laboratory.

In this way, we ensure that no one finds out the amount that is kept since only the participants see the money envelope. In addition, no one knows the amount contributed to the charities, since the labelled envelopes are anonymously dropped in a box without anyone observing it.

However, as experimenters, we have to able to attach the amount that is transferred to the rest of the experiment conducted on the computer. In order to be able to match the amount to the participants, a participant code is attributed to each participant. The code number, which is also shown on their screen, is unnoticeable written inside the envelope. We apply a 4-digit code attributed to each participant to preserve his or her anonymity. Codes given to participants of treatment 1 is starting with 1001 for the first participant, 1002 for the second, 1003 for the third and so on. Thus, the first digit indicates the treatment number. It means that the codes for treatment 2 starts with 2001, and the third with 3001 and the last digit(s) keeps increasing by participants within the same treatment.

After the experiments, the experimenters can open up the envelopes left for the charities, count the amount and administer under the participant code indicated inside each envelopes.

Overlap of self, in-group and out-group (OSIO) scale

The second part of the experiment is the OSIO measure. Here, firstly we aim to explore how close the participants perceive the Dutch society and the refugees living in the Netherlands to each other. Secondly, we measure how close they feel themselves both to the Dutch society and to the refugees. They are provided with the OSIO framework as it was discussed in the theory section. Participants are requested to choose that pictogram of overlapping circles, which they think best represents the closeness.

After indicating their perceived closeness on all three aspects, the participants turn to the third and last part of the experiment, where they have to answer to questions regarding Social Dominance Orientation and Unconditional Respect.

Respect for Persons scale and Social Dominance scale

In the last part, participants are asked to fill out a questionnaire regarding their background, like field of study or age. As additional explanatory variables for altruism, we check for unconditional respect using the "Respect for Persons scale". This measure helps to examine the effect of respect on the perceived closeness and we can also investigate if it has influence on the amount contributed in the dictator game. Moreover, their preference for social dominance above the minority is also measured by the "Social Dominance scale". We aim to investigate if they have possible effects on the perceived relationship between the Dutch and refugee groups and on the outcome of the dictator game. (Laham et al., 2009).

Experiment procedure

Participants, at each experiment session, are divided into three treatments. Participants are seated at the computers in a sequential order, based on arrival; the first arrival is treatment 1, the second is treatment 2, the third is treatment 3; the fourth is treatment 1 again and so on... Therefore, we can ensure that approximately the same amount of people participating in each treatment at each session. After all participants are seated, the experiment starts.

The experiment is conducted on computers using Qualtrics program. Firstly, the introduction appears on the screens, which is read aloud by the experimenter to the participants in order to support full understanding of the experiment. Pressing on the next button, the instructions for the dictator game appear, which is read by the participants individually since they are different for each treatments. The introduction and instructions can be found in Appendix 1.a for the first treatment, 1.b for the second treatment and 1.c for the third treatment.

Participants fill each envelope provided beforehand. After sealing the envelopes, they press the next button to continue with the second part of the experiment. They are asked to make three decisions regarding the perceived closeness and fill out the OSIO measures. The OSIO figures can be found in Appendix 2.

As the last part, they fill out the questionnaire of the Respect for Persons scale and Social Dominance scale and answer some personal questions. The questionnaire with the Respect for Persons scale and Social Dominance scale can be found in Appendix 3.

When they finish with the experiment, they walk to the box where they can drop the envelopes for the charities and pocket their own envelope with amount they intended to keep. Then, they hand in the confirmation form to the experimenter, where they declare that they received the fee for the experiment. The form is in Appendix 4. After all these steps, they are given the three-euro participation fee and then they leave the laboratory.

Methodology

Variables

Dependent variable

The primary dependent variable is the amount transferred in the Dictator game as the measure of altruism towards the recipient charity. It can be any integer between 0 and 11. In treatment 1, we look at the amount transferred to the Dutch charity. In treatment 2, we use the amount transferred to the refugee charity as the dependent variable. Lastly, in the case of treatment 3, we also look at the total amount transferred. Later, this number is further divided into two portions: one for the Dutch charity and one for the refugee charity.

The statistics of the amount transferred in the Dictator game is displayed Appendix 5. In the second column, we can observe the average amount transferred in each treatment. In treatment 1, the average amount transferred is 3.48, in the second treatment 3.62 euro is transferred to the refugee charity and in the last treatment 3.32 euro is contributed on average.

The standard deviation is considerably smaller in treatment 3 relative to treatment 1 and treatment 2. Both in treatment 1 and treatment 2 the standard deviation is around 3. It means that there are larger differences in the amount transferred by the participants within one treatment. Therefore, there are considerable deviations from the mean. This can be also observed by the minimum and maximum numbers in Appendix 5. Both treatment 1 and treatment 2 has a minimum of 0 and a maximum of 11 while in treatment 3 there were no extreme cases. There is no case when the participant kept all the money and the maximum is significantly below 11 as well. In treatment 3, the highest transfer was only 7 euros, which was shared between the 2 charities in 3:4 portion for the refugee charity. In Appendix 6, we further disaggregated the data of treatment 3. From the 22 cases, there is equal distribution

between the two charities only in 8 cases. In 10 cases, the refugee charity got transferred more relative to the Dutch charity meaning that only in 6 cases participants contributed more to the Dutch charity.

The statistical analyses of the significance of these differences are discussed in the next main section.

Independent variables

We make treatment dummy variables in order to be able to compare the differences among treatments in the outcome of the dictator game. The treatment 1 dummy variable takes value of 1 if the participant was in treatment 1 otherwise 0. The treatment 2 dummy variable takes value of 1 if the participant was in treatment 2 otherwise 0. Similarly, treatment 3 dummy variable takes value of 1 if the participant was in treatment 3 otherwise 0.

There were 68 participants in this experiment, from which 25 were participating in treatment 1, 21 in treatment 2 and 22 in treatment 3 (Appendix 7).

The second dependent variable is the OSIO measure, which runs from 1 to 7 on a scale. The number 7 indicates the situation where the circles are the furthest from each other meaning that the participant perceive a highly distant relationship. On the other edge, number 1 means fully overlapping circles indicating an extremely close relationship. We have three different OSIO measures, thus, they are examined as separate independent variables. The OSIO measure outcome can be found in Appendix 8.

OSIO 1 examines the perceived closeness of the young Dutch and the young refugees arriving to the Netherlands by the participants. Most of the participants had an impression that these two groups do not have a close relationship, since 41 out of 68 participants opted for the number 6 and 7 indicating no overlaps between the representing OSIO circles. Calculating the overall average score on this OSIO score, we obtain a considerable high number, 5.62.

OSIO 2 investigates the perceived closeness of the self to the young Dutch people. Even though, here we notice a higher variation relative to OSIO 1, greater portions of the answers lie in to the bottom and middle of the OSIO scale. Thus, the participants feel relatively close to their young Dutch compatriots. The average score is 3.25.

The highest average score however is observed at OSIO 3, which measures the perceived closeness between the self and the group of young refugees living in the Netherlands. The

overall average is 5.90, which means that the participants feel highly distant from the young refugees. 76.47% of the participants opted for non-overlapping circles.

Other independent variables are Social Dominance Orientation (SDO) and Unconditional Respect (UR). These variables are obtained by the questionnaire. These measures are set up from a 7-point scale, where 1 means a strong disagreement with the statement and 7 indicates a strong agreement. Half of the statements were reversed, meaning that half of the statements were framed in negative aspects and the other half in positive. In order to make them consistent with each other and with the scale, we standardized them. We reversed the scores of the negative statement to be measured the same way as the positive statements. Thus, for example, a score of 6 on a negative statement became a score of 2 becoming consistent with the positive ones. It allows aggregating the scores on the questions and expressing average scores as well.

After the standardization, the scores of SDO became straightforward, where 1 indicates a high desire for social dominance, when participants do not believe in equality. On the other edge 7 means a low social dominance, when participants believe that no group should be superior over other ones and we should strive for equality among groups.

Similarly, UR scale also became more comprehensive, where the score 1 indicated low respect towards others and 7 means that participants have an unconditional respect towards others. High scores means that people respect and see equally deserving everyone without any actions to earn this respect. This means high level of trust and considerateness unconditionally.

The outcome of the SDO scale and the UR scale can be found in Appendix 9. The means are the average of the aggregated scores given to the 16 (8-8) questions. We can see that the mean score of SDO is 4.83, which is the average of the aggregated answers given for the SDO questions. This average score is moderately high on the scale from 1 to 7, meaning a low social dominance. On average, the participants are inclined to strive for equality and not for group dominance.

The average UR score is approximately the same: 4.71. This score is also relatively high, meaning that on average participants find important to respect others unconditionally and build trust in them.

Lastly, we have some control variables regarding the participants' background. They were asked only 4 questions: their gender, age, language spoken in their family, which is an indirect measure of their nationality and their field of study. The descriptive statistics of these variables can be found in Appendix 10. There is a male dominance at the experiment. There was almost double amount of male participants than female. The average age is 21.02, which precisely represents the average age of university students, since in the Netherlands students enter to university ideally at age 18 and finish at age of 23. The majority of the participants are native Dutch, but 3 of them, who are originally from other countries. However, these 3 outliers are not expected to considerable disturb the outcome of the statistical analyses. Most of the participants are from Management faculty, from Economics or from Business Administration.

