WHEN 'I' BELONG I DON'T CARE ABOUT 'YOU': THE ROLE OF SELF-CONSTRUAL AND SOCIAL INCLUSION IN PRO-SOCIAL BEHAVIOUR DIRECTED AT ANIMAL OUT-GROUP RECIPIENTS

by

CLUNY SOUTH

B.A. (Hon.), Central St Martins, The University of the Arts London, 1987

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The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, the dissertation entitled:

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Examining Committee:

Michael Meitner, Forest Resources Management
Co-supervisor

Katherine White, Sauder School of Business
Co-supervisor

Hal Herzog, Psychology, WCU
Supervisory Committee Member

Mark Schaller, Psychology
University Examiner

Marc-David L. Seidel, Sauder School of Business
University Examiner

Abstract

This dissertation is aimed at improving understanding of the mechanisms at play in prosocial behaviour, as a function of recipient group identity (i.e. in-group vs. out-group member), self-construal, and social inclusion. While some research has examined the impacts of self-construal on prosocial behaviour, as well as the downstream reactions to threats of exclusion, little research has looked at the impact that perceptions of inclusion may have on prosocial behaviour. Moreover even less research has looked at how promises, or reminders, of social inclusion may be specifically experienced by individuals with high independent self-construal, and how this may impact their subsequent prosocial behaviour towards out-group (vs. in-group) targets of concern. The goal of this dissertation is to explore the interaction between inclusion and independent self-construal, with a focus on the downstream consequences for prosocial behaviour directed at out-groups.

Across five experimental studies I demonstrate that individuals with high independent self-construal may behave more prosocially towards out-group targets (more inclusively in two grouping tasks, and more prosocially in two donation tasks) under normal conditions, in comparison with individuals high in interdependent self-construal. I also offer evidence that following an affirmation of social inclusion status the pattern reverses and individuals with high independent self-construal behave less prosocially towards out-group targets. Furthermore, I provide some tentative evidence to support the argument that individuals with high

independent self-construal may be motivated to behave prosocially towards out-group targets in order to maximise social connection potential, and that feelings of similarity may increase this. Finally, I demonstrate that feelings of connection to cause may mediate these mechanisms in the case of donation intentions.

Taken together this dissertation builds on previous research, and then extends it to demonstrate that while individuals with high independent self-construal may behave more prosocially to out-groups under normal circumstances, promises or reminders of inclusion may reverse this pattern, decreasing prosocial behaviour. I provide some preliminary evidence that the increase (decrease) in prosocial behaviour is as a result of increased (decreased) motivation for social interaction.

Lay Summary

In this research I demonstrate that under normal circumstances, individuals that are high in individual self-construal (having a sense of self that is more self focused as opposed to more other focused) behave in a more prosocial way towards out-groups and distant others. However, following a reminder, or assurance, that they belong and are socially included, individuals that are high in individual self-construal behave in a less prosocial way towards out-groups and distant others. I show that perceptions of similarity and connection between donors and recipients of prosocial behaviour alter the responses by donors, and argue that their behaviour may be driven, in part, by a desire to maintain a sense of belonging, or to improve social connection with others.

Preface

I am the primary author of the work presented in this Ph.D. dissertation. I was responsible for conducting the literature review, developing the hypotheses, designing the experiments, collecting the data, analyzing the data, and preparing the manuscript. Katherine White and Michael Meitner assisted in designing the experiments. Katherine White, Michael Meitner, and Hal Herzog provided intellectual contributions. None of the text of the dissertation is taken directly from previously published or collaborative articles.

Ethical Approval for all experimental studies was obtained from the UBC Office of Research Services Behavioural Review Board (Human Ethics) under the following certificate number: H14-00190.

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List of Acronyms

ANOVA   analysis of variance

BC SPCA   British Columbia Society for the Prevention of Cruelty to Animals

FNE   fear of negative evaluations (scale)

HAI   human animal interactions

IDA   individual differences in anthropomorphism

IDAQ   individual differences in anthropomorphism questionnaire (scale)

IHSR   Intergroup Helping as Status Relations

INQ   interpersonal needs questionnaire (scale)

JN   Johnson-Neyman

MMR   moderated multiple regression

MTurk   Mechanical Turk

NTB   need to belong (scale)

ODT   Optimal Distinctiveness Theory

SCT   Self-Categorization Theory

SD   social desirability (scale)

SIT   Social Identity Theory

SMS   Social Monitoring System

SPSS   Statistical Package for the Social Sciences

THWB   thwarted belonging (scale)

WEIRD   western, educated, industrialised, rich and democratic (societies)

Acknowledgements

These years spent at UBC came at a time in my life when I was changing direction and embarking on a new adventure. Many people have supported and encouraged me along the way.

To my supervisor, Kate White, I owe enormous thanks. I know I wasn't always the easiest student, but you nonetheless offered me amazing support, resources and encouragement over the many years it has taken to get here. You've shaken me out of my comfort zone time and again, and encouraged me to challenge myself and to achieve more than I ever thought would be possible. It has been really exciting learning with you and you have opened my mind to a fascinating body of research. Thank you so very much.

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To my outside supervisor, Hal Herzog, I thank you for your outrageous enthusiasm and fantastic sense of humour. Your inspirational presence in the field of anthrozoology both lit my thirst for research in this area and then fanned the flames. As well as encouraging me to be brave and bold, you've been a fantastically supportive member of my committee and a steadying influence at times. I am deeply honoured, and very lucky, to have had you on my team.

Finally, a special thanks goes to my very first supervisor, Paul Wood, who believed in me from the outset and encouraged me to take this path from the beginning.

Dedication

This dissertation is dedicated to my family, without whom I would be a lesser person. To my partner, Rick Gibson, my children, Orlanda South and Arlo Maguire, and my parents, Peter and Marie South, I would like to acknowledge the part you all played, and the price you all paid, for this research work. Any success I accrue as a result of this work, I share with you. Any pride I acknowledge as a result of this work, I share with you. For, in the words of the English poet John Donne, no man is an island.

