

## Research Articles

# Construal-Level Perspective on Consumers' Donation Preferences in Relation to the Environment and Health

By Sabrina Lucke and Joerg Koenigstorfer

The goal of the study is to assess the interrelationship between psychological distance (and closeness) and environmental (and health) concepts as well as to assess the influence of primed distance (vs. closeness) on consumers' intentions to donate for environmental and health charities. The authors conducted two studies, considering four dimensions of psychological distance. In an Implicit Association Test, they show that it is easier and more natural for consumers to pair distant (vs. close) target words with environment-related stimuli and to pair close (vs. distant) target words with health-related stimuli. An experimental study reveals that environmental (health) charities are supported more when consumers are primed with psychological distance (closeness). The studies extend the literature on Construal Level Theory in relation to psychological distance by showing that psychological distance (vs. closeness) relates to the domains of environment and

health, with contrasting effects. These findings have implications for designing social marketing campaigns.

## 1. Introduction

Remember the last time you donated to a charity that supports social causes. Was the cause connected to the environment (e. g., to save the planet, to protect animals) or to people's health (e. g., to fight cancer, to cure ill children)? And what factors determined whether you preferred one charity over the other charity? US-American consumers have donated USD 390.05 billion in 2016 and the support of many social causes can only be maintained via donations (Giving USA Foundation 2017). From both a societal and a managerial perspective, the support of charities in the areas of environment and health is important. The United Nations stated the so-called Sustainable Development Goals (SDGs) and many individuals and entities have committed themselves to help achieve these goals. Health and environmental issues are key components of the SDGs, and donations and voluntary engagement give crucial input (United Nations 2015). For-profit and not-for-profit organizations that act in these areas are in need of efficient marketing tools to combat negative societal trends, such as increasing prevalence of chronic diseases and climate change (Maibach et al. 2008).

We argue that the mental representations of distance (vs. closeness) – a concept called psychological distance – affects consumers' preferences to donate to social charities. Such representations can relate to places (i. e., supporting a local vs. distant cause) and people (i. e., supporting people like oneself vs. people unlike oneself), for example. To date, however, it is unknown whether these representations are linked to environmental and health issues (potentially even outside people's conscious control), and whether they have an influence on donation preferences in relation to environmental vs. health issues. We build our arguments on Construal Level Theory (Liberman and Trope 1998; Trope and Liberman 2003; Trope et al. 2007) to assess the influence of psychological distance on consumers' preferences in the social marketing domain (charity support). The theory predicts that



Sabrina Lucke is Doctoral Student at the Chair of Sport and Health Management at the Technische Universität München, Georg-Brauchle-Ring 60/62, 80992 Munich, Germany, Phone: +49 (89) 289 24565, E-mail: sabrina.lucke@tum.de.



Joerg Koenigstorfer is Full Professor of Sport and Health Management at the Technische Universität München, Georg-Brauchle-Ring 60/62, 80992 Munich, Germany, Phone: +49 (89) 289 24558, E-mail: joerg.koenigstorfer@tum.de.  
\*Corresponding author

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any differences in construal are reflected in consumers' representations of psychological distance such that high-level construals relate to more distant targets, while low-level construals relate to more close targets. Based on this line of arguments, we suggest that not only are environmental topics associated with psychological distance (Carmi and Kimhi 2015), but that health topics are associated with psychological closeness.

The study aims further to find out whether psychological distance influences consumers' intentions to donate for environmental and health charities, that is, one key area in social marketing research and practice (Han et al. 2017; Khodakarami et al. 2015; Savary et al. 2015). The study contributes to the literature in several ways. First, as opposed to Griffioen et al.'s (2016) conceptual arguments that environmental and health domains exert similar effects, we show that psychological distance relates to these domains with contrasting effects. Second, we provide evidence that the associations between psychological distance (vs. closeness) and the environment as well as psychological closeness (vs. distance) and health operate implicitly and do not differ between the four dimensions of psychological distance: temporal, spatial, social, and hypothetical distance (Trope et al. 2007). Third, we show that differences in the target itself (here: the degree to which a target meets environmental or health needs) are influenced by psychological distance mindsets. We thus provide evidence that the matching of these mindsets with environmental and health concepts – likely mediated by an automatic pathway of consumer associations – influence consumers' preferences for donations to charities. We hereby extend the literature on Construal Level Theory and psychological distance. These concepts are relevant to research into consumer behavior and social psychology. We also contribute to social marketing by identifying determinants of intentions to donate to charities, as well as to field-specific marketing in relation to health, environment, and sustainability. In particular, both the psychological closeness-health linkage and the underlying automatic mechanisms have not been studied before. Lastly, we provide managerial implications for social marketers that allow them to design campaigns effectively.

## **2. Conceptual framework**

### **2.1. Construal Level Theory and psychological distance**

According to Construal Level Theory (Liberman and Trope 1998; Trope and Liberman 2003; Trope et al. 2007), individuals use different mental representations of targets around them for the perception, judgment, and prediction of these targets (i. e., objects, events, and behaviors). Evaluations of targets are not equally influenced by central and incidental attributes, but according to Construal Level Theory, it is the level of consumers' abstraction that determines which of these attributes are used as basis of evaluation (Trope et al. 2007). The theo-

ry suggests that individuals with a higher construal represent targets around them more abstractly while focusing on the target's central attributes. Individuals in a lower-level construal represent targets as more concrete and they focus on peripheral aspects.

Consumers use different mental representations to construe things and events around them. Thereby, one and the same object, event, or behavior can be understood in terms of its abstract high-level implications or its concrete low-level implications. For example, donating to charities can be understood as doing good (i. e., high-level construal) or as spending a certain amount of money (i. e., low-level construal). In marketing, the theory has been used to understand consumers' judgments and behaviors. For example, matching construal level and regulatory fit (Lee et al. 2010), construal level and message frame (Chang et al. 2015; White et al. 2011), as well as construal level and type of appeal (Hernandez et al. 2014) results in greater persuasion. Apart from the matching effect, construal level has been found to be an important determinant of truth ratings of persuasive statements (Wright et al. 2012) and judgments when information about products is incomplete (Pfeiffer et al. 2014).