Methods

Firstly, we investigate our dataset, by looking at the distribution and the skewness. We need to be aware if we are dealing with a normally distributed or a non-skewed dataset in order to use the most appropriate statistical tests. Parametric test ought to be implemented only by a normally distributed, non-skewed dataset with a sufficiently high sample size. Parametric tests assume that the mean can be the best representation of the central tendency of the data. However, when the data is not normally distributed or highly skewed, this is not the case and median of the data can be more representative.

Concerning our data, we find that it is slightly skewed with a value of 1.168, which is under the threshold of 3. The histogram of the dependent variable is shown in Appendix 11. Furthermore, the small sample size undermines the reliability and generalizability of the outcomes due to lack of statistical power caused by too low number of observations to show a general patterns.

Differences among treatments

Thus, since our sample size is considerably low especially within groups, we consider using non-parametric test as well. In order to find statistically significant differences among the treatments, we apply one of the most widely used non-parametric tests, the Mann-Whitney U Test. The main assumptions of this test are random sample selections from the population, independent observations (each observation can appear only in one of the treatments but not more) and ordinal measurement scale. This test is used to compare two treatments based on their median. It tests if the median of the two treatments are different or equal. Applying the

Mann-Whitney U Test, we examine if the two populations differ based on the differences in the median of the total amount transferred in treatment 1 from the median in treatment 2. We also support this test with visualization of the data by graphs.

In order to test if there is a significant difference between the contribution to the Dutch charity and to the refugee charity in treatment 3, we run Wilcoxon rank test. It tests if the two sample have the same distributions. Thus, it tests if the distribution of the transfer to the refugee charity is the same as the distribution of the transfers to the Dutch charity.

Lastly, we also run Tobit regression as an additional, more conservative test, where we use treatments as dummy variables. Tobit regression can be relevant in the case when our data in censored. Censoring means that observations are around or at some threshold level. Observations in our data can be censored around 0, when the participant transfer nothing to the recipients. This is our lower threshold level. Only 6 out of 68 cases 0-euro transfer is observed, which is also visualized in the histogram (Appendix 11). Thus, since our data is slightly positively skewed we apply Tobit regression instead of OLS. However, we do not differences in the significance of the coefficients under OLS regressions.

Moreover, running a regression allows us to add some control variables. We add gender as a control variable, due to the findings that men are more biased towards the in-group in general than woman (Rand et al, 2009). In addition, Cox and Deck (2006) discuss gender differences in several allocation games, reporting highly contradicting outcomes depending on the context. For example, while Eckel and Grossman (1998) find that women are more generous under high social distance context relative to men, Cox (2002) finds the opposite, i.e. men are more generous and lastly Bolton and Katoc (1995) report no gender differences.

Secondly, we add age as a control variable. Even though, the age variable is highly positively skewed with most observations around the mean of 21 and with a relatively low standard deviation of 5.37, we expect to observe some age effect as it was reported by other researches as well. For instance, Freund and Blanchard-Fields (2014) report a positive relationship between age and contribution to the public good game as well as a positive relationship between age and donating behaviour. Since, we would like to test if such an age effect can be observed among university students as well, we add age to control for altruism.

Effect of perceived closeness (OSIO), SDO and UR

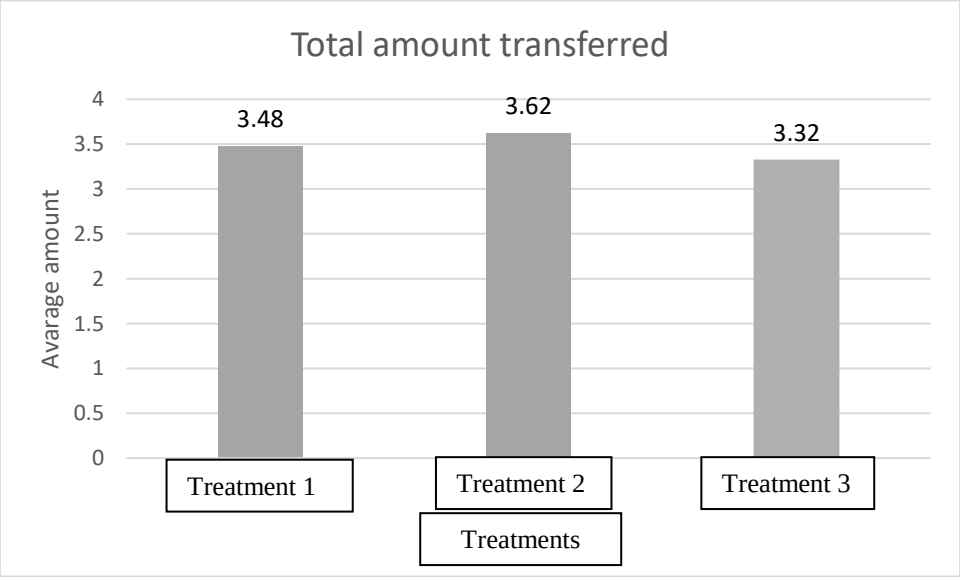
In order to examine the second main interest of the research, we extensively analyse the outcome of the Overlap of self, in-group and out-group (OSIO) measure. We run Pearson correlation test instead of regression due to the small number of observations (N). Analysing treatments separately leaves us as low as 22-25 observations, which is below the threshold of 30.

Lastly, we analyse the Social Dominance Orientation (SDO) and Unconditional Respect (UR) variables. We investigate the three treatments separately using Pearson correlations. Additionally, we test if there is a correlation between the SDO, UR and the OSIO measures, by Pearson correlations as well.

Results

Altruism across treatments

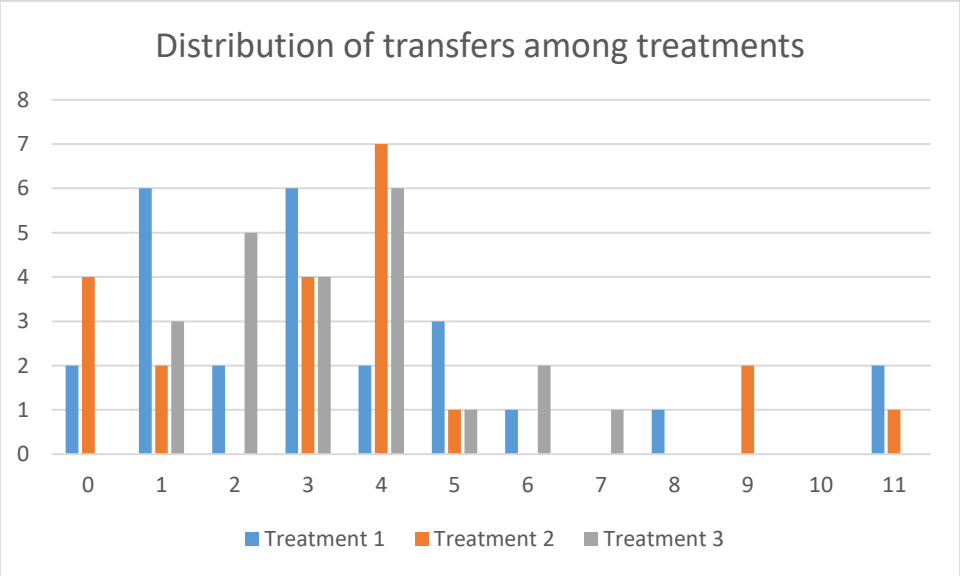
In this section, we investigate if there is a statistically significant difference among the average amounts transferred under the three different treatments. Graph 1 below displays the average of the total amount transferred to the recipient(s) under each treatment. We observe the highest average amount transferred in treatment 2, when they transfer to the refugee charity. This is the opposite of the expected based on our first hypothesis. According to our first hypothesis, Dutch charity would get higher amount contributed relative to the refugees.



Graph 1– The average of total amount transferred to the recipient(s)/treatments

In order to test if there is a statistically significant difference between treatment 1 and treatment 2, we run the previously discussed Mann-Whitney U Test. The output can be found in Appendix 12, where we found a p value of 0.7889. Since this means no differences between the two treatments in the total amount transferred in the dictator game, our first hypothesis, which states that *there is a general higher level of altruism towards Dutch recipients due to in-group bias* is not supported.

We also investigate the distribution of the transfers among treatments (Graph 2). In treatment 3, the range of distribution is considerably low, since all the amount transferred is between 1 and 7, while in treatment 1 and 2 the range is complete. The range for the distribution in treatment 1and 2 is from 0 until 11.