"No man is an island entire of itself; every man
is a piece of the continent, a part of the main;
if a clod be washed away by the sea, Europe
is the less, as well as if a promontory were, as
well as any manner of thy friends or of thine
own were; any man's death diminishes me,
because I am involved in mankind.
And therefore never send to know for whom
the bell tolls; it tolls for thee."

John Donne, 1624

Chapter 1: Introduction

Over a quarter of a century of research (see Baumeister & Leary, 1995; Williams, 2009; Leary & Cottrell, 2013 for narrative literature reviews) has been devoted to examining the effects of social isolation on the human psyche, and in particular the impact that social exclusion may have for subsequent social interactions, such as prosocial behaviour. A few researchers (e.g., Brewer, 1991; DeWall, Baumeister, & Vohs, 2008) have also looked at the impact that belonging satiation and reassurances of social inclusion may have for subsequent interactions, including attitudes to distant humans and even other species (Waytz & Epley, 2012; Waytz, 2013). Results from the research into the impacts of exclusion and inclusion on downstream reactions, however, have been mixed. Some research has found that exclusion increases antisocial behaviour (Twenge, Baumeister, Tice, & Stucke, 2001), and *reduces* prosocial behaviour and cooperation (Catanese & Tice, 2005; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; van Beest & Williams, 2011), whilst other research has demonstrated that prosocial behaviour may *increase* following exclusion (Lee & Shrum, 2012), especially if an opportunity to reconnect still exists (Maner, DeWall, Baumeister, & Schaller, 2007; Cuadrado, Tabernero, & Steinel, 2015).

Alongside this work on social exclusion and belonging, another separate but related body of research has been explicitly examining the motives for prosocial behaviour (Batson, 1987; Batson, Ahmad, & Stocks, 2011; Duclos & Barasch, 2014; Martela &

Ryan, 2016). In particular, researchers in this stream have focused on how prosocial

motivation may differ depending on the status and group membership of both

donor and target (Brewer, 1979; Hopkins, Reicher, Harrison, Cassidy, Bull, & Levine,

2007; Jonas, Schimel, Greenberg, & Pyszczynski, 2002; Leeuwen & Tauber, 2012;

Sturmer & Snyder, 2010; Tajfel & Turner, 1986), as well as examining how

behaviour may be impacted by perceived similarity or closeness to the cause

(Burnstein, Crandall, & Kitayama, 1994; Sturmer & Snyder, 2010).

Further recent interest has focused on the moderating effect that self-construal

orientation may have, both on threats to belonging (Pfundmair, Graupmann, Du,

Frey, & Aydin, 2014; Pfundmair, Graupmann, Frey, & Aydin, 2015; Ren,

Wesselmann, & Williams, 2013), as well as on group behaviour (Yuki & Takemura,

2013), and prosocial behaviour directed towards both in and out-group targets

(Duclos & Barasch, 2014; Kemmelmeier, Jambor, & Letner, 2006). Self-construal

may best be defined as what people believe about the relationship between the self

and others, and specifically how separate or connected an individual is to others

around them. Two views of self-construal are usually distinguished; that of

independent self-construal, which concerns an individual's self-determination and

distinctiveness, vs. that of interdependent self-construal, which concerns an

individual's shared self and maintenance of relationships with others (Markus &

Kitayama, 1991; 2010). Traditionally individuals with highly independent self-

construal are considered to be more likely to behave according to their own

preferences and for their personal pleasure, compared to those with high

interdependent self-construal, who are thought to be more likely to value interpersonal relationships, and others' feelings and evaluations (Sung, Choi, & Tinkham, 2012). However, when it comes to prosocial behaviour, it appears that individuals with high independent self-construal are just as, if not more, charitable towards others (Kemmelmeier, Jambor, & Letner, 2006), and are distinctly more likely to behave prosocially to out-group members. Individuals high in interdependent self-construal, on the other hand, appear to show a marked in-group bias (Duclos & Barasch, 2014).

This dissertation is focused on the intersection of these bodies of research; prosocial behaviour directed towards out-groups, as a factor of social inclusion status, donor self-construal orientation, and social identity. The hope of this research is to forward an argument as to why prior research, investigating the downstream prosocial responses following inclusion and exclusion, may have delivered divergent results, and to make some progress towards filling in gaps in our knowledge regarding this important area of research. Specifically, I propose that at least some of the divergent past findings on prosocial behaviour patterns towards out-groups may stem from a failure to account for the interaction between self-construal and social inclusion status and, in particular, the motivational impact that a need for social inclusion has for individuals that are high in independent self-construal.

Furthermore, I argue that the social identity of the recipient of the prosocial behaviour (as compared to the donor) is of crucial importance. In addition, I offer forward evidence that although individuals with high independent self-construal are considered to show less in-group bias (Duclos & Barasch, 2014), they may nonetheless behave as poorly towards out-group targets as do individuals with high interdependent self-construal, under specific (inclusion) conditions. Finally, I bring a novel out-group target, non-human animals, to the table, in order to investigate how perceptions of similarity to an out-group may mediate prosocial intentions for individuals that are high in independent self-construal. In summary, my research seeks to further the understanding of the impact that self-construal orientation has on inclusive behaviours and prosocial intentions towards out-group members, as a result of social inclusion status.

1.1 Overview of Dissertation

This dissertation is comprised of one essay that includes six studies (one pre-test study, one correlational study, and four experimental studies, including one experimental field study). The essay seeks to build on previous research and further probe the motivations driving prosocial behaviour towards distant others, including non-humans, as a function of social inclusion status, and to examine the moderating influence of self-construal orientation.

To this end, I first present evidence that individuals show a propensity to gauge others around them, including both humans and animals, in terms of their potential to offer opportunities for social interaction and connection (pre-test study). I also show that independent self-construal correlates with anthropomorphic tendencies (assignment of human attributes to non-human others). I then seek to demonstrate how self-construal orientation may impact the formation of in-groups and out-groups (study 1), and show that a positive relationship exists, between independent self-construal orientation and the inclusion of animal out-group members into a self-formed in-group. I propose that this happens for two reasons; first, because individuals that are high in independent self-construal have more relaxed in-group boundaries and are more open to admitting others, and second because individuals that are high in independent self-construal will be more likely to view animals from a perspective of having social connection potential.