Construal Level Theory provides a holistic framework that links the level of abstraction and psychological distance. Abstraction (vs. concretion) influences consumers' responses to psychologically distant events by "systematically changing the way they construe these events" (Trope and Liberman 2003, p. 403). Particularly, individuals tend to use a more abstract (concrete) construal level when they perceive, judge, or predict more psychologically distal (close) targets. They also assess more abstract targets as more psychologically distal, suggesting that the relationship between construal level and psychological distance is bidirectional (Bar-Anan et al. 2006; Trope and Liberman 2010; Trope et al. 2007). Targets can be distal (or close) along four dimensions: (1) temporal (i. e., how much time separates the perceiver and the target), (2) spatial (i. e., how close is the target from the perceiver geographically), (3) social (i. e., how different is a social object as the target from the perceiver's self), and (4) hypothetical (i. e., how likely is the target to happen or how close is it to the perceiver's reality) (Trope et al. 2007). The four distance dimensions have been manipulated separately (e. g., Henderson and Wakslak 2010; Liberman and Förster 2009; Maglio et al. 2013) or simultaneously (e. g., Wright et al. 2012) in empirical studies.

Marketing researchers studied the effects of the psychological distance dimensions on several social marketing-related outcome variables. Research by Chang (2011) focused on the role of individuals' involvement with a social cause and found that social marketing messages are evaluated more effectively when they use second (vs. third) person pronouns (i. e., second person pronouns are an operationalization of social closeness). This finding can be explained by individuals' involvement with the

advertised issue. The use of second-person pronouns increases involvement with the issue, which, in turn, increases the perceived credibility of the message (Chang 2011). In another study, Park and Morton (2015) identified involvement as moderator of construal level effects such that low involvement leads to more favorable attitudes toward the ad, the advertised behavior, and behavioral intentions to perform the behavior when the advertisement uses a promotion (prevention) focus and a social distance (closeness) manipulation. Under conditions of high involvement, promotion-focused advertisements are more effective independent of the social distance.

Previous studies have identified the underlying mechanisms of the effects of psychological distance on various outcome variables. Processing fluency and the intuitive sense of feeling right describe the situation, in which there is a fit between the information that is presented to consumers and their mental states. Then, information is easier to process (Labroo and Lee 2006; Lee and Aaker 2004). As the positive experience resulting from high fluency is attributed to the focal stimulus, the stimulus is evaluated more positively. The opposite is true when there is a lack of fit and low fluency: the stimulus is then evaluated more negatively. Further support for the mechanism is provided by Kim et al. (2009) who demonstrated the mediating effect of processing fluency for temporal distance mindsets (study 3A) and Nenkov (2012) who referred to the level at which consumers identify their actions (low vs. high) as mediator of social distance mindsets. In what follows, we link the concepts of the natural environment and health to Construal Level Theory and psychological distance. We first propose some arguments about the basic mechanisms that may be at play before we focus on one particular domain: consumers' donations for charities.

## 2.2. The relationship between psychological distance and environmental and health concepts

A recent review conducted by Griffioen et al. (2016) concludes that psychological distance matters for both domains, health and the natural environment, with similar effects. We argue that there are important differences between environmental and health contexts. First, while public communication about the environment is to a large degree limited to the single topic of climate change (and its consequences), health-related communication is much broader (i. e., it includes topics such as prevention of diseases, physical activity, and nutrition) (Griffioen et al. 2016). Thus, on the one hand, we can expect that individuals' intuitions about environmental issues are more harmonious (i. e., they "feel right") when they are in a mindset of psychological distance (abstract construal, because the topic is harder to capture) vs. closeness (concrete construal). On the other hand, intuitions about health issues should feel right when consumers are in a mindset of psychological closeness (concrete construal) vs. distance (abstract construal), because they can relate the topic to themselves in a variety of areas.

Second, the degree to which individuals are affected personally in their day-to-day life differs between the concepts of health and the environment. Most healthy (or unhealthy) activities have direct and palpable effects on the individual. For example, previous research has identified positive effects of physical activity on individuals' depression and anxiety levels (e. g., Paluska and Schwenk 2000) as well as on subjective well-being and positive mood (e. g., Penedo and Dahn 2005; Stephens 1988). Also, there are various positive effects of a range of lifestyle activities on physical health, such as lowered blood pressure (e. g., Blair et al. 1984), decreased risk of diabetes and coronary heart diseases (e. g., Bassuk and Manson 2005), and increased performance levels (e. g., Florence et al. 2008). In contrast, the outcomes of engaging in a pro-environmental behavior often cannot be felt as directly by individuals. Take for example the behaviors of reducing and recycling waste, which are likely to have favorable outcomes on the natural environment. For the effects of these practices to be visible, it takes collective instead of individual efforts as well as time (Böhm and Pfister 2000). Outcomes are often limited to geographical regions (in distance) and can therefore be less noticed by the individual (Böhm and Pfister 2000). Thus, in contrast to threats to an individual's health, environmental threats in many cases do not require immediate action by the individuals (to avoid or reduce threats on the individual level; we note that the reference point of psychological distance is the self).

Lastly, the motivation to engage in pro-environmental (vs. pro-health) behavior is rather altruistic (vs. egoistic) as, for the first type of behaviors, the aim is to ensure "the ability of future generations to meet their own needs" (United Nations 1987, p. 204, see also Hensen et al. 2016). According to Choi et al. (2012), the values that are reflected in high-level construals (e. g., altruism, morality, and benefit to others) are attributed greater importance when considered in the distant (vs. near) future. Thus, pro-environmental behaviors should relate to these high-level construals and have a higher likelihood to be associated with psychological distance (vs. closeness).