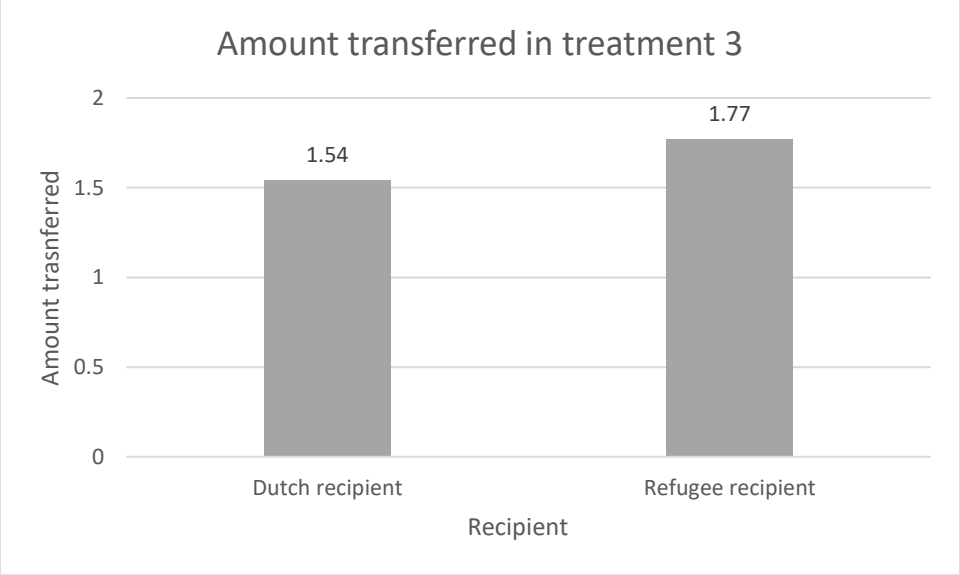


Graph 2– The distribution of total amount transferred to the recipient(s)/treatments

We apply Kruskal –Wallis equality-of-populations rank test to check if there are statistically significant differences among these treatments. Since, we obtain a high p values we to accept the null hypothesis of this test that the medians are equal.

As a next step, we investigate treatment 3 separately. Graph 1 shows that there is the lowest average transfer in treatment 3, where the contribution has to be divided among two recipients. However, it is still close to the average of the two other treatments. This result is consistent with the findings of Selten and Ockenfels (1998), who found that more recipients do not increase the total amount transferred due to the '*fixed total sacrifice effect'*. It seems that the amount kept is more relevant than the amount transferred to each recipient.

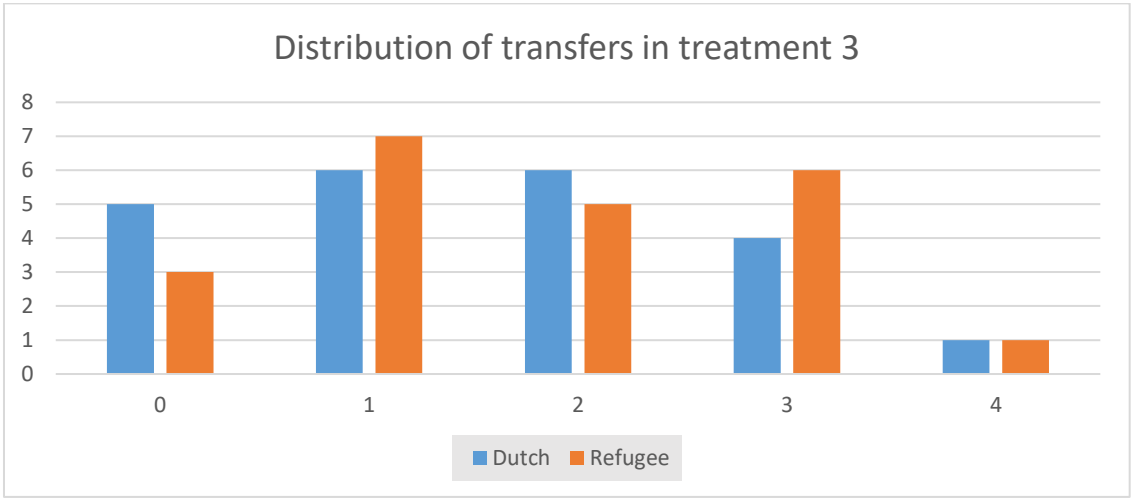
Graph 3 also supports the previous observation that on average the refugee charity got more contribution relative to the Dutch even in treatment 3, where subjects had to divide their contribution between the 2 charities simultaneously. Subjects transfer more to refugee charity (1.77 euros) on average compared to the Dutch charity (1.54 euros).



Graph 3– The average of total amount transferred to the two recipients in the treatment 3

Thus, this outcome is the opposite of the anticipated by the first hypothesis as well. This further confirms our finding that hypothesis 1 is not supported.

Again, we also analyse the distribution of the transfers to the recipients (Graph 4). We can observe more 0 transfer to the Dutch charity relative to the refugee charity, but no significant differences at the rest of the distributions.



Graph 4– The distribution of total amount transferred to the two recipients in the treatment 3

We run a Wilcoxon rank test in order to see if the distribution of the transfer to the two charities is statistically significant in treatment 3. (Appendix 13). We obtain a p value of 0.51, meaning that we accept the null hypothesis that both distributions are the same. It means that there is no statistically significant differences between the contribution to the refugee charity and the Dutch charity in treatment 3.

The fact that 18 from the 22 cases the refugee charity got transferred as much as Dutch compatriots or even more, points out that the in-group - out-group is either not acknowledged or it is just not considered as leading factor during the decision making in the dictator game. However, the most possible explanation is the salience of the neediness and higher deservingness of the refugees over the Dutch. Therefore, participants can consider these arriving young refugees as needier, who need more financial support in order to be able to improve their disadvantageous situation.

This idea of perceived deservingness can be supported by the model of Fiske et al (2002). It is predicted by the their stereotype content model that we behave generous towards people who are perceived warm and incompetent due to the fact that we feel pity. Warm people are considered friendly and non-competitive, and incompetent people are seen as low status individuals. If we perceive our in-group to be a high status group, and refugees as low status group, we will feel them more distant. However, this also implies that we feel pity towards them who deserves our altruism. We discuss this assumption further in the last section.

We also run simple Tobit regressions using the total amount transferred in the dictator game as dependent variables and treatment dummies as independent variables. This test also allows us to add some control variables, as we discussed in the method section we add gender and age as control variables, since these factors found to be influential regarding prosocial behaviour, i.e. altruism in the previous researches.

The output is in the first column of Table 2 below. Treatment 1 dummy is left out as reference category. We do not obtain any statistical significant result, meaning that treatments do not highly differ based on the total amount transferred for the recipients. Therefore, we cannot support our first hypothesis that *there is a general higher level of altruism towards Dutch as the in-group.*

		Total amount transferred	Total amount transferred
model	Treatment 2	-0.053	-0.254
		(0.06)	(0.31)
	Treatment 3	-0.120	-0.184
		(0.14)	(0.23)
	constant	3.439	-0.037
		(5.80)**	(0.03)
	Female		2.085
			(2.99)***
	Age		0.136
			(2.19)**
sigma	_cons	2.934	2.658
		(10.42)***	(10.45)***
N		68	68

6 left-censored observations at givetotal<=0
59 uncensored observations
3 right-censored observations at givetotal>=11

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 2 – Tobit regression: total amount transferred as dependent variables

In the last column, we also added all the control variables. We obtain a highly significant result regarding gender. Females transferred considerably more contribution to the charities overall. Moreover, age was also found to be an influential factor in the amount transferred in the dictator game. The older the participant is the more they transferred in the experiment, indicated by a positive coefficient of the age variable.

OSIO measures

In order to evaluate our second and third hypothesis, the connection between the OSIO measures and the outcome of the dictator game as the measure of altruism is analysed extensively.

First, the strength of correlations among the three OSIO measures were analysed in order to see if our OSIO measures are consistent with the basis of the model and to test if they are non-contradicting with its theoretical background. The correlation table of the three OSIOs can be found in Appendix 14, where we see the negative correlation between OSIO 1 and OSIO 2 and a significant positive correlation between OSIO 1 and OSIO 3.

These outcomes regarding the three OSIOs are consistent and reflect the expected results based on theory. The fact that subjects perceive the relationship between Dutch and refugee youth (OSIO 1) distant is consistent with close relationship between the self and Dutch and

the distant relationship between the self and refugees. If a person feels close to one group and distant from the other, it is understandable that the two groups are perceived distant from each other. Since the self is included in the Dutch society and the self is out of the refugee society, it is expected that the Dutch and refugee groups are perceived far from each other.

We collected data on three measures of interpersonal closeness: OSIO 1 measuring the perceived closeness between the in-group and out-group, OSIO 2 measuring the perceived interpersonal closeness between the self and the Dutch society and OSIO 3 measuring the perceived interpersonal closeness between the self and the refugees. We compare if the average score of these measures statistically differ. As we have seen in the previous section, on average, participants perceive a highly distant relationship between young Dutch and young refugees (OSIO1) with a high score of 5.62 on average. Similarly, OSIO 3, the measure of perceived interpersonal closeness to the refugees is also high with a high average score of 5.90. The average score for OSIO 2 is 3.25, which as expected is considerably lower than in the case of OSIO 1 and OSIO 3. To statistically test these differences among the means, we use Multivariate tests of means, which tests if the means of the treatments are the same.

The outcomes can be found in Appendix 15. The Multivariate tests of means shows a highly significant result, indicating that the means of the OSIOs are statistically different. It means that they actually measure different aspects of perceived relationships. Thus, we can separately examine their effects on the outcomes of the dictator game.

After the extensive study of the independent variables of the OSIO measures, we turn to the main analyses in order to test our second and third hypotheses. For this reason, we run Pearson correlations to examine how significantly OSIO measures and the outcome of the dictator games are correlated. Since the total transfer by itself cannot explain the real correlation between the dictator game and the perceived closeness measures, the data has to be separated by treatments. This allows us to investigate the effect on the contribution to the Dutch and to the refugee charity separately. In this way, we can test if the correlations are driven by any of the interventions in the dictator game.

First, we analyse treatment 1, where subjects transferred to the Dutch charity (Table 3).