Building on from this, I replicate the findings of study 1 in an experimental lab setting (study 2), and then go on to demonstrate the moderating influence of social inclusion status, especially for individuals that are high in independent self-construal. Specifically, study 2 provides evidence that an affirmation of social inclusion may result in the consolidation of in-group boundaries, and a decrease in the ratings of anthropomorphism (assignment of human attributes) given to animals, for individuals that are high in independent self-construal. Furthermore, study 2 also offers evidence to support the claim that a high interdependent self-

construal orientation may provide a buffer, both against threats of social exclusion and promises of social inclusion.

Following this, I then extend these findings (study 3), to an important new dependent variable, donation intentions for an out-group animal charity, and offer evidence for the role that both social inclusion status, as well as self-construal orientation, may play in this setting. Specifically, I provide evidence that donation intentions are higher under normal conditions, but are reduced following assurance of social inclusion, for individuals that are high in independent self-construal. However, I show that the same effect is not seen for individuals that are high in interdependent self-construal. I propose that this happens as a result of individuals who are high in independent self-construal, giving to an out-group animal charity, in order to bolster belonging needs, and I argue that this behaviour should reduce if belonging needs have already been met through an assurance of social inclusion. In study 3, I also seek to demonstrate that this behaviour is not as a result of general positive affect following social inclusion, but is specific to an increase of belonging that happens following affirmation of inclusion. See figure 4 for a diagram of the projected prosocial behaviour path as a consequence of self-construal and belonging.

In study 4, I then demonstrate the effect that a perception of similarity (vs. difference) to the out-group charity may have on donation support, as evidenced with both donation intentions and actual cash donation. Once more, I demonstrate

the moderating influence that both social inclusion and independent self-construal orientation have on the process, as well as the mediating role of connection to the cause. See figure 5 for a diagram of the projected prosocial behaviour path as a consequence of perception of similarity (vs. difference) to the out-group charity. I also examine (study 4) the influence that participant variables, such as gender and pet ownership, may have on the mechanisms involved.

Taken together, the results across the first four studies suggest that, following assurances of belonging, individuals high in independent self-construal will behave in a less inclusive fashion, and will donate less towards out-group causes. I argue that this happens as a result of a reduction in need for social connection—a need that is especially active in individuals with high independent self-construal, and that acts as a motivating mechanism for prosocial behaviour. Finally, I demonstrate, in a brief experimental field study (study 5), the risky, delicate and challenging nature of using manipulations and reminders of belonging on people's sense of core belonging status, and the potential for such manipulations to backfire. Study 5 also poses the question as to whether the current research findings extend to public (vs. private) donation settings.

Chapter 2: When 'I' Belong I Don't Care about 'You': The Role of Self-Construal and Social Inclusion in Prosocial Behaviour Directed at Animal Out-group Recipients.

2.1 Introduction of Dissertation Topic

"Human beings are a part of the animal kingdom, not apart from it. The separation of "us" and "them" creates a false picture and is responsible for much suffering. It is part of the in-group/out-group mentality that leads to human oppression of the weak by the strong as in ethnic, religious, political, and social conflicts."

Mark Bekoff (2007),

Animals Matter.

"Humans are like other social animals in that their hostility to outsiders is the flipside of strong friendliness towards their own group. The distinction between friends and enemies is as central to human life as it is to the lives of wolves, meerkats and chimpanzees."

Mary Midgley (2009),

Hobbes' Leviathan, part 7: His idea of war.

As the above quotes highlight, we share many commonalities with other animal species. According to Serpell, in his history of the human-animal relationship (*In the Company of Animals*, 1986), for millennia traditional hunter-gatherers regarded the other animals, which they lived amongst and hunted, as equals. However, a fundamental shift of mindset occurred around 12,000 years ago, with the advent of farming and domestication, from which the human-animal relationship has never fully recovered. As a result of this shift, the previously more integrated attitude

human beings harboured towards the animal world has been riven into one of "them" and "us" and, in its wake, a more ambivalent and fickle relationship with the animal world has emerged. For the modern day domestic animal, says Serpell, the human is its overlord and master, and the animals are reduced to his servants and slaves.

Despite this shift of power, many humans continue to seek out the company of animals, integrating them into their daily lives as treasured pets and even casting them in the role of surrogate family members. However, the acceptance of a modern day domestic animal into the human world has become a highly complex equation. It is an equation in which associated costs may be due, and 'honorary human' status (Midgley, 1983; Serpell, 1986) may be conferred as a means based mechanism for enabling their exploitation as potential social resources, only to be withdrawn when the need abates.

This research examines the modern day human-animal relationship, but, more specifically, it examines the inclusive behaviour of humans towards animals, and the prosocial actions that individuals direct towards domestic animal charities. The research takes a novel approach to the topic of human animal interaction (HAI), by using the literatures on intergroup social psychology and prosocial marketing to make novel predictions regarding when animals will be more likely to be regarded as more or less in-group (vs. out-group) members, and when individuals will be more likely to support animal-based charities. In doing so, the current research

delves into the research on self-construal (Aaker & Lee, 2001; Block, 2005; Cross, Hardin, & Gercek-Swing, 2011; Gardner, Gabriel, & Lee, 1999; Markus & Kitayama, 1991; 2010; Singelis, 1994), intergroup behaviour (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Yuki & Takemura, 2013), social inclusion and exclusion (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997; Williams & Sommer, 1997; Williams, 2009), human animal interactions and anthropomorphism (Amiot & Bastian, 2017; Epley, Akalis, Waytz, & Cacioppo, 2008), as well as motives for prosocial behaviour (Batson, Ahmad, & Stocks, 2011; Duclos & Barasch, 2014; Sturmer & Snyder, 2010).