We therefore propose that individuals associate psychological distance with the concept of the environment and that individuals associate psychological closeness with the concept of health (and vice versa). In other words, associations should be facilitated when individuals' psychological distance mindset matches with the emphasized target features (here: environmental targets for distance and health targets for closeness). Associations should be more difficult to make when individuals' psychological distance mindset mismatches with the target features (here: health targets for distance and environmental targets for closeness). *H1* is formulated as follows:

*H1: Individuals associate the concept of the natural environment as psychologically distant (vs. close) from them and the concept of health as psychologically close (vs. distant) to them.*



Study	Dependent variable	Manipulation of psychological distance (vs. closeness)	Conceptualization of environmental and health concepts	Sample size
Study 1	Response latencies that assess the association between environmental and health stimuli and psychological distance and closeness attributes	Part of the IAT: Classifying words as attributes such as “a year” vs. “a second” or “here” vs. “there”	Part of the IAT: Classifying images such as a tree vs. a stethoscope or the planet earth vs. a heart	291
Study 2	Allocation of USD 10 to two charitable organizations, one pursuing an environment-related and the other a health-related objective	Supraliminal priming: Listing distal vs. close items and completing a scrambled sentence task	Material provided to participants in the experiment: Description of two charitable organizations (supporting the environment or health)	314

Tab. 1: Overview of the studies

**2.3. Consumers' donation preferences for environmental and health charities depending on psychological distance mindset**

Based on Construal Level Theory, we have argued that individuals construe the concepts of the natural environment and health at different levels. Psychological distance is rather linked to the environment and psychological closeness is rather linked to health. Adding to existing research on psychological distance and persuasion (Chang 2011; Labroo and Patrick 2009; Nenkov 2012; Park and Morton 2015; Ramirez et al. 2015; Wright et al. 2012), we propose that individuals' distance mindset does not only affect persuasion in terms of their decision-making, goals, and evaluations, their mood, and their involvement, but that their mental representation of psychological distance also drives donation preferences to charities.

Choi et al. (2012) propose that intentions to donate blood are greater in the distant (vs. near) future. The authors explain this by the nature of blood donation as an abstract socially desirable behavior. Therefore, the behavior should require high-level construal and high psychological-distance processing. On the contrary, Wiebe et al. (2016) show that consumers evaluate product advertisements more favorably and have higher intentions to purchase a product when the related corporate donation (in a cause-related marketing campaign) benefits a close (vs. distant) target. This is explained by increased risk perceptions of close (vs. distant) ads. Ein-Gar and Levontin (2013) formulate a matching hypothesis and suggest that individuals' willingness to donate to charities is greater when psychological distance of the donation appeal matches the donor's distance from the population in need. Individuals are more likely to support a charitable organization (vs. a specific person in need) when they are socially and temporally distant (vs. close). While previous studies look at the perceived distance of the needed help (i. e., later vs. now and helping an out-group vs. an in-group) and different charitable causes (none of them is related to health or the environment), we build upon and extend the matching approach and hypothesize that the congruency of individuals' psychological distance mindset (i. e., distant vs. close) and charitable causes (here: in relation to the environment vs. health) leads to a greater

willingness to donate for the respective cause. Individuals in a temporal, spatial, social or, hypothetical distance mindset should focus on environmental aspects of the target and should consequently be more likely to support environmental causes. In contrast, individuals in a psychologically close mindset should focus on the target's health-related attributes and should therefore be more likely to support health-related causes. Thus, *H2* is stated as follows:

*H2: Individuals in a psychologically distant (vs. close) mindset are more likely to donate for charities addressing social causes in relation to the environment, while individuals in a psychologically close (vs. distant) mindset are more likely to donate for charities addressing social causes in relation to health.*

**3. Overview of the studies**

We test our propositions in two studies (Tab. 1): Study 1 aims at assessing the link between psychological distance (vs. closeness) and environment (vs. health) through an Implicit Association Test (IAT). Study 2 uses a 2 (mindset: psychological distance vs. closeness) × 4 (type of the manipulation of the mindset: temporal, spatial, social, or hypothetical) × 2 (topic: natural environment vs. health; assessed via an allocation task) factorial design to investigate consumers' charity donation preferences.

**4. Study 1: Assessing the implicit associations of psychological distance (vs. closeness) with the environment (vs. health)**

In study 1, we examine the strength of automatic associations between psychological distance (closeness) and the concepts of the environment (health). The study was designed to test *H1*.

**4.1. Method**

*Participants.* Two hundred and ninety-one MTurk workers from the United States participated in the experiment

for a remuneration of USD 0.50 via the Internet (A, 72 participants; B, 74 participants; C, 72 participants; and D, 73 participants; see explanations of letters below). Fifty-eight percent of the participants were male. The mean age of the sample was 37.7 years ( $SD = 10.9$ ). There are no differences in socio-demographics between any of the groups.

**Implicit Association Test.** The IAT was used to measure consumers' automatic associations (Greenwald et al. 2002; Greenwald et al. 1998; Niemand et al. 2014). Four measurements that represent each of the dimensions of psychological distance (A, temporal; B, spatial; C, social; D, hypothetical) were made. We considered the IAT as suitable as it is particularly able to capture context-free associations without extensive mental and cognitive elaborations. Within the IAT, participants had to assign stimuli (words or pictures) that represent four different concepts (here: distant, close, environment, and health) into two response categories, whereby each of them includes two of the four concepts. The underlying rationale is that more strongly associated concepts would elicit faster responses. In this study, we assumed that individuals associate the concept of the environment with psychological distance and the concept of health with psychological closeness.

**Materials.** We used different pairings of stimuli related to psychological distance (closeness) and the environment (health) that are either congruent or incongruent according to *H1*. The congruent pairing includes psychological distance stimuli in relation with environmental stimuli and psychological closeness stimuli in relation with health stimuli. The incongruent pairing includes psychological closeness stimuli in relation with environmental stimuli and psychological distance stimuli in relation with health stimuli.

For the stimuli that represent psychological distance dimensions, we relied on existing work in the field of Construal Level Theory and psychological distance (Bar-Anan et al. 2006). We used ten English words for each measurement of the respective dimension (e. g., a year, a decade, later, next year, far future, for the temporal distant dimension [psychological distance]; a second, a minute, now, immediately, soon, for the temporal close dimension [psychological closeness]). The Appendix (*Tab. A1*) gives an overview of the stimuli according to the four different dimensions of psychological distance. For the representation of the environment and health at large, we developed pictorial stimuli, which – according to a pre-test study ( $n = 588$ ) – were identified as indicators of the environment and health, respectively. See the Appendix (*Tab. A2*) for an overview of the environmental and health stimuli that were used in study 1.