	1	2	3	4
1. Transfer to the Dutch charity	1.0000			
2. OSIO 1	-0.4947	1.0000		
Significance (p)	0.0119**			
3. OSIO 2	0.1050	-0.2999	1.0000	
Significance (p)	0.6173	0.6173		
4. OSIO 3	0.0440	0.3033	0.0814	1.0000
Significance (p)	0.8346	0.1405	0.6991	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 3 – Pearson correlations for the amount contributed to the Dutch charity

Here, we can observe a significant correlation between OSIO 1, as the measure of the perceived closeness of the two groups, and the amount transferred to the Dutch charity in the dictator game. Since the coefficient has a negative sign, this correlation indicates that if subjects perceive closer the group of Dutch and the group of refugees to each other, they transfer more to the Dutch charity (low score on OSIO means closeness). However, explaining generosity towards the in-group from the view of in-group-out-group closeness is theoretically not supportive. In-group-out-group perceptions can have a more theoretically sound effect on the generosity towards the out-group.

Thus, the main focus is on the out-group, namely the refugees. Our main question and the focus of our second hypothesis is if people are more altruistic towards refugees relative to the Dutch, in the case when they perceive the Dutch and refugees close to each other. Therefore, we run Pearson correlation first only looking at the second treatment (Table 4) to compare the outcomes with Table 3. Then we analyse the correlation only in the third treatment (Table 5).

	1	2	3	4
1. Transfer to the refugee charity	1.0000			
2. OSIO 1	0.2779	1.0000		
Significance (p)	0.2226			
3. OSIO 2	0.0332	0.3162	1.0000	
Significance (p)	0.8864	0.1626		
4. OSIO 3	-0.0881	0.6562	0.0814	1.0000
Significance (p)	0.7041	0.0012***	0.7257	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 4 – Pearson correlations for the amount contributed to the refugee charity

We obtain only a weak correlation between OSIO 1 and the contribution to the refugee charity in treatment 2. Since we find only a weakly positive correlation, we cannot support our second hypothesis that *altruism towards the out-group is positively affected by the perceived closeness of the in-group and out-group*. On the other hand, we found that the altruism towards the *in-group* is affected by the perceived closeness of the in-group and out-group.

Moreover, our data does not support third hypothesis either, stating that *altruism towards the out-group is positively affected by the perceived closeness of the self and the out-group.* In Table 4, we find a significantly low negative correlation between OSIO3, as the measure of interpersonal closeness between the self and the refugees, and the contribution to the refugee charity.

Lastly, we analyse treatment 3, where we also disaggregate the two recipients (Table 5).

	1	2	3	4	5	6
1. Total amount transferred	1.0000					
2. Transfer to the Dutch charity	0.7254	1.0000				
Significance (p)	0.0001***					
3. Transfer to the refugee charity	0.7065	0.0254	1.0000			
Significance (p)	0.0002***	0.9107				
4. OSIO 1	-0.3843	-0.2375	-0.3140	1.0000		
Significance (p)	0.0774*	0.2871	0.1547			
5. OSIO 2	-0.0652	-0.1612	0.0710	0.0844	1.0000	
Significance (p)	0.7731	0.4735	0.7534	0.7088		
6. OSIO 3	-0.4510	-0.2286	-0.4200	0.4990	0.2722	1.0000
Significance (p)	0.0351**	0.3062	0.0516*	0.0181**	0.2204	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 5 – Pearson correlations in treatment *3*

The total amount of contributed is naturally highly correlated with the transfer to the Dutch or to the refugee charity. Table 5 again shows a significant correlation between OSIO 1 and the total amount transferred as well as between OSIO 3 and the total amount transferred. Due to the fact that OSIO 1 and OSIO 3 are highly correlated this outcome is expected. However, we do not obtain significant results when we disaggregate the data for Dutch and refugee charity except for the correlation between OSIO 3 and the contribution to the refugee charity. We obtain a moderately significant result with a negative coefficient. The lower the score on the OSIO 3 scale is the closer participants perceive themselves to the refugees.

Thus, the negative coefficient is consistent with the third hypothesis that *altruism towards out-group is positively affected by the perceived closeness of the self and the out-group.* The closer the participant perceived themselves, the more they transferred to the refugee charity in treatment 3. Thus, our third hypothesis is partly supported, i.e. supported only in treatment 3.

The fact that we obtain a significant negative correlation between OSIO 3 and the transfer to the refugee charity in treatment 3, but a highly insignificant correlation in treatment 2, can be explained by the perceived relative deservingness. Van Oorschot (2016) examines the perceived relative deservingness of the needy groups by the European public. He found that while elderly people are perceived as the most deserving, immigrants are the least deserving ones. However, immigrants are a highly diverse and undefined category, in which refugees

are only a small portion (Van Oorschot, 2005). Refugees can be perceived more deserving than a regular immigrant without refugee status due to their highly disadvantageous situation where they are regarded as incompetent (Fiske, 2002). If the needy Dutch is perceived less deserving relative to the refugees, it means people are more generous towards the refugees since they feel pity. If the Dutch is perceived more capable – as it the case with in-group- relative to the refugees, we feel more pity towards the refugees and act more altruistic to help them.

Such a relative perceived deservingness can be salient in treatment 3, when the subject can transfer to both Dutch and refugee charity. In this case, when they feel closer and care more about refugees this relative perceived deservingness can become more salient resulting in a higher degree of altruism. Due to the absence of the reference of Dutch charity in treatment 2, this sense of relative deservingness cannot be present.

Social Dominance Orientation and Unconditional Respect

Lastly, we investigate two other independent variables: Social Dominance Orientation (SDO) and Unconditional Respect (UR). We can see the output of treatment 1 in Table 6 and treatment 2 in Table 7.

As a first step, we investigate if there are correlations between SDO, UR and the OSIO measures (Appendix 16). We found significant correlation only among Unconditional Respect and the OSIO 3 measure, which measure the perceived interpersonal closeness to the refugees. The correlation is negative and highly significant, which is the expected outcome. It means that people, who unconditionally respect others, can feel closer to refugees without any precondition.

We run Pearson correlation in treatment 1. Due to the low number of observations, OLS regression can be biased, thus we rather rely on correlation tables.

	1	2	3
1. Transfer to the Dutch charity	1.0000		
2. SDO	0.0865	1.0000	
Significance (p)	0.6809		
3. UR	0.3113	0.3649	1.0000
Significance (p)	0.1298	0.0729*	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 6 – Pearson correlations for the amount contributed to the Dutch charity

The SDO turns out to be insignificant under the first intervention. There is no significant correlation between UR and the amount contributed to the Dutch charity either. However, we find a weak correlation between the two independent variables. The score on the Social Dominance Orientation is positively and weakly correlated with the score of Unconditional Respect. People who score high on both measures possibly have more positive values towards others in general.

In Table 7, we similarly analyse the correlation among SDO, UR and the amount transferred to the refugee charity.

	1	2	3
1. Transfer to the refugee charity	1.0000		
2. SDO	0.5247	1.0000	
Significance (p)	0.0146**		
3. UR	0.4264	0.5658	1.0000
Significance (p)	0.0539*	0.0075***	

* p<0.10; ** p<0.05; *** p<0.01

Table 7 – Pearson correlations for the amount contributed to the refugee charity

Analysing the second intervention when participants were asked to transfer to the refugee charity, we obtain results that are more significant relative to treatment 1. In particular, SDO is highly and positively significant. People who do not have a preference for group hierarchy but equality, transfer significantly more to the refugee charity. If subjects perceive that refugees are considered lower in the hierarchy in the Netherlands, that can explain why SDO is correlated with supporting the refugee charity but not the Dutch charity.

For example, according to Sidanius et al. (2013), when people do not have a preference for group based hierarchy, but equality among group, they are more emphatic. This means if a person considers groups within society more equal i.e. close to each other, which predicts empathy as a general personal characteristics and a more altruistic behaviour (Pratto, et al., 1994). People, who aim to help refugees to be an equal part of the society and possibly to support their integration into the Dutch society, are more altruistic towards them, indicated by a high transfer in the dictator game. However, such an idea can be investigated particularly in treatment 3 where SDO is analysed using subjects who can transfer to both Dutch and refugee charity.

The Unconditional Respect variable is also positively significant in treatment 2 but slightly less than the SDO scale. People, who respect others without any precondition and past action, tend to transfer more to the refugee charity. People, who do not care about the origin of the people but still respect them, are more altruistic towards others. This seems relevant in the case of refugees. People who unconditionally respect others tend to be more altruistic towards them.

Lastly, we analyse the correlation among the total amount transferred, the amount transferred to the Dutch recipient, to the refugee recipients separately, SDO and UR variables (Table 8)

	1	**2**	**3**	**4**	**5**
1. Total amount transferred	1.0000				
2. Transfer to the Dutch charity	0.7254	1.0000			
Significance (p)	0.0001***				
3. Transfer to the refugee charity	0.7065	0.0254	1.0000		
Significance (p)	0.0002***	0.9107			
4. SDO	0.6161	0.3931	0.4905	1.0000	
Significance (p)	0.0023***	0.0703*	0.0205**		
5. UR	-0.0514	-0.1789	0.1093	0.4229	1.0000
Significance (p)	0.8204	0.4258	0.6283	0.0499***	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$

Table 8 – Pearson correlations in treatment 3

SDO turns out to be significant is all three cases. SDO is highly and positively correlated with the total amount transferred in the third treatment. The correlation of SDO is also present with

the amount transferred to both the Dutch and refugee charity but the strength of the correlation is weaker. This result is slightly contradicting with the observations in treatment 1 and treatment 2, since we obtained significant outcome for SDO only in case of transferring to the refugee charity but no in case of the Dutch charity. We explained that by a possible perception of low status of the refugees in the hierarchy within the Netherlands, meaning that refugees are supported to become equal. Since we obtain stronger correlation - with considerably higher significance – between SDO and the transfer to refugees relative to the transfer to the Dutch charity, such an idea to support refugees to become more equal is somewhat supported in treatment 3.