In my research, I argue that humans may construct more inclusive in-group categories, which include animals within them, in order to fulfill social belonging needs. However, when belonging needs are satiated, boundaries may tighten, in-group categories may become more exclusive, and animals may once more be categorized as out-group members. In addition, I argue that self-construal orientation will moderate this behaviour since, according to Yuki and Takemura (2013), self-construal orientation fundamentally impacts the lens through which in-groups are perceived, and the mechanisms by which members are categorized. Furthermore, I suggest that the effect will be mediated by feelings of connection to the cause, and moderated by the perceived similarity between human and animal targets. Additionally, I propose that the effect is linked to the mechanisms that give rise to anthropomorphism directed towards non-humans, as well as prejudice towards, and dehumanisation of, human out-group members. Finally, I predict that

these patterns will extend into prosocial donation support behaviour, directed

towards distant others and, more specifically in my research, domestic animal

charities.

2.2 Conceptual Background and Hypothesis Development

2.2.1 Social identity and self-construal: Our relationships with others.

Tell me with whom you associate, and I will tell you who you are.

Johann Wolfgang Von Goethe (1906),

The Maxims and Reflections of Goethe

Man is by nature a social animal; an individual who is unsocial naturally and not accidentally is either beneath our notice or more than human. Society is something that precedes the individual. Anyone who either cannot lead the common life or is so self-sufficient as not to need to, and therefore does not partake of society, is either a beast or a god.

Aristotle (1252a-1342b),

Politics

As Goethe and Aristotle highlight, humans are not only intensely social creatures

that need to exist within a social framework in order to function properly, but are

also more or less defined by the social frameworks they find themselves inhabiting.

A number of theories have been put forward to explain the mechanisms governing

how we understand, and define, our sense of self, as well as how our sense of self

contributes to our social identity and impacts the social connections in our lives.

Social identity.

Social identity theory, (SIT; Tajfel & Turner, 1979), defines social identity as a person's knowledge that he or she belongs to one or more social categories or groups (Hogg & Abrams, 1988). A social group is a set of individuals who hold a common social identification, or view themselves as members of the same social category. Through a social comparison process, persons who are similar to the self are categorized with the self, and are labeled as the in-group, whereas persons who differ from the self are categorized as the out-group. There are two important processes involved in social identity formation; namely, self-categorization and social comparison, each of which produce different consequences (Hogg & Abrams, 1988). The consequence of self-categorization is an accentuation of the perceived similarities between the self and other in-group members, and an accentuation of the perceived differences between the self and out-group members. The consequence of the social comparison process is the selective application of the accentuation effect, primarily to those dimensions that will result in self-enhancing outcomes for the self. Most importantly, in social identity theory, one's self-esteem is enhanced by evaluating the in-group and the out-group on dimensions that lead the in-group to be judged positively, and the out-group to be judged negatively (Stets & Burke, 2000).

According to Hogg and Abrams (1988), the social categories in which individuals place themselves are parts of a structured society, and exist only in relation to other contrasting categories (i.e. male vs. female; human vs. animal), with each category

possessing more or less power, prestige, status, and so on. Individuals derive their

identity, or sense of self, largely from the social categories to which they belong,

with each person maintaining memberships in a unique combination of different

social categories. In such a way, the make up each person's self-concept is unique.

One of the key assumptions within social identity theory is that individuals are

intrinsically motivated to achieve positive distinctiveness, through the striving for a

positive self-concept. However, at the same time, people are also motivated to strive

for a positive social identity, through membership with groups that are positively

distinct from relevant out-groups.

Much of social identity theory deals with intergroup relations. Intergroup relations

may be understood as the manner by which individuals come to see themselves as

members of one group, or category (the in-group), in comparison with another

group or category (the out-group). According to social identity theory, one

consequence of this categorization may be intergroup conflict and ethnocentrism

(Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Furthermore, evidence has

shown that stereotyped perceptions of in-group members and out-group members

may be enhanced and made more homogeneous by identification with the in-group

(Haslam, Oakes, McGarty, Turner, Reynolds, & Eggins, 1996). In sum, based on the

extant research, we can conclude that having a particular social identity means

feeling a part of a certain group, being like others in the group, and seeing things

from the group's perspective. All of this entails, according to Turner and colleagues

(1987), "a shift towards the perception of self as an interchangeable exemplar of some social category, and away from the perception of self as a unique person."

Two other related theories have more recently emerged from social identity theory; self-categorization theory (SCT; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987; Turner, Oakes, Haslam, & McGarty, 1994), and optimal distinctiveness theory (ODT; Brewer, 1991; Leonardelli, Pickett, & Brewer, 2010). According to self-categorization theory, rather than seeing interpersonal and intergroup dynamics as being at either end of a bipolar spectrum, identity should be categorized and seen as operating at different levels of inclusiveness. These levels of inclusiveness vary from the self as a human being, to the self as a part of a group, and/or compared to other groups. Amiot and Bastian (2017) argue we may usefully approach our understanding of human-animal relations from this type of intergroup perspective. According to Brewer (1991), and Brewer and Gardner (1996), seen this way, the self may be viewed as existing within a framework of concentric circles, with personal identity at the core, and various social identities surrounding the self (see figure 1).

Optimal distinctiveness theory, on the other hand, purports to fill a gap that has been missed by both social identity theory and self-categorization theory. This gap is centered around what drives identification with in-groups, particularly in the chronic long-term (Brewer, 1999). Optimal distinctiveness theory suggests that individuals are faced with two basic competing human needs: to be part of social group, but also to satisfy one's own individual needs. Accordingly, a tension exists in

which the two opposing identity needs, or forces, compete. On one side is individual uniqueness (differentiation/distinctiveness), and on the other side is a need for validation and similarity that can only be found through in-group homogeneity (inclusion/assimilation). Individuals are compelled to form an identity that satisfies both needs, through the striking of an 'optimal' balance. This 'optimal balance' resides somewhere between the desire for distinctiveness (i.e. feeling unique or different from others), and the desire for assimilation or belonging (i.e. feeling similar to others) according to Brewer (1991; see figure 2).

Self-construal.