**Design.** We followed the classic seven-block design as suggested by Greenwald et al. (1998). Block 1 consisted of 20 health (environment) trials. Block 2 consisted of 20 close (distant) trials. Block 3 was a combined practice of 20 trials with the category labels at the same positions as

in trials 1 and 2. Block 4 was the first critical block of 40 trials with the same design as block 3. Block 5 consisted of 20 health (environment) trials with reversed category label position. Block 6 was a combined practice block with the new positions of close (distant) and 20 trials. Block 7 was a critical block of 40 trials with the same label positions as block 6. The order of pairings was counterbalanced in all experiments. Participants assigned the stimuli to the four different categories (i. e., close, distant, health, and environment) by giving responses using their left forefinger (pressing the E-key) or the right forefinger (pressing the I-Key).

**Procedure.** All measurements were administered using Inquisit. Each participant took only part in one measurement (i. e., one participant did only one IAT, relating to the temporal, spatial, social, or hypothetical dimension of psychological distance). Each measurement started with instructions that informed participants about the upcoming procedure and that gave them an overview of the stimuli and the corresponding categories (see *Fig. A1* in the Appendix for an example). Within the trials, the words were presented against the background of a black screen. The categories were placed in the upper right and left corners (with alternated order). The stimuli remained on the screen until the participants pressed either the E- or the I- response key. In case of wrong assignments, a 500-ms feedback signal (i. e., a red cross) appeared and allowed participants to correct their answer. Stimulus words and pictures were presented in randomized order, with repetitions possible until the number of trials was reached. In order to control for responses prior to seeing the stimulus (i. e., anticipations) and momentary inattention or cognitively elaborated responses, we recoded latencies below 300 ms (to 300 ms) and those above 3000 ms (to 3000 ms) as suggested by Greenwald et al. (1998).

## 4.2. Results and discussion

For each participant, we calculated the D score as central measure of association strength. The D score represents the difference between the mean response latencies for the two test blocks (blocks 3 and 6) and the two critical trial blocks (blocks 4 and 7) within each participant's IAT, divided by the pooled standard deviation. Positive D scores indicate congruencies between psychological distance (vs. closeness) and the environment as well as psychological closeness (vs. distance) and health. Negative D scores indicate incongruencies: psychological distance (vs. closeness) is associated more strongly with health; psychological closeness (vs. distance) is associated more strongly with the environment. In what follows, we describe the results in each of the four dimensions of psychological distance.

**Temporal distance.** Reaction times were faster in the congruent condition compared to the incongruent condition:  $M_{\text{Congruent}} = 803$  ms ( $SD = 390$ ) vs.  $M_{\text{Incongruent}} = 856$  ms ( $SD = 463$ ). The D score is positive and significantly different from zero. It indicates a positive association of

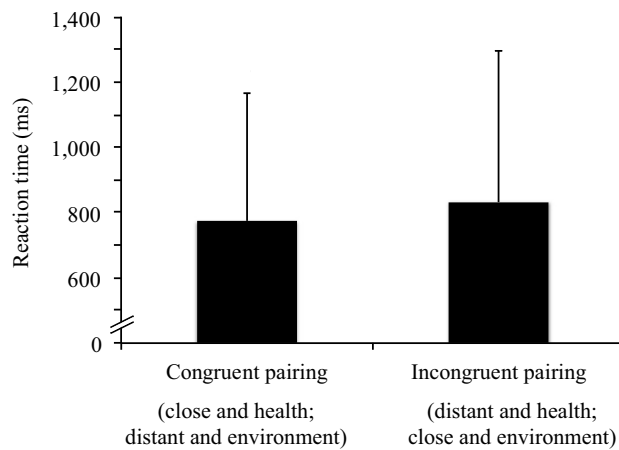


Fig. 1: Reaction times of participants in the congruent and incongruent Implicit Association Test trials according to psychological distance (or closeness) and the environment (or health)

temporal distance and the environment as well as temporal closeness and health,  $D = 0.15$ ,  $SD = 0.46$ ,  $t(71) = 2.70$ ,  $p < .01$ ). Thus, *H1* is supported in relation to the temporal psychological distance dimension.

**Spatial distance.** Participants were faster in the congruent condition compared to the incongruent condition:  $M_{\text{Congruent}} = 788$  ms ( $SD = 385$ ) vs.  $M_{\text{Incongruent}} = 865$  ms ( $SD = 451$ ). The  $D$  score is positive,  $D = 0.17$ ,  $SD = 0.43$ ,  $t(73) = 3.52$ ,  $p = .001$ . There is a positive association of spatial distance and the environment as well as spatial closeness and health. Thus, the results also support *H1* in regard to the spatial psychological distance dimension.

**Social distance.** Reaction times were faster in the congruent condition compared to the incongruent condition:  $M_{\text{Congruent}} = 726$  ms ( $SD = 383$ ),  $M_{\text{Incongruent}} = 781$  ms ( $SD = 455$ ). The  $D$  score is positive and indicates a positive association of temporal distance and the environment as well as temporal closeness and health,  $D = 0.26$ ,  $SD = 0.43$ ,  $t(71) = 5.21$ ,  $p < .001$ . Thus, *H1* is supported in relation to the social psychological distance dimension too.

**Hypothetical distance.** Participants were faster in the congruent condition compared to the incongruent condition:  $M_{\text{Congruent}} = 777$  ms ( $SD = 378$ ),  $M_{\text{Incongruent}} = 829$  ms ( $SD = 470$ ). The  $D$  score results –  $D = 0.12$ ,  $SD = 0.43$ ,  $t(72) = 2.39$ ,  $p < .05$  –, in support of *H1*, indicate a positive association of hypothetical distance and the environment as well as hypothetical closeness and health.