However, in treatment 3, we do not obtain a significant outcome regarding the Unconditional Respect variable.

Therefore, we gained some indication to support our last hypothesis that when people score high on Social Dominance Orientation and Unconditional Respect, there is higher level of altruism. However, it SDO is correlated with the amount transferred in more cases as well as more significantly relative to the variable of the Unconditional Respect. Therefore, we can fully support the hypothesis that *altruism towards the out-group is affected by Social Dominance Orientation* but it is only partly supported in the case of *Unconditional Respect.*

Summary

All in all, we do not find a higher general altruism towards the in-group. On the other hand, we observe higher transfer to the refugee charity on average relative to the Dutch charity However, the differences among treatments are not statistically significant. Thus, our first hypothesis is not supported. Similarly, we do not obtained significant outcomes to support our second hypothesis that *the altruism towards the out-group is positively affected by the perceived closeness of the in-group and out-group*, Next, we found a partial support for the third hypothesis that *altruism towards out-group is positively affected by the perceived closeness of the self and the out-group.* Lastly, the fourth hypothesis that *Altruism towards the out-group is positively affected by Social Dominance Orientation* is fully supported *and Unconditional Respect measures* is partly supported.

Description	Findings	Implications	Tests used
H1: There is a general higher level of altruism towards Dutch recipients due to in-group bias.	Not supported	There is a slightly higher average transfer to the refugees. There is no significant group bias against refugees	Mann Whitney U Kruskal –Wallis rank test Wilcoxon rank test Tobit regressions
H2: The altruism towards the out-group is positively affected by the perceived closeness of the in-group and out-group.	Not supported (Supported only for Dutch)	When the out-group of refugees perceived closer to the in-group of Dutch there is a higher level of altruism towards Dutch but not towards refugees.	Pearson correlations
H3: Altruism towards out-group is positively affected by the perceived closeness of the self and the out-group	Partly supported	When the refugees perceived closer to the person, there is a higher level of altruism	Pearson correlations
H4: Altruism towards the out-group is positively affected by Social Dominance Orientation and Unconditional Respect measures.	Supported	People, who have desire for an equal society and respect other without preconditions, are more altruistic towards refugees	Pearson correlations

Table 12 - Summary of the findings

Discussion

In the past years, there has been an increasing number of refugees arriving in the European Union, including the Netherlands. In the past 2 years, the Netherlands welcomed 7000 refugees. The Government of the Netherlands is trying to accommodate these refugees as properly as possible. The Government is making a significant effort to help these refugees settle down.

Even though, the great effort of the Government of the Netherlands and thousands of volunteers helping out the arriving refugees, we have to face several social and economic implications caused by the refugee inflow in the Netherlands.

Integration requires a great effort from the side of refugees but the openness of the recipient country is as important as the effort made by the refugees to learn the language, find jobs and settle down. The Dutch society needs to feel comfortable with the refugees and do not perceive them as *outsiders.* The people need to be open to the arriving refugees in order to give them a chance to become equal members of the Dutch society.

Even though, the issue of integration and openness of the recipient society have a high societal relevance, they imply several economic considerations as well, in particular on the labour market. If the recipient society is not open towards the arriving refugees and do not consider them as equal members of the society, it can lead to costly employment discrimination.

It means that talented or highly educated immigrants are not able to make a full contribution to our economy if they are silenced. These refugees are likely to be crowded into low paid jobs instead of workplaces matching with their real talent. This can cause a loss of economic efficiency, since the suitable people are prevented from working at right place due to employment discrimination towards refugees. The result is a mismatch between labour availability and employment opportunities. (Heath and McMahon, 1997). This means a great loss of human capital and forfeiture of productive labour force thanks to discrimination towards refugees.

Unfortunately, this can also result in a vicious circle, since if these refugees crowd into low paid jobs, which can infer further economic consequences, like low purchasing power, low saving rate, low investment or high reliance of government support, which is highly inefficient for the whole economy. Financing the necessities of the arriving refugees and providing aids require a great portion of the budget of the European Union. *"The EU has dedicated over €10 billion from the EU budget to dealing with the refugee crisis in 2015 and 2016"* (European Commission, 2016). The Netherlands, has also taken high financial commitment to support these refugees. 836 million euros, which is about 27% of the aid budget is directed to help refugees in 2015 (Giebels and Righton, 2015).

Due to these significant social and economic consequences of the refugee inflow to the European Union and to the Netherlands, we need to pay a greater attention to the integration of the refugees. The ease of integration can depend on several factors. One is the openness of the recipient society towards the *outsiders.* This aspect was the focus of our research.

This research investigated what factors can influence the altruism towards refugees. This question was examined in the context of the Netherlands. In particular, we investigated if the perceived interpersonal and intergroup closeness can have a significant effect on the behaviour towards the refugees living in the Netherlands. Secondly, as additional factors, we also analysed if Social Dominance Orientation and Unconditional Respect measures can explain the degree of altruism towards refugees.

We used experimental methods to observe the level of altruism, perceived closeness. The level of altruism was measured in a dictator game and the perceived closeness was captured by *Overlap of self, in-group and out-group (OSIO) scale.* This scale measured three different aspects of perceived closeness: perceived closeness of the Dutch as the in-group and the refugees as the out-group, the perceived closeness of the self to the Dutch in-group and lastly the perceived closeness of the self to the refugees as the out-group.

The Social Dominance Orientation and Unconditional Respect were measured by questionnaire at the end of the experiment.

In the experiment, we differentiated three treatments. In the first treatment, the participants had to indicate how much they would like to contribute to a charity supporting young homeless Dutch people. In the second treatment, they were asked to contribute to a charity supporting young homeless refugees. In the last treatment, participants had to indicate how much they would like to transfer to both the Dutch and refugee charity from their 11-euro endowment.

The first hypothesis states that there is a general higher level of altruism towards Dutch recipients due to in-group bias. However, we found that in general, refugee charity got slightly more contribution relative to the Dutch one. However, the difference is not statistically significant. This outcome can be driven by the higher perceived deservingness of our generosity towards refugees relative to Dutch people. Refugees can be seen as needier relative to Dutch people, which can significantly influence the degree of altruism.

This result could be explained by the model of Fiske and his colleagues. The stereotype content model was developed by Fiske and his colleagues (2002). The model explains stereotypes and social behaviour towards others by two dimensions: warmth and competence. A group perceived warm if they do not compete for the same resources or they are friendly and caring. Competence refers to the status. Low status people are usually perceived as incompetent. Refugees arriving to the Netherlands can be perceived as warm if we believe

that they are a non-competitive out-group, who does not hurt our welfare and living. However, more importantly, refugees can be perceived as incompetent in their given refugee status and disadvantageous situation. They can be perceived incompetent in the European Union, where they have to rely on support from government and volunteers, even if they are high status competitive people in their country of origin. Fiske et al. (2002) argue that people, who are perceived high of the dimension of warmth and low on the dimension of competence, seen as deserving our help and generosity. We feel pity about them, which makes us behave more generous. It means that we tend to behave more altruistic towards people who are perceived warm and incompetent on the dimensions of the stereotype content model.

Our second hypothesis was that the altruism towards the out-group is positively affected by the perceived closeness of the in-group and out-group. Even though, there was no observed in-group- out-group bias during the dictator game, the participants indicated a high perceived distance between the two groups in general.

This perception of the closeness of the two groups has a significant effect in case of the first treatment, when subjects transferred to the Dutch charity. This might be explained by the idea that people, who perceived the groups within society closer and more equal, are more empathic and altruistic in general (Pratto, et al., 1994). However, analysing the second and third treatments, this relationship disappears. Thus, the assumption that perceived group equality drives altruism cannot explain why altruism towards refugees is not correlated with OSIO 1. Moreover, not a lot of theory can be found about predicting altruism only towards the in-group by in-group-out-group perception. The focus of the research are more on the altruism towards the out-group. Such a question could be addressed by future research as we discuss below.

The third hypothesis states that altruism towards the out-group is positively affected by the perceived closeness of the self and the out-group. This relationship between the perceived closeness to the refugees and the level of altruism appears to be significant in the third treatment. A moderately significant correlation is found between the perceived closeness of the two groups and the level of altruism towards refugees, meaning that perceived closeness to the refugees positively influences the altruism towards refugees. The fact that we find a significant correlation only in treatment 3, can be explained by relative perceived deservingness, since in treatment 3 the Dutch charity can serve as a reference to which refugees can be perceived more deserving.

The last hypothesis states that altruism is positively affected by Social Dominance Orientation and Unconditional Respect measures. This hypothesis is supported by our experiment especially in the case of analysing Social Dominance Orientation.

We have to take some limitations of our research into account, which can be considered and further investigated by future researches.