An alternate way of thinking about the self, in relation to others, is from the perspective of self-construal. As previously discussed, self-construal is best defined as what people "believe about the relationship between the self and others, and especially, the degree to which they see themselves as separate from others, or as connected with others"; with a crucial distinction hinging on the role assigned to 'other,' in terms of the self-definition (Markus & Kitayama, 1991, p. 26). For those with a more independent construal of self, 'others' are less implicated in one's self-definition, or self-identity, and there is a strong sense of individuality. This includes a feeling of oneself as an agent in control, standing out from the crowd and being "true to one's own internal structures of preference, rights, convictions and goals" (Markus & Kitayama, 1994; see figure 3). Individuals with highly independent self-construal are therefore considered to be more likely to behave according to their own preferences, and for their personal pleasure.

On the other hand, individuals with a strongly interdependent self are thought to define their own identity through their relationship with other people in the group. As a result, individuals with a highly developed interdependent self-construal see the connectedness between people as fundamentally important and, as a consequence of this, are more likely to behave in accordance with "anticipated expectations of others and social norms" (Markus & Kitayama 1991, p. 228). They value harmonious relations, and their actions are focused on fostering relatedness and connection to others (Chuang, Xie, & Liu, 2016; Cross, Hardin, & Gercek-Swing, 2011; Markus & Kitayama, 1991; Singelis, 1994), as well as working to maintain harmony (Bagozzi, Verbeke, & Gavino Jr., 2003). For those with a relatively more interdependent self-construal, 'others' are often included within the boundaries of the self, since the contexts of 'other' relationships are seen as defining features of the self. In this situation the individual self may be seen as a "fraction" (Lebra, 1976) of a larger social unit. As a result, self-esteem, for those high in interdependent self-construal, is largely born of self-restraint and accommodation. This may be contrasted with those individuals that are higher in independent self-construal, who are more likely to derive self-esteem from an individual pride of self-achievement and distinction (Cross, Bacon, & Morris, 2000).

Self-construal research has been approached from both an individual difference perspective (Aaker & Lee 2001; Block 2005; Singelis 1994) and a cultural perspective (Cross et al., 2011; Gardner, Gabriel, & Lee, 1999; Graham, Waytz, Meindl, Iyer, & Young, 2017; Markus & Kitayama 1991). Looking at self-construal in

terms of individual differences, Singelis (1994) argues that traits of both independent and interdependent self-construal may co-exist within one individual. From a cultural perspective, on the other hand, the independent (or idiocentric) self is assumed to be stronger in western cultures, and the interdependent (or allocentric) self more prevalent in non-western cultures (Cross, 1995; Cross et al., 2011; Markus & Kitayama, 1991, 2010).

More recent research has embraced both social identity theory and self-categorization theory alongside self-construal, to further explore how different culturally embedded self-construals might interact, in terms of group processes (Yuki & Takemura, 2013). Yuki and Takemura propose a socio-ecological approach that focuses on the differences in group processes across cultures, and specifically between collectivist cultures, containing more individuals with higher levels of interdependent self-construal, and individualist cultures, comprised of individuals with higher levels of independent self-construal. Yuki and Takemura argue that there exist two distinct, and differing, concepts of how in-group membership is understood, which are dependent on self-construal orientation. Collectivist non-Western cultures, according to the socio-ecological perspective, are more likely to view their in-group as a non-permeable long-term structure, containing inter-connective networks founded on *shared connections* that must be kept in harmony. On the other hand, individualist Western cultures are likely to see in-groups as more dynamic in nature, based on *shared categories* within the group, which are paramount to social identity. In these latter in-groups members are interchangeable,

and differ in their prototype-based position in the group.

Societies dominated by individuals with high independent self-construal, tend to have higher interpersonal and intergroup mobility, also termed 'relational mobility' (Yuki & Takemura, 2013). Relational mobility is defined as the degree to which there is an availability of social identity options, such as opportunities to acquire new, maintain current, or sever old relationships (Yuki, Maddux, & Masuda, 2007; Yuki & Shug, 2012). Where there is low relational mobility it is critical for individuals to work hard to maintain long-standing relationships and groups. This is because with low relational mobility, group memberships are long standing, ascribed and predetermined, and it is hard for individuals to leave their groups, even if they are found to be unsatisfactory. Where there is high relational mobility, on the other hand, there exists an abundance of opportunities to meet strangers and create new relationships (Yuki & Takemura, 2013).

High relational mobility affords those experiencing it, typically individuals with a more independent self-construal, the powerful freedom to choose which groups they belong to at any given moment; allowing them to select according to personal goals and social categories. On the other hand, high relational mobility also brings a "Sword of Damocles"[1] situation, in which individuals must constantly monitor intergroup status differences, in order to associate with groups of the highest status,

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[1] 1 The Sword of Damocles originates in a text of the orator Cicero, and refers to a great sword that hung over the throne of King Dionysius, to denote the belief that with great power and fortune also comes great danger and fear.

and best category fit. Moreover, individuals must also take care to monitor their own personal belonging status, and take action to maintain an optimal level of inclusion (Pickett & Gardner, 2005).

Conversely, societies dominated by low relational mobility, more frequently seen in collectivist societies and primarily populated by individuals with high interdependent self-construal, experience little opportunity to change group membership. Yamagishi and Kosugi (1999) suggest we consider this type of situation as a "collectivist's collectivism" whereas, according to socio-ecological perspective, North America, filled primarily with individuals high in independent self-construal, may be better termed an "individualist's collectivism" (Yuki & Takemura, 2013). The result of this difference, argue Yuki and Takemura, is that people high in interdependent self-construal, or those living in collectivist cultures, not only have a strong motivation to maintain harmonious intragroup relations, but also consider their memberships within their in-groups to be chronically guaranteed.

These findings are supported by the research of Mandel (2003), demonstrating that when people were primed with interdependent self-construal they were able to identify more individuals on whom they could depend than people primed with independent self-construal. According to Mandel (2003) this creates a *cushion effect*, which in turn encourages people primed with interdependent self-construal to be more likely to take on certain types of risks. For individuals with a higher

independent self-construal, however, group membership is more precarious, due to the dynamic nature of in-group formation, and the group's more porous and fluid boundaries.