Fig. 1 presents the response latency results for a combined analysis of all four dimensions of psychological distance. Reaction times were faster in the congruent condition compared to the incongruent condition:  $M_{\text{Congruent}} = 773$  ms ( $SD = 385$ ) vs.  $M_{\text{Incongruent}} = 832$  ms ( $SD = 461$ ). As for each single dimension, the  $D$  score is positive and indicates a positive association of temporal distance and the environment as well as temporal close-

ness and health,  $D = 0.18$ ,  $SD = 0.44$ ,  $t(290) = 6.78$ ,  $p < .001$ . There were no significant differences in the  $D$  score between the four measurements ( $F(3, 287) = 2.06$ ,  $p = .11$ ). The results thus fully support *H1*.

The results from study 1 suggest that there is an automatic association of psychological distance and the environment as well as psychological closeness and health (vs. psychological closeness and the environment as well as psychological distance and health). The association does not differ between the four dimensions of psychological distance: temporal, spatial, social, and hypothetical. Thus, for consumers, it is easier and more natural to pair distant target words with environment-related stimuli and to pair close target words with health-related stimuli.

Next, we look at the relevance of the two different psychological distance mindsets (distant vs. close) in a social marketing setting. We designed study 2 to manipulate the psychological distance mindset and to then assess consumers' preferences for donations for environmental (vs. health) charities, depending on their mindset. Study 2 thus investigates whether the implicit mechanism identified in study 1 guides consumers' preferences (here: stated preferences to donate to charities).

## 5. Study 2: Assessing the effect of psychological distance (vs. closeness) on donation preferences in relation to the environment and health

In study 2, we examine consumers' willingness to donate to charities that either support social causes related to the environment or social causes related to health. In the study, we manipulate the psychological distance of consumers (distant vs. close) and thus create a distant (vs. close) mindset that should influence consumers' donation preferences, as stated in *H2*.

### 5.1. Method

**Participants.** Three hundred and fourteen MTurk workers from the United States participated in the online study for a remuneration of USD 0.75 (A, 81 participants; B, 79 participants; C, 78 participants; D, 76 participants; see explanations of letters below). About 49 % of the participants were male. The sample's mean age was 36.4 years ( $SD = 12.4$ ). Participants rated their health condition as fairly good ( $M = 74.9$ ,  $SD = 19.7$ , out of 100 [0 being the lowest score]) and the condition of the natural environment as moderate ( $M = 58.9$ ,  $SD = 21.1$ , out of 100 [0 being the lowest score]). None of study 2's participants has taken part in study 1 (to rule out unwanted learning effects).

**Design, procedure, and materials.** In a cover story, we told our participants that the study consisted of two separate studies that were combined for efficiency reasons. In the first study, ostensibly a creativity test (i. e., we informed the participants that we were interested in their



imagination and creativity skills), we primed the participants. They were primed to have either a psychological distance or closeness mindset. In agreement with the four dimensions of psychological distance (Trope and Liberman 2003), we developed four different primes (A, temporal; B, spatial; C, social; D, hypothetical). As in study 1, each participant took part once, that is, each participant was primed in only one of the four dimensions of psychological distance.

The prime consisted of a listing task and a scrambled sentence task. In the listing task, participants had to name a designated number of things, persons, or events. In the scrambled sentence task, participants were asked to build five sentences, each from a list of scrambled words that shared a common theme (i. e., either distance or closeness). The scrambled sentence task is widely used in order to prime cognitions related to that theme (Sellaheewa and Mullan 2015; Srull and Wyer 1979). For example, in the temporal dimension (A), participants were asked to name four events or things that will become important in ten years (psychological distance), or tomorrow (psychological closeness), and to build sentences based on scrambled words with temporal relevance (e. g., ages – grow – takes – to – it [psychological distance]; or to – it – blink – milliseconds – takes [psychological closeness]). *Tab. A3* in the Appendix shows the complete priming material.

Following the priming task, we informed participants that the first study was over. We then told them that, in the second study, we were interested in their opinion about a university event. They were told that a large German university planned to organize its yearly 'giving-back week' whereby one designated charity was chosen as partner of the event each year. The charity benefits from the partnership, because it receives public attention and gets all the donations collected throughout the event. The university thereby supports the specific social cause. We informed participants that two charities have made it on the short list and that we were interested in their preferences for these charities. This would allow the university to choose the best charity for the event.

In the study, participants were given the option between the Masek Charity that supports pro-environmental innovations (in particular, social causes related to the environment) and the Kobus Charity that supports innovations in health care (in particular, social causes related to health). The names of the charities were fictitious. Both charities were described in brief (67 and 65 words respectively, see *Tab. A4* in the Appendix for the complete description) and the dependent variable of interest was assessed (see measures below). At the end of the study, we asked participants for their age, gender, and their thoughts about what the researchers were interested in before thanking and debriefing them. None of the participants guessed our hypothesis.

**Measures.** We assessed participants' willingness to donate to the each of the two charities via an allocation

task. We asked them to allocate USD 10 between the two charities and then used the donation amount for one of the charities (Masek) as the dependent variable. We measured individuals' perception of the status of the natural environment by asking them how they rate the condition of the natural environment on a scale from 0 to 100 (0 = very bad, 100 = very good). Similarly, we assessed their perceived health status by asking how they rate their overall health condition on the same scale (0 = very bad, 100 = very good). There were no significant differences in these variables between the experimental conditions ( $F$ 's < 3.2 and  $p$ 's > .05).

## 5.2. Results and discussion

To analyze the data, we ran an ANOVA. Since each of the participants was subjected to the priming of one of these dimensions only, the priming of psychological distance (or closeness) was treated as the between-participant factor (distant, close). We also controlled for the type of dimension of psychological distance in the analysis (temporal, spatial, social, and hypothetical, i. e., another between-participant factor). Consumers' perception of the status of the environment and their own health were modeled as covariates. The amount allocated to the environmental charity (Masek) was treated as the dependent variable.

*Tab. 2* presents the means (and standard deviations) of the donation amounts stated by the participants. An ANOVA using the whole sample and including all main effects and the interaction effect between the manipulation and the four distance dimensions showed that participants differed in their preferences for the two charities when primed with psychological distance (vs. closeness),  $F(1,304) = 4.24$ ,  $p = .04$ , partial  $\eta^2 = .01$ . Consumers' donation intentions for the environmental charity were significantly higher in the distant mindset condition compared to the close mindset condition (USD 5.09 vs. USD 4.50). The opposite was true for the health charity, where donation intentions were higher in the close mindset condition compared to the distant mindset condition (USD 5.50 vs. USD 4.91). We therefore find support for *H2*.