Our experiment was intended to measure the level of altruism towards refugees and its connection with perceived intergroup and interpersonal closeness. Even if a dictator game is widely-used for the purpose of measuring altruism, we have to take into account some factors influencing the outcome. Firstly, it is obvious that we cannot fully be sure that this game only captures the level of altruism. Altruism is impossible to directly measure. Monetary contribution is just one way of signalling altruistic behaviour. However, altruism is more than financial aid. It involves general attitude and pro-social behaviour towards others.

We have to consider the fact that a laboratory creates an artificial environment. People can feel scrutinized and examined, which can change behaviour. However, we aimed to provide total anonymity in order to ensure that the participants do not feel observed and decide the way they feel and not the way they are expected from the experimenters. Moreover, in order to give the experiment a real life sense, the participants were informed that they are contributing to a real life charity, which help Dutch and refugees in need.

In addition, the sample size of 68 in this experiment can be considered small. Small sample sizes reduce the statistical power of the results. Throughout the experiment, we found a strong gender effect as well, indicating that women participants were more altruistic in general. In our sample, there were twice as many men than female. This could also significantly influence of the outcome of the correlation tables when we do not control for gender.

Regarding the results of our research, we reported some outcomes, which need to be further investigated. For example, as mentioned before, surprisingly we found a significant correlation between the perceived intergroup closeness and the transfer to the Dutch as the in-group, which is absent in case of the transfer to the refugee charity. Further research could investigate if there is an actual underlying mechanism between the relationship of altruism towards the in-group and the perceived intergroup relationships or is it the result of our low sample size.

Moreover, the assumptions that relative perceived deservingness and incompetence of refugees relative to the Dutch people - based on Fiske's stereotype content model- can drive the high support for the refuges (out-group) also need to be further researched.

Thus, future research would be relevant in order to strengthen our results. Larger sample size and more equal gender distribution should be achieved in order to strengthen the statistical power of our research as well as several other factors can be included as explanations for the degree of altruism towards refugees.

Conclusion

Taking into account the outcome of this research and the discussion above, policymakers, aiming to support refugees in the Netherlands, should not worry about the general level of altruism towards refugees. Dutch people seem to be even more supporting refugees relative to poor Dutch youth since on average we found a higher transfer in the dictator game towards refugees. Such an observation can be highly supported by the above discussed Fiske model (2002). Refugees can be perceived warm and incapable who deserves our pity. Therefore, the differences, the incapability of the refugees in their current situation and their warmth need to be emphasised. This can trigger emotions and empathy towards refugees, which makes us behave more altruistic.

Emphasising the warmth, namely their friendliness and non-competiveness, can be another strategy to bring them closer to the Dutch people. We found that if they are perceived closer, people tend to behave more altruistic. Campaigns and activities can be organized to bring Dutch people closer to the refugees and in the same way show their warmth. Moreover, it can be also relevant to emphasize the relative perceived deservingness. Refugees can be considered as more deserving relative to Dutch people, which can lead to a higher level of altruism.

However, in order to discover such a relationship between Fiske's model and the perceived interpersonal closeness to support prosocial behaviour towards refuges, we need further researches. Besides the relevance of the perception of warmth and incompetence, we also need futures studies to discover, which further factors can have an influence on the altruistic behaviour towards refugees in the Netherlands. This could further help to ease their policymaking how ease the refugees integration into the Dutch society and lessen the social and economic impact of the refugee inflow.

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Appendix 1: instructions

1.a – Treatment 1

Thank you for participating in this experiment. Please stay quiet during the experiment and do not communicate with other participants. Please also turn off your mobile phone and put it away in your bag. The experiment will take about 30 minutes. We will ask you to make one decision that will fully determine your earnings in this experiment. Next to earnings resulting from this decision, you will also receive 3 euros participation fee. All earnings will be paid in full anonymously; the experimenter will not know how much you earn as your payments will be put into sealed envelopes by you.

You will now decide how to divide an amount of 11 EUROS between you and the other recipient. The other recipient is an organization which supports young Dutch people in need within the Netherlands. Young people usually dream big, and are on the way to build their life. Not all of them manage on their own, though. In the Netherlands, there are also Dutch youngsters that fall into poverty and survive homeless. Foundation CredoHuis helps these homeless Dutch youngsters around 18-24 years of age to discover own talent and build skills for future. The foundation collects donations that are then used to help these young people. There are 11 euros in the envelope in front of you, from which you can give any amount (1, 2,..., 10, 11 euros) to you or to the other recipient. You make your decision by putting any number of the coins, between 0 and 11, to any of the two envelopes. Put the amount you give to the recipient into the envelope marked as "Foundation CredoHuis". After that, seal envelope! When you leave the experiment you will put the sealed envelope into a box. Leave the amount you would like to keep in the original envelope, seal it as well, and take with you after the experiment. Note that you can make any decision that you want and it remains fully anonymous as no one knows how much you have allocated in each envelope. After sealing each of the two envelopes, please put them aside and press the double arrow to answer a few questions.

1.b – Treatment 2

Thank you for participating in this experiment.Please stay quiet during the experiment and do not communicate with other participants. Please also turn off your mobile phone and put it away in your bag.The experiment will take about 30 minutes. We will ask you to make one

decision that will fully determine your earnings in this experiment.Next to earnings resulting from this decision, you will also receive 3 euros participation fee. All earnings will be paid in full anonymously; the experimenter will not know how much you earn as your payments will be put into sealed envelopes by you.

You will now decide how to divide an amount of 11 EUROS between you and the other recipient. The other recipient is an organization which supports young refugees in need within the Netherlands who have recently arrived to the Netherlands. Young people usually dream big, and are on the way to build their life. Not all of them manage on their own, though. In the Netherlands, there are also refugee youngsters also fall into poverty and survive homeless. Foundation Jongerenhuis helps such homeless refugee youngsters around 18-24 years of age to discover own talent and build skills for future. The foundation collects donations that are then used to help these young people. There are 11 euros in the envelope in front of you, from which you can give any amount (1, 2,..., 10, 11 euros) to you or to the other recipient.You make your decision by putting any number of the coins, between 0 and 11, to any of the two envelopes.Put the amount you give to the recipient into the envelope marked as "Foundation Jongerenhuis". After that, seal envelope! When you leave the experiment you will put the sealed envelope into a box. Leave the amount you would like to keep in the original envelope, seal it as well, and take with you after the experiment. Note that you can make any decision that you want and it remains fully anonymous as no one knows how much you have allocated in each envelope. After sealing each of the two envelopes, please put them aside and press the double arrow to answer a few questions.

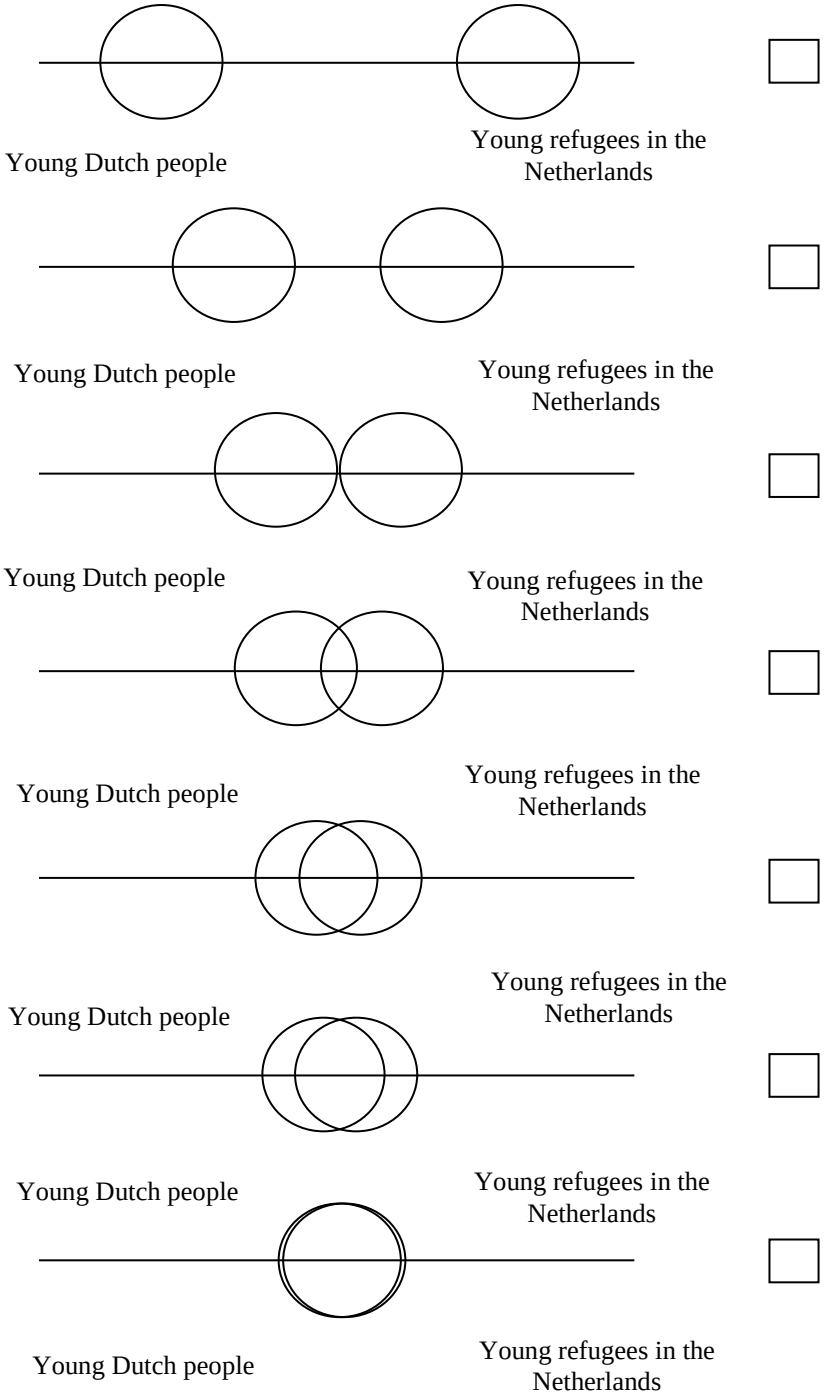
1.c – Treatment 3

Thank you for participating in this experiment. Please stay quiet during the experiment and do not communicate with other participants. Please also turn off your mobile phone and put it away in your bag. The experiment will take about 30 minutes. We will ask you to make one decision that will fully determine your earnings in this experiment. Next to earnings resulting from this decision, you will also receive 3 euros participation fee. All earnings will be paid in full anonymously; the experimenter will not know how much you earn as your payments will be put into sealed envelopes by you.