Yuki and Takemura's argument is supported by evidence, suggesting that people from individualist cultures, and people with a more independent self-construal, do indeed have distinctive group mechanics, compared to people from more collectivist cultures or those with a more interdependent self-construal (Buchan, Croson, & Dawes, 2002; Buchan, Johnson, & Croson, 2006; Yamagishi, Makimura, Foddy, Matsuda, Kiyonari, & Platow, 2005). One example of this is that people with a more independent self-construal often show more in-group bias, in terms of trust, compared to people with a more interdependent self-construal. While, at first glance, this finding may appear counterintuitive, it can be better understood if we accept that there are two bases for trust of strangers within in-groups. The first is based on a social identity theory approach of shared social categories leading to equitable resource distribution (Brewer & Kramer, 1986; Foddy, Platow, & Yamagishi, 2009); the second is based on a more personalized trust, which stems from shared connections and interpersonal ties (Coleman, 1990). Evidence (Yuki, Maddox, Brewer, & Takimura, 2005) supports the proposal that collectivists (Japan) may be more likely to show trust for an unknown out-group member who has *shared connections*, in the form of indirect interpersonal ties, than individualists (USA) will be.

Finally, one last area of interest, regarding self-construal and intergroup behaviour, relates to the proclivity for demonstrating in-group bias. Research has shown that evaluative in-group bias–the act of favouring members of one's own in-group over out-group members–may be greater in those with a more individualist orientation, if the targets of evaluation are category based and therefore evaluation is related to *shared categories* (Bond & Hewstone, 1988; Heine & Lehman, 1997; Rose, 1985; Snibbe, Kitayama, Markus, & Suzuki, 2003). Conversely, if groups are instead defined by relational *shared connections*, then individuals higher in interdependent self-construal may be found to be more likely engage in evaluative in-group bias (Endo, Heine, & Lehman, 2000).

In sum, research evidence supports the claim by Yuki and Takemura (2013) that social identity differences between independent and interdependent self-construals primarily exist in terms of the kinds, rather than the levels, of group orientations. As a result of the differences, individuals that are more individualist, or have a higher independent self-construal, will be more driven to define social groups in terms of an *inter*-group comparison. In this situation, the focus will be on the *shared categories* that group members enjoy, with the self viewed as a prototypical group member, and with individuals motivated to achieve higher intergroup status. This may be contrasted with individuals that are more collectivist, or have a higher interdependent self-construal, who may be more likely to utilize *intra*-group comparison, in which groups are defined in terms of *shared connections* with bounded interpersonal networks, and members are motivated to maintain

harmonious reciprocal relationships between members of the same group. Simply put, according to this conceptualization, the sense of self, seen as typical of independent self-construal, is not a form of self that is alienated or in social isolation from society, as has been previously argued by some (Cushman, 1990), but is rather a form of social orientation in which social identity is more fluid and category driven.

As a consequence, I chose with the current research to build off two perspectives regarding the self. On the one hand, I work from an optimal distinctiveness theory approach, which argues that the self is a combination of personal identity and social identity, existing in a state of tension, with a level of fluidity that allows for some movement between both. In addition to this, however, my research also embraces specific aspects of Yuki and Takemura's (2013) socio-ecological perspective, which argues that distinct differences exist, not just in how the self is constructed, but also in how the self interacts with its closest groups, in terms of social connection. Rather than seeing interdependent self-construal from a narrow perspective, where the self is defined as a fraction of a greater social whole, and independent self-construal from an equally narrow perspective, in which an individual exists in isolation from the group, I follow in the tradition of the socio-ecological perspective. As a result, I argue that individuals with high independent self-construal, and individuals with high interdependent self-construal, are likely to be *equally* concerned with their social identity. However, I argue that because social identity is experienced in a fundamentally different way for individuals with high independent self-construal (in

which social identity is precarious but fluid), compared to individuals with high

interdependent self-construal (in which social identity is assured but rigid),

obtaining an optimal social identity status will require different maintenance

strategies for these people. Moreover, I argue that even more social monitoring will

be required by individuals with high independent self-construal, in order to

maintain an optimal balance of self and social identity.

Additionally, I propose, that one of the reasons why people with high independent

self-construal have previously been found to express a more inclusive and

benevolent attitude towards out-group targets (Duclos & Barasch, 2014; Leeuwen &

Tauber, 2012; Sturmer & Snyder, 2010) is because people with a high independent

self-construal are more open to categorizing out-group members as in-group, and

including them within a self formed in-group. I argue that this is as a result of the

more flexible, and porous, nature of their in-group boundaries; along with the

propensity of individuals that are high in independent self-construal to form in-

groups primarily based on *shared categories*, rather than based on the *shared

connections* that are more typical of interdependent self-construal grouping criteria.

As a result of this theorizing, I have generated the following hypothesis:

Hypothesis 1:

Out-group members will form a higher percentage of a self-formed in-group,
the higher a person measures on independent self-construal.

Additionally, I predict that, since individuals with a high independent self-construal

experience a lower baseline state of social inclusion than do individuals with a high interdependent self-construal, they will therefore also be more vigilant for cues of potential for social connection coming from out-group members that they may come in contact with. This prediction directly builds from the work of Pickett, Gardner, and Knowles (2004), who show that the need to belong enhances sensitivity to social cues. I therefore propose a second hypothesis:

> Hypothesis 2:
>
> The higher an individual's measure in independent self-construal, the greater the number of items that have high social connection potential will be put in a self-formed in-group.

I do not expect to see the same pattern in individuals with high interdependent self-construal.

2.2.2 Exclusion and belonging: Impacts of inclusion on sense of self.

The Loneliness whose worst alarm, Is lest itself should see—And perish from before itself, For just a scrutiny— The Horror not to be surveyed—But skirted in the Dark, with Consciousness suspended, And Being under Lock.

Emily Dickenson (c.1860)
The Loneliness One Dare Not Sound

After all, what are any of us after but the conviction of belonging?