The analysis revealed further that there were no significant differences in the amount of money allocated to the environmental charity depending on the dimension of psychological distance that was primed ( $F(3,304) = 0.22$ ,  $p = .88$ ). The interaction of the manipulation and the type of dimension was non-significant ( $F(3,304) = 0.10$ ,  $p = .96$ ). Both the perceived condition of the environment ( $F(1,304) = 55.37$ ,  $p < .001$ , partial  $\eta^2 = .15$ ) and the perceived health condition ( $F(1,304) = 4.66$ ,  $p = .03$ , partial  $\eta^2 = .02$ ) had a significant effect (negative and positive, respectively). This is in agreement with what one would expect.

To conclude, the results from study 2 indicate that the psychological distance mindset (distant vs. close) influences consumers' intention to donate for social causes.

Conditions	Congruent conditions		Incongruent conditions	
	Psychological distance and allocation to environmental charity	Psychological closeness and allocation to health charity	Psychological distance and allocation to health charity	Psychological closeness and allocation to environmental charity
Dimensions	(1)	(2)	(3)	(4)
Temporal	5.38 (2.90)	5.34 (2.84)	4.62 (2.90)	4.66 (2.84)
Spatial	5.07 (2.97)	5.20 (2.92)	4.93 (2.97)	4.80 (2.92)
Social	4.91 (2.93)	5.77 (3.19)	5.09 (2.93)	4.23 (3.19)
Hypothetical	5.03 (3.17)	5.79 (2.89)	4.97 (3.17)	4.21 (2.89)
Overall	5.09 (2.96)	5.50 (2.93)	4.91 (2.96)	4.50 (2.94)

Notes. Non-adjusted means are presented (in USD). T-test comparisons between (1) and (4) within each of the dimensions did not reveal any significant differences.

Tab. 2: Means and standard deviations (in brackets) of the allocation of USD 10 to two different charities (environment vs. health) depending on the manipulation of psychological distance

In support of *H2*, environmental (health) charities are supported more when consumers are primed with psychological distance (closeness). No differences were found for the four dimensions of psychological distance: temporal, spatial, social, and hypothetical.

## 6. General discussion

The purpose of this study was to assess the interrelationship between psychological distance (and closeness) and environmental (and health) concepts, and to assess the influence of consumers' psychological distance (vs. closeness) mindsets on a social marketing-relevant downstream variable: consumers' preference to donate for social causes. Study 1 showed that psychological distance (vs. closeness) is automatically related to the environment (vs. health) and vice versa. Study 2 showed that consumers' willingness to donate for environmental (health) causes is relatively higher for consumers in a psychological distance (closeness) mindset. The results of both studies do not change depending on the type of dimension of psychological distance: temporal, spatial, social, and hypothetical distance.

### 6.1. Theoretical implications

The study makes several contributions to the literature on Construal Level Theory and psychological distance as well as to general and social marketing fields. First, we provide evidence that the general associations between psychological distance and the environment and psychological closeness and health operate at an implicit level. The automatic nature of the relationship indicates that individuals hold associations of the environment (health) and psychological distance (closeness) even though they may be not cognitively aware of them. These findings are in agreement with findings from the general marketing literature, given that a significant portion of consumer associations and resulting behaviors happen without conscious awareness (Bargh 2002; Bargh et al. 2012; Chartrand and Bargh 2002; Greenwald et al. 2002). Mesner and Vosgerau (2010) as well as Niemand et al.

(2014) highlight the relevance of implicit processes in general, and the IAT as a measurement tool in marketing research in particular. Bargh et al. (2012) summarize evidence that automaticity explains and predicts a multitude of psychological phenomena: decision making, emotion regulation, social and moral judgment, motivation, goal pursuit, stereotyping, prejudice, attention, motor performance, and relationship formation and maintenance. Automatic processes are found to operate beyond hedonic impulses (Bargh 2002) and without the necessity of prior skill acquisition (Bargh et al. 2012). They can be activated via nonconscious primes, such as the primes used in our study (Bargh 1992; Bargh et al. 2001). Our results are in line with this stream of research.

Second, we show that the domain of the environment and the domain of health relate to the concept of psychological distance (vs. closeness), with differential relationships (study 1) and differential effects on consumers' donation preference, a relevant social marketing-relevant variable (study 2). While Griffioen et al. (2016) present an overview of empirical studies that have considered either environmental contexts or health contexts from the perspective of psychological distance (arguing for the similarity of the two contexts), the authors did not identify any studies that compare the effects of psychological distance on consumer preferences for objects, events, or behaviors in relation to the environment and health. Most prior work (Carmi and Kimhi 2015; Chang 2011; McDonald et al. 2015; Ramirez et al. 2015) focused on one of the contexts only, thereby neglecting the inherent multifinality of objects, events, or behaviors. Our study partially fills this void of research and it is the first study that directly compares the two contexts (the natural environment vs. health) depending on consumers' mindset of psychological distance (vs. closeness). Despite the conceptual distinction between the environment and health made in our studies, we note that these two concepts are by no means two poles at the end of a continuum. Many activities can contribute to (or harm) environmental and health aspects at the same time. Our results add to the existing literature by looking at the two concepts through a shared lens (since consumers can make associations



with, and support, one and the other), considering both implicit associations (study 1) and outcome variables (study 2, dependent variables).

Third, the comparison between environmental contexts and health contexts is relevant, as we show that these two contexts implicitly relate to either psychological distance (vs. closeness, in the case of the environment) or to psychological closeness (vs. distance, in the case of health). This is in contrast to Griffioen et al.'s (2016) postulation. But what are the potential mechanisms that explain this finding? We have argued that health topics have direct and palpable effects on the individual and they require more immediate action, while environmental effects are more indirect, less palpable in the short run, and more long-term oriented, driven by philanthropic motives. Also, health topics are likely subject to lower-level construals, while environmental topics are likely related to higher-level construals. These aspects influence the degree to which consumers "feel right" and the ease of processing fluency. The results can also be explained from the perspective of previous studies that looked at consumer motivations to engage in sustainable consumption behaviors (e. g., Stern and Dietz 1994; Yang et al. 2015). Psychological closeness might be associated with egocentric motivations, while psychological distance fits with anthropocentric and ecocentric motivations. Thus, motivations may explain the results found in our study.