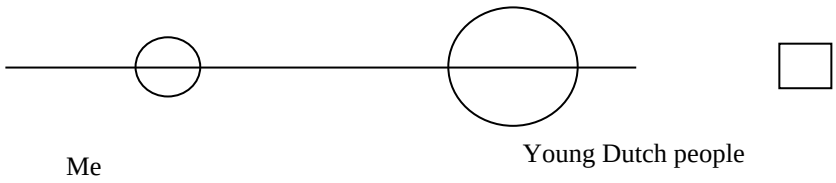
You will now decide how to divide an amount of 11 EUROS between you and the other two recipients. Recipients Recipient 1 Recipient 2 Recipient 1 is an organization which supports young Dutch people in need within the Netherlands. Young people usually dream big, and are on the way to build their life. Not all of them manage on their own, though. In the Netherlands, there are also Dutch youngsters that fall into poverty and survive homeless. Foundation CredoHuis helps these homeless Dutch youngsters around 18-24 years of age to discover own talent and build skills for future. The foundation collects donations that are then used to help these young people. Recipient 2 is an organization which supports young refugees in need within the Netherlands who have recently arrived to the Netherlands. Young people usually dream big, and are on the way to build their life. Not all of them manage on their own, though. In the Netherlands, there are also refugee youngsters also fall into poverty and survive homeless. Foundation Jongerenhuis helps such homeless refugee youngsters around 18-24 years of age to discover own talent and build skills for future. The foundation collects donations that are then used to help these young people. There are 11 euros in the envelope in front of you, from which you can give any amount (1, 2,..., 10, 11 euros) to you or one of the other two recipients. You make your decision by putting any number of the coins, between 0 and 11, to any of the three envelopes. Put the amount you give to recipient 1 into the envelope marked as "Foundation CredoHuis" and put the amount you would like to give recipient 2 into the envelope marked as "Foundation Jongerenhuis". After that, seal both envelopes! When you leave the experiment you will put these sealed envelopes into a box. Leave the amount you would like to keep in the original envelope, seal it as well, and take with you after the experiment. Note that you can make any decision that you want and it remains fully anonymous as no one knows how much you have allocated in each envelope. After sealing each of the three envelopes, please put them aside and press the double arrow to answer a few questions.

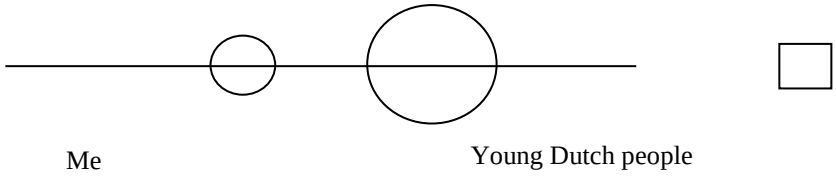
Appendix 2 – OSIO

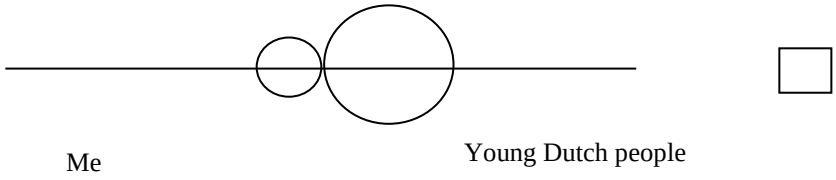
Please choose the picture which best represents the closeness between the population of young Dutch people and the population of young refugees who recently arrived to the Netherlands.

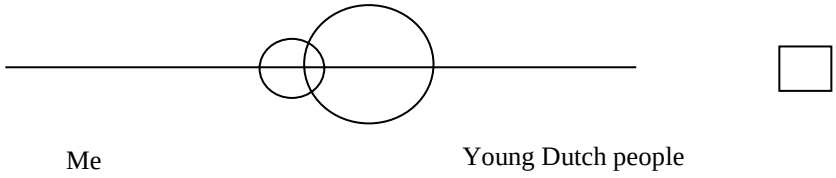


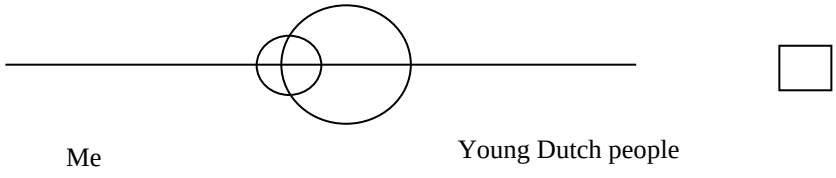
Please choose the picture which best represents the closeness between you and the population of young Dutch people.

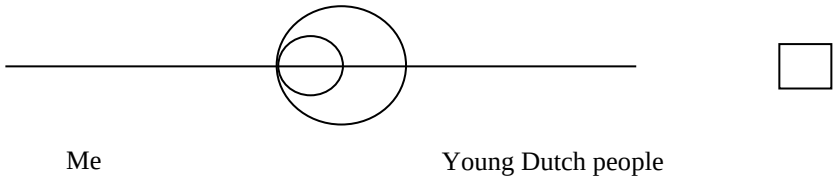


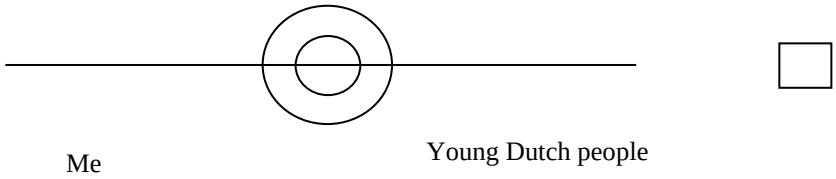




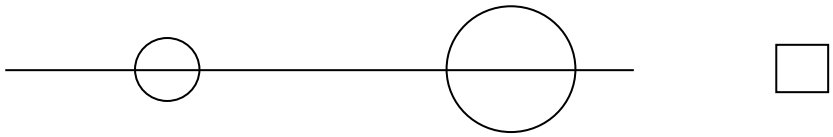




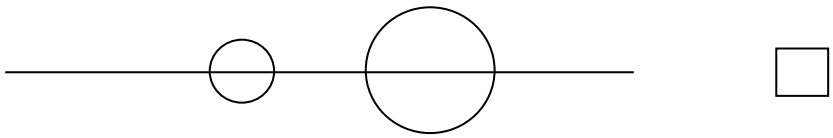




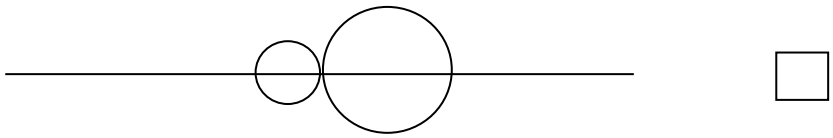
Please choose the picture which best represents the closeness between you and the population of young refugees who recently arrived to the Netherlands



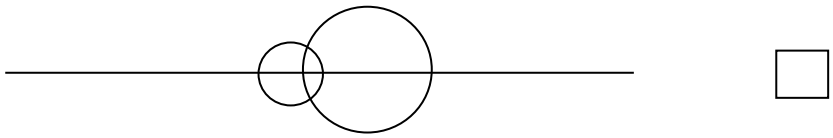
Me Young refugees in the Netherlands ☐



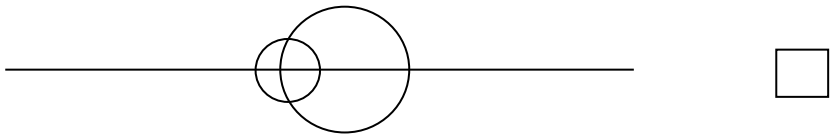
Me Young refugees in the Netherlands ☐



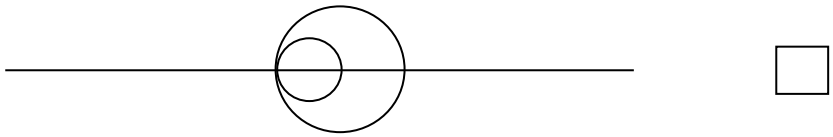
Me Young refugees in the Netherlands ☐



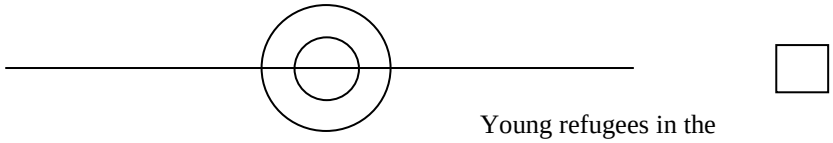
Me Young refugees in the Netherlands ☐



Me Young refugees in the Netherlands ☐



Me Young refugees in the Netherlands ☐



Me Young refugees in the Netherlands ☐

Appendix 3 – Questionnaire

Please indicate how strong you agree or disagree with the following statements. You can work quickly; your first feeling is generally best.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Some groups of people must be kept in their place. (1)	❍	❍	❍	❍	❍	❍	❍