Wallace Stegner (c.1988)
On Teaching and Writing Fiction

If the in-groups, and others with whom we interact, are such an important part of our self-construal, then it stands to reason that our social inclusion status, and a sense that we belong, will be vital to personal wellbeing. Past research has noted that humans are intensely social creatures, with a deep urge to seek company and to meaningfully interact with fellow humans on a regular basis (see Baumeister & Leary, 1995, for a comprehensive review). The negative consequences from failed inclusion can be powerful and immediate (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Nezlek, Kowalski, Leary, Blevins, & Holgate, 1997; Williams & Sommer, 1997; Williams, 2009). People report not only lower levels of belonging following ostracism, but also lower control, self-esteem, and meaningful existence (Zadro, Williams, & Richardson, 2004), even when the source of ostracism is a machine (Williams, Forgas, & Von Hippel, 2005). It should therefore hardly be surprising to find that most people devote significant energies into maintaining social connections throughout their lives, and managing reasonable levels of what we might term good 'social health' (Leary, Tambor, Terdal, & Downs, 1995; Pickett & Gardner, 2005).

Research into responses to both in-group and out-group members, following threats to social inclusion, have generated mixed results, however. Twenge, Baumeister, Tice, and Stucke (2001) have found that social exclusion may lead to an increase in violence and aggression. Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007) have put forward evidence to show that it reduced cooperation and prosocial behaviour. Cuadrado, Tabernero, and Steinel (2015) have noted, however, that

excluded individuals may behave more prosocially than included individuals, *if* they

have the hope of reconnecting. This echoes the findings of Maner, DeWall,

Baumeister, and Schaller (2007), which found that social interactions following

exclusion crucially depended on a number of factors, one of which being whether

there existed the potential for social connection with novel acquaintances. The

notion that individuals will respond to exclusion by engaging in positive behaviours

with others has been referred to as the *reconnection hypothesis* (Baumeister &

Leary, 1995; Maner, DeWall, Baumeister, & Schaller, 2007). Researchers have found

evidence for the reconnection hypothesis in various areas, including workplace

interactions (Bernstein, Sacco, Brown, Young, & Claypool, 2010), ingratiation

behaviour, (Romero-Canyas, Downey, Reddy, Rodriguez, Cavannaugh, & Pelayo,

2010), and discrimination (Smart Richman & Leary, 2009).

Sometimes it is not possible, or desirable, to connect with other people, however.

Epley, Akalis, Waytz, and Cacioppo (2008) found that both acute exclusion, as well

as chronic isolation, motivated people to look for, and if necessary create, social

connections with non-humans. Building on this, Epley and colleagues have offered

evidence that anthropomorphism may be driven by sociality motivation.

Anthropomorphism is the attribution of human traits, emotions, intentions,

behaviours, or looks to non-human entities, and is considered to be an innate

tendency of human psychology, being shown from a very young age (see Epley,

Akalis, Waytz, & Cacioppo, 2008, for a more detailed description). The finding that

anthropomorphism may be driven by sociality motivation follows on from previous

research in the area of anthropomorphism, and has been recently corroborated by the research of Powers, Worsham, Freeman, Wheatley, and Heatherton (2014). Powers and colleagues (2014) have proposed that over-attributing animacy to non-humans is an adaptive strategy—one that allows isolated individuals to cast a wide net when looking for social connection, and to maximize opportunities to connect. Work in a separate, but not unconnected, stream, has come to similar conclusions. Gardner, Pickett, and Knowles (2005) have proposed that the mechanisms involved in belonging regulation, may be understood as similar to those regulating hunger, with social snacking (e.g., re-reading letters/ looking at photos of friends) and social shielding (e.g., use of parasocials such as plants, pets, etc.) taking place, when no social interaction with human contacts appears to be immediately possible.

Past research has also explored the interactions between exclusion and self-construal. Ren, Wesselmann, and Williams (2013) found that an interdependent self-construal orientation facilitated participants' recovery from social exclusion, even if it didn't seem to impact the feeling of initial pain. Pfundmair, Aydin, Du, Yeung, Frey, and Graupmann (2015) have suggested that an interdependent self-construal orientation may help buffer a person from the negative impacts of exclusion, in a way that a high independent self-construal orientation may not. This buffering hypothesis is also supported by Uskul and Over (2014), who have provided evidence that the strategic importance of others, be they close or distant, may mediate responses to social exclusion, if it does occur.

Pfundmair, Graupmann, Frey, and Aydin (2015) also support these findings with further research, demonstrating that participants with a collectivist orientation show little difference on a range of measures (antisocial intention, prosocial intention, avoiding intention, affect), following either social inclusion, or social exclusion; when compared to participants with a more individualist orientation. In their studies, Pfundmair and colleagues describe more individualist participants as reporting higher prosocial intention and affect, following inclusion; but reporting more antisocial intention and avoiding intention, following exclusion. Pfundmair, Graupmann, Du, Frey, and Aydin (2014) have also previously found that participants with a more individualist orientation experience re-inclusion differently to continued inclusion; with more residual exclusion feelings reported, along with reduced fulfillment of basic psychological needs. Collectivists, in this research, did not differentiate between re-inclusion and continued inclusion. This finding adds further support for the notion that a collectivist orientation may buffer against the negative impacts of exclusion, and a more individualist orientation may experience increased susceptibility and threat from exclusion, which is harder to overcome, in terms of negative impacts to basic need fulfillment.