Lastly, our results extend existing research on Construal Level Theory by indicating that the relationships and effects do not change depending on the dimensions of psychological distance under consideration. Prior research provided mixed evidence on the differences between the four dimensions of psychological distance. Some studies found evidence that only some dimensions have an influence on consumer-related outcome variables (e. g., Choi et al. 2012; Ein-Gar and Levontin 2013; Jia et al. 2009; Todorov et al. 2007), other studies showed that the findings are generalizable across the four dimensions (e. g., Henderson and Waksalak 2010; Maglio et al. 2013). While previous research did not propose any background variables that may explain the differential effects for the former or the latter, we found no differences between the dimensions in both studies. There were no interaction effects of the type of dimension of psychological distance and any of the variables that we considered in our studies. Thus, both automatic associations (study 1) and consumers' cognitively controlled preferences as a result of a psychological distant vs. close mindset (study 2) seem to be independent from the type of psychological distance (vs. closeness). On the one hand, researchers may then consider less than four dimensions to run experiments more efficiently. On the other hand, the omission of one of the dimensions as an explanation for health or environmental issues means that only fractions of the full picture are considered (e. g., Karmi and Cimhi (2016) leave out the spatial dimensions to correlate psychological distance with environmental threats). In addition, we extend existing literature regarding Construal Level The-

ory by understanding psychological distance in terms of consumers' mindset instead of understanding it as object or event attribute (e. g., Choi et al. 2012; Ein-Gar and Levontin 2013). As argued before, primed mindsets are important tools to study consumers' associations, preferences, and behaviors in response to marketing-related stimuli.

## 6.2. Managerial implications

As our studies were conducted in a social marketing context (particularly study 2), our results are mainly relevant to practitioners in the area of social marketing and public policy marketing. Social marketers, public policy makers, and charitable organizations can be informed to better understand the multifinality of many behaviors, and how the preferences for certain contexts are influenced by the concept of psychological distance. For example, practitioners may design different persuasive messages to encourage consumers to support either pro-health or pro-environmental initiatives, depending on their mindset of psychological distance. To align consumers' psychological distance and a communication campaign's contextual focus (here: on health or environmental aspects), a segmentation strategy could be used. We would expect the segment-specific campaign to be more successful at persuading consumers towards the socially desirable outcomes when there is a match (distant-environment and close-health, respectively) vs. when there is a mismatch (distant-health and close-environment, respectively). Campaigns directed at increasing health-related donations should use psychological close frames that focus on subordinate and concrete goals. In contrast, when aiming at increasing pro-environmental donations, messages should focus on communicating psychologically distant frames and abstract, superordinate goals.

Social marketers and public policy makers might also be interested in how to bring consumers in a psychologically distant (vs. close) mindset. All potential marketing tools can be used to manipulate the mindset during the decision-making process. For example, marketers may highlight the immediateness of consumer actions (temporal), the local effects of consumer actions (spatial), the relevance of the self or in-groups (social), and the certainty of cause-effect relationships (hypothetical) when health charities or the support for health-related institutions are promoted. Vice versa, marketers may highlight the long-term effects of consumer actions (temporal), the global effects of consumer actions (spatial), the relevance of important others or out-groups (social), and the uncertainty of cause-effect relationships (hypothetical) when charities or initiatives are promoted for environmental purposes, such as for the category of waste disposal and recycling. Thus, when objects, events, or behaviors with multifinality are marketed, social marketers can frame them accordingly to influence consumers effectively.

## 7. Limitations and further research

This paper has several limitations that should be addressed in future research. First, both studies were conducted online, using panel members from Amazon's Mechanical Turk. They were United States residents. Although the use of the panel is widely accepted (e. g., Hauser and Schwarz 2016; Mason and Suri 2012), future research could replicate the studies in a laboratory setting using a different sample in order to increase external validity. Consumer donations are more frequent and higher in the United States compared to Europe in general and Germany in particular (Charities Aid Foundation 2016) and the question of the generalizability of the findings to the latter regions remains unanswered in the study. External validity may also be increased in relation to the dependent variables. In study 2, our dependent variable was assessed via self-ratings based on a description of two fictitious charities. Actual donations evidenced from the field could provide additional support for the differential effects of psychological distance (vs. closeness) on preferences to donate for environmental and health charities, respectively.

Second, our research design did not take into account the fact that some consumers may be motivated by both health and environmental reasons and pursue goals in relation to both concepts (and that there is a goal hierarchy behind their eventual choices). It is unclear which mindset determines the preferences of these people, particularly when goals are complementary to each other (or in conflict with each other). For example, some consumers, when primed with psychological distance, may have focused on superordinate (vs. subordinate) goals and understood health as a means to an end to achieve the environmental superordinate goals (e. g., Finn and O'Fallon 2017). Future research may look at the factors that moderate the relationship between psychological distance mindsets and consumer-related outcome variables, and consumers' perspective on complementary or conflicting environmental and health goals. Furthermore, future research may assess the mechanisms of how motivation and goals drive the effects that we found in our studies. For example, different motivation of consumers (e. g., egocentric, altruistic, and ecocentric in regard to environmental concern; Stern and Dietz 1994) could drive the differential effects of psychological distance vs. closeness beside ease of processing and intuition toward feeling right.

Third, the distinction between the natural environment and health made in our study is broad and can thus be subject to criticism. The stimuli used in study 1, for example, may have introduced unwanted valence and biases (e. g., fear of symbols in relation to medicine and medical doctors vs. joy of symbols in relation to the environment). Furthermore, even within one concept – health or the environment –, there may be a matching with psychologically distant or close contexts. For example, while the experience of getting sunburned may relate to closeness (e. g., having a red, itchy, and aching skin), it may also relate to distance (e. g., risking to get skin

cancer). The same is true for environmental issues, such as in relation to air quality. In the light of the recent car industry scandal, individuals may be more aware of the immediate and nearby consequences of air pollution as opposed to the long-term consequences (compared to before the scandal). Thus, both psychological distance and psychological closeness can be framed within the environmental context. Also, future studies can test whether the relationship between psychological distance and the two concepts of the environment and health is bidirectional, similar to the relationship between psychological distance and construal level (Trope et al. 2007). Based on study 1 results, one may expect that consumers primed with the environment (vs. health) form more abstract (vs. concrete) construals or perceive the psychological distance to be higher (smaller), for example.