Q11

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
An ideal society requires some groups to be on top and others to be on the bottom. (5)	❍	❍	❍	❍	❍	❍	❍

Q12

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Groups at the bottom are just as deserving as groups at the top. (5)	❍	❍	❍	❍	❍	❍	❍

Q13

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Group dominance is a poor principle. (5)	❍	❍	❍	❍	❍	❍	❍

Q14

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
We shouldn't try to guarantee that every group has the same quality of life. (5)	❍	❍	❍	❍	❍	❍	❍

Q15

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Group equality should not be our primary goal. (5)	❍	❍	❍	❍	❍	❍	❍

Q16

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
We should do what we can to equalize conditions for different groups. (5)	❍	❍	❍	❍	❍	❍	❍

Q17

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
No matter how much effort it takes, we ought to strive to ensure that all groups have the same chance in life. (5)	❍	❍	❍	❍	❍	❍	❍

Q18

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Someone who has committed an awful crime no longer has the right to be treated decently. (5)	❍	❍	❍	❍	❍	❍	❍

Q19

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Being considerate of other people's wishes is a vital part of social relationships. (5)	❍	❍	❍	❍	❍	❍	❍

Q21

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I don't think there is any need to be tolerant of people I dislike. (5)	❍	❍	❍	❍	❍	❍	❍

Q22

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Treating all people with respect is a vital part of our relationships with others. (5)	❍	❍	❍	❍	❍	❍	❍

Q23

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I find it hard to respect people who have very different views from my own. (5)	❍	❍	❍	❍	❍	❍	❍

Q24

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither disagree nor agree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I try to be understanding towards people even if I do not like them. (5)	❍	❍	❍	❍	❍	❍	❍

Your gender

Female (1)

Male (2)

Your age

The language most often spoken in your family

Your field of study

Appendix 4 – confirmation form

Confirmation form

I confirm that I received participation fee of 3 euro, and I divided 11 Euro between me and one another receiver.

Name:_____

Student Number: _____

Date: _____

Signature: _____

Appendix 5 - The average, SD, min and max of total amount transferred to the recipient(s)/treatments

Variable	Observation	Mean	Standard deviation	Min	Max
Amount transferred					
Treatment 1 (Dutch)	25	3.48	2.99	0	11
Treatment 2 (Refugee)	21	3.62	3.02	0	11
Treatment 3 (Both)	22	3.32	1.67	1	7
Dutch recipient	22	1.54	1.18	0	4
Refugee recipient	22	1.77	1.15	0	4

Appendix 6 – Amount transferred to refugees relative to the Dutch recipients

Variable	Observation	percentage
Treatment 3 transfer		
Refugee=Dutch	8	36.36
Refugee > Dutch	10	45.45
Refugee ≥ Dutch	18	81.82

Appendix 7 - Number of participants/treatments

Variable	Observation
Treatment	
1: Dutch	25
2: Refugee	21
3: Both	22
Total number	68

Appendix 8 - Overlap of Self, In-group, and Out-group Scale (OSIO) distributions

Variable	Observation	percentage
OSIO 1: Dutch-Refugee		
7 (Furthest)	19	27.94
6	22	32.35
5	13	19.12
4	11	16.18
3	2	2.94
2	1	1.47
1(Closest)	0	0
Average	***5.62***	
OSIO 2: Me-Dutch		
7 (Furthest)	1	1.47
6	9	13.24
5	8	11.76
4	12	17.65
3	10	14.71
2	14	20.59
1(Closest)	14	20.59
Average	***3.25***	
OSIO 3: Me-Refugee		
7 (Furthest)	24	35.29
6	28	41.18
5	8	11.76
4	3	4.41
3	3	4.41
2	2	2.94
1(Closest)	0	0
Average	***5.90***	

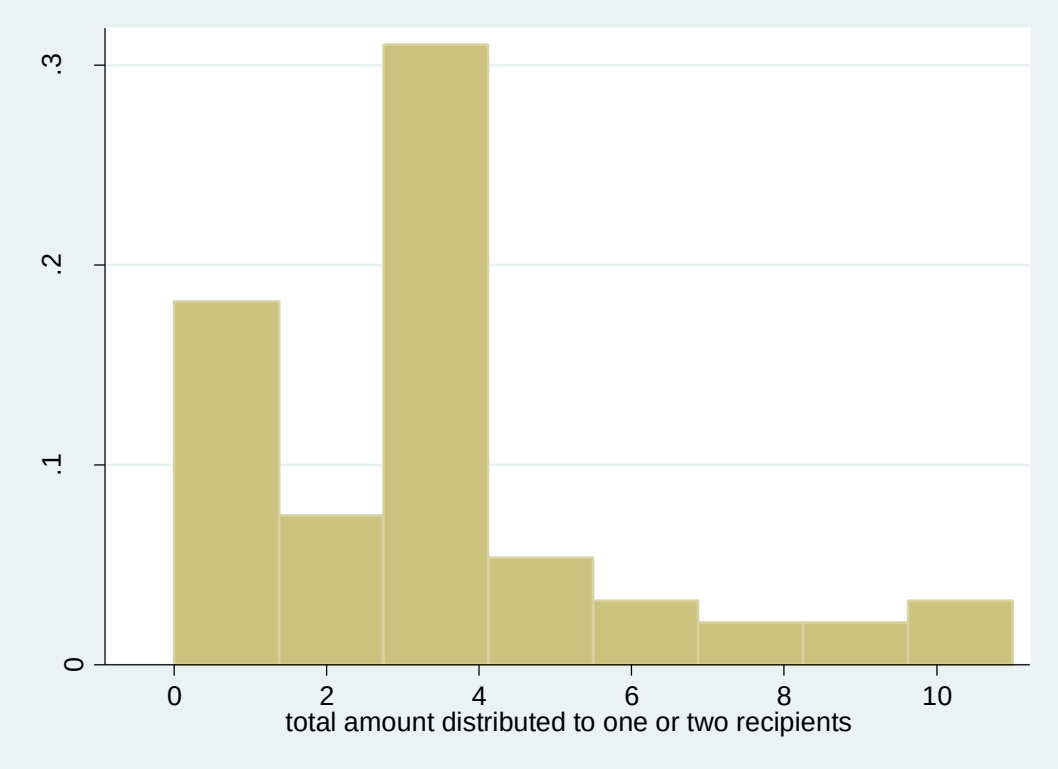
Appendix 9 –Average score on Social Dominance Orientation and Unconditional Respect Scale

Variable	Mean	Standard deviation	Min	Max
Social Dominance Orientation	4.83	1.07	2.38	7
Unconditional Respect	4.71	0.71	3	6.5

Appendix 10 –Participants' descriptive statistics (control variables)

Variable	Observation	percentage
Gender		
Female	23	33.82
Male	45	66.18
Age (mean)	21.02	
Language	68	81.82
Dutch	65	95.59
Bosnian	1	1.47
Croatian	1	1.47
German	1	1.47
Study		
Economics	32	47.06
Business Administration	19	27.94
International E&B	3	4.41
Law	2	2.94
Communication	2	2.94
Other	10	6.8

Appendix 11 – Normality of the dependent variables



Appendix 12 - Mann-Whitney U test

Treatments	observations	rank sum	expected	z	sig.
1	25	575.5	587.5		
2	21	505.5	493.5		
combined	46	1081	1081		
				-0.268	0.7886

Appendix 13 – Wilcoxon rank test in treatment 3

Variable	Obs	Rank sum	Expected	z	sig.
recipient 1	22	468	495		
recipient 2	22	522	495		
combined	44	990	990	-0.653	0.5136

Appendix 14 – Correlation table OSIO

	1	2	3
1. OSIO 1	1		
2. OSIO 2	-0.0452	1	
Significance (p)	0.7144		
3. OSIO 3	0.4381	0.1633	1
Significance (p)	0.0002***	0.1833	

Appendix 15 - Multivariate tests of means of OSIO

Test that all means are the same		
Hotelling T2	Hotelling F(2,66)	Sig.
122.06	60.12	0.0000

Appendix 16 – Correlation SDO, UR and OSIOs

	1	2	3	4	5
1. OSIO 1	1.0000				
2. OSIO 2	-0.0452	1.0000			
Significance (p)	0.7144				
3. OSIO 3	0.4381	0.1633	1.0000		
Significance (p)	0.0002***	0.1833			
4. SDO	0.0458	0.1717	-0.1348	1.0000	
Significance (p)	0.7107	0.1615	0.2732		
5. UR	0.3859	0.1883	0.2453	0.3859	1.0000
Significance (p)	0.6985	0.1240	0.0438***	0.0012***	

* $p<0.10$; ** $p<0.05$; *** $p<0.01$