A lesser amount of research has looked at the positive, or negative, impacts of inclusion, or at the impacts of inclusion following exclusion. Results from the studies that have been carried out have delivered mixed findings. On the one side, Brewer (1991) and DeWall, Baumeister, and Vohs (2008) have put forward evidence to support the view that people may experience *belonging satiation*; and that those

who feel very socially connected will be less motivated to connect with others, or gain social acceptance elsewhere. Waytz and Epley (2012) have similarly demonstrated that assurances of social connection can result in the dehumanization of others, as well as an increase of perceived distance, between oneself and distant others. Conversely, a number of studies have found affiliation motivation to be a positive predictor of prosocial behaviour (Baumeister & Leary, 1995; DeWall & Richman, 2011; Pavey, Greitmeyer, & Sparks, 2011; Zaskodna, Simek, & Mlcak, 2013). Specifically, Ng (2015) has shown that social inclusion may help recover depleted self-control, and Thompson (2015) found that priming participants with relevant social affiliation had an impact on self-perceived morality. Thompson also found that a prime of social affiliation affected allegiances to a person's own social group and the community, with some individuals more likely to report greater concern for others wellbeing and a wider moral concern for others beyond their own group. Mikulincer and Shaver (2001) found a sense of being loved made participants less negative towards out-groups, and Cuadrado, Tabernero, and Steinel (2015) similarly found that included individuals reported higher levels of positive affect and trust following inclusion, as well as exhibiting more prosocial behaviour.

Building on from this body of past work, I have opted in my research, rather than to concentrate solely on social exclusion–a negative and unpleasant experience by all accounts–to instead focus my investigation primarily on its lesser researched counter, social inclusion and sense of belongingness. Specifically, I wish to

investigate whether social inclusion status might impact prosocial behaviour in the form of less benevolent and receptive intentions expressed towards out-group members. Furthermore, I wish to investigate whether the impact of social inclusion status on prosocial behaviour will vary as a function of self-construal orientation.

Following previous findings (Duclos & Barasch, 2014; Ren, Wesselmann, & Williams, 2013) demonstrating that interdependent self-construal appears to offer some protection against exclusion threats, I anticipate that people with a high interdependent self-construal orientation will react less, to both inclusion and exclusion manipulations, when compared to people with an independent self-construal orientation. I propose that this is because they are essentially buffered against these conditions by their social belonging status, which, as previously detailed by Yamagishi and Kosugi (1999), is assured as a result of the lack of potential for intergroup social mobility. On the other hand, I predict that people with an independent self-construal orientation will respond to an inclusion manipulation by showing less interest in interacting with non-humans, and therefore including less animals in their self formed in-group. Moreover, I anticipate that people with an independent self-construal orientation will respond to an exclusion manipulation by showing more interest in interacting with others that are not associated with the act of exclusion–non-humans in this instance–and therefore including more animals in a self formed in-group.

I propose that this is, in part, because people with high independent self-construal are likely to have a more flexible group perspective, which allows for increased group mobility and more porous group boundaries and, furthermore, are more likely to define in-group identity by category than by interconnected ties (Yamagishi & Kosugi, 1999; Yuki & Takemura, 2013). Drawing on these insights, I propose that people with high independent self-construal will be able to re-categorize others and themselves fairly easily into groups–as opportunity or need presents–and will seek to do so in order to maintain belonging needs. One of the key elements specific to my research is that this ability–to flexibly re-categorize people according to need– which may be seen in individuals with high independent self-construal, should likewise facilitate categorizing animals into sources of social potential, and awarding animal parasocials an *honorary human* status more easily (see Midgley, 1983; Serpell, 1986).

There are solid foundations to the notion that people will be willing to award human attributes to non-human animals when it suits their needs. Epley, Waytz, Akalis, and Cacioppo (2008) have demonstrated that people will attribute minds to animals when in need of companionship, and Bastian, Loughnan, Haslam, and Radke (2012) have detailed, conversely, how people will deny mental capacities to animals if they wish to eat them, in order to enable moral disengagement. Put simply, humans are pretty adept at re-categorizing non-human others as honorary humans, when it suits their needs; and are prepared to dehumanize humans, and deny minds to others, to justify ill treatment (Kozak, March, & Wegner, 2006) or lack of assistance

(Cuddy, Rock & Norton, 2007). Consequently, I propose that, as a result of the manner in which individuals with high independent self-construal construct their sense of social self–and therefore function in group settings–individuals with high independent self-construal may be viewed as more 'socially opportunistic' than individuals with high interdependent self-construal.

All individuals are considered to monitor social cues in order to maintain optimal belongingness, and this behaviour is considered to increase in the face of belonging threats (Pickett & Gardner, 2005). I argue, however, that, due to the precariousness of their social inclusion status, individuals high in independent self-construal should be especially vigilant for cues of social potential. As a result of this, I propose that individuals with high independent self-construal will also be more sensitive, and adept, at monitoring for cues of social potential in non-human others. Furthermore, I propose that when it comes to fulfilling their needs for social connection, people with high independent self-construal orientation will be more willing to conscript social resources, or 'friends', from a variety of other outside sources, in order to fulfill personal needs, compared to those with a more interdependent self-construal. Consequently, I expect individuals with high independent self-construal, under normal conditions (control), to not only anthropomorphize more than individuals with high interdependent self-construal, but also to anthropomorphize more following an exclusion manipulation, and less following an inclusion manipulation.

This expectation is because, as previously discussed, individuals with high independent self-construal are more prone to construct in-groups to suit current needs. Furthermore, if needs are satiated in one domain (for example social connection), they will be more likely to move on to look for greener pastures in the form of better social status opportunities. As a result I have developed four more hypotheses, as follows:

Hypothesis 3:

People with higher independent self-construal will put a higher percentage of animals into a self-formed in-group, following an exclusion manipulation, than they will do normally (control condition).

Hypothesis 4:

People with higher independent self-construal will give higher ratings of anthropomorphism for a non-human subject, following an exclusion manipulation, than they will do normally (control condition).

Hypothesis 5:

People with higher independent self-construal will put a lower percentage of animals into a self-formed in-group, following an inclusion manipulation, than they will do normally (control condition).

Hypothesis 6:

People with higher independent self-construal will give lower ratings of anthropomorphism for a non-human subject, following an inclusion manipulation, than they will do normally (control condition).

2.2.3 Prosocial behaviour: Mechanisms and motivations for donation behaviour and inclusive attitudes explored.

We make a living by what we get, but we make a life by what we give.

Winston Churchill

Giving to others, in the form of money or time, is widely cherished across many cultures as a moral good, if not