Lastly, future research has to show whether the findings replicate for other marketing-relevant objects, events, and behaviors than for donation preferences in relation to charities. There is a large number of societally and individually relevant behaviors of consumers that can be construed in terms of environmental and health benefits, such as eating sustainable food options, being physically active by commuting to work by bike, and engaging in community or home gardening, to name a few examples. We may expect that consumers evaluate these activities best (and prefer them most) when the psychological distance mindset matches with the framing of the respective behaviors. If consumers are in a close mindset, the health value of these behaviors should be highlighted (as we can expect that consumers value health benefits more than environmental benefits). If consumers are in a distant mindset, attributes of environmental friendliness should gain relevance (as we can expect that higher-level construals make consumers more likely to take an ecological perspective). These value propositions are likely contrasted with the perception of other attributes, as previous research has shown that perceived costs are also influenced by the mindset of psychological distance (Bornemann and Homburg 2011).











## 8. Conclusions

Our study contributes to existing research by developing a conceptual framework of implicit relationships and effects based upon Construal Level Theory that is applicable to environmental vs. health contexts and by revealing the differential effects on consumers' willingness to donate for two different charities depending on the psychological distance mindset: there is a preference for environmental (health) charities in a psychologically distant (close) mindset. In our society, more and more individuals donate for social causes. Still, higher engagement is needed to address the environmental and health challenges today, particularly to achieve the SDGs stated by the United Nations. Bringing consumers in the right mindset may be one step into this direction.

Appendix

Dimension	Distant	Close
Temporal	A year A decade Later Next year Far future	A second A minute Now Immediately Soon
Spatial	There Far Distant Remote Faraway	Here Near Close Nearby Proximal
Social	Their Others Them They Theirs	Me Mine Us We Ours
Hypothetical	Unlikely Uncertain Unreal Unforeseeable Unpredictable	Likely Certain Real Foreseeable Predictable

Tab. A1: Implicit Association Test stimuli representing psychological distance and closeness (study 1)

Context					
Environment					
Health					

Tab. A2: Implicit Association Test stimuli representing the environment and health (study 1)

Press "E" for

Close

Press "I" for

Distant

Part 1 of 7

Put a left finger on the **E** key for items that belong to the category Close. Put a right finger on the **I** key for items that belong to the category Distant. Items will appear one at a time.

If you make a mistake, a red **X** will appear. Press the other key to continue. Go as fast as you can while being accurate.

Press the **space bar** when you are ready to start.

Fig. A1: Sample for the Implicit Association Test instructions displayed on participants' computer screen (study 1)



Dimension	Distant	Close
Temporal	Name four things or events that will become important ... ... in ten years ages - grow - takes - to - it decade - for - plans - a - he very - seen - the - are - consequences - late year - is - far - the - next - away people - everywhere - allows - future - far travel - the - to	... tomorrow to - it - blink - milliseconds - takes minute - the - in - leaves - bus - a leave - the - wants - crowd - to - now consequences - visible - are - immediately - the be - done - the - soon - job - will
	Name four cities that are ... ... on continents other than North America far - moon - is - the - very - away his - keeps - he - distance long - people - distances - travel - can very - Asia - distant - feels in - remote - he - place - a - lives	... close to your hometown by - the - grocery - close - store - is favorite - nearby - is - shop - his here - kids - live - many next - close - the - feels - city many - area - visitors - the - nearby - attracts
Social	Name four ... ... persons you do not know personally (such as celebrities or politicians) who you'd like to avoid plan - the - a - trip - others - hiking cannot - strangers - trusted - be they - lost - the - game their - it's - business strategy - the - bad others' - was	... family members or friends who you'd like to have around often new - great - my - is - job tea - we - breakfast - for - like game - for - over - my - board - friends - come gifts - family - the - gives - my - greatest it - have - good - felt - my - around - to - friends
	Name four events or things that are ... ... very unlikely to happen unpredictable - solar - is - eclipse - next - the wrong - may - uncertainty - cause - conclusions unlikely - new - very - are - elections Time - still - travel - impossible - is just - autumn - is - weather - unforeseeable	... very likely to happen it - sunny - be - is - likely - to Britain - the - is - leaves - certain - it - that - EU sales - be - store - predicted - can - grocery - easily likely - infrastructure - is - the - very - invest - it - US - that - in - will real - interest - are - rates - increasing
Hypothetical		

Tab. A3: Stimuli of the listing task and the scrambled sentence task representing psychological distance and closeness (study 2)

Context	Stimuli
Environment	THE MASEK FOUNDATION The MASEK Foundation is a pro-environmental charity supporting innovations in preventing climate change. According to the foundation, most eco-problems (such as global warming, droughts, floods) can be solved through the application of modern technologies. Therefore, the MASEK Foundation invests in research and development of new technologies to detect and reduce ecological problems, innovative climate monitoring systems, and other smart pro-environmental solutions.
Health	THE KOBUS FOUNDATION The KOBUS foundation is a health charity that supports technological innovations in health care. It is the foundation's core belief that most diseases can be cured or at least treated through technology and research. The KOBUS foundation therefore promotes and supports research and development of new technologies for the (early) detection and treatment of diseases, patient communication, and other smart health care solutions.

Tab. A4: Descriptions of the environmental and health charities (study 2)

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**Editor-in-Chief:** Prof. Dr. Bernhard Swoboda, Chair for Marketing and Retailing, University of Trier, Universitätsring 15, D-54296 Trier, Phone: +49 651 201 3050, Fax: +49 651 201 4165, Email: [editor@marketing-zfp.de](mailto:editor@marketing-zfp.de)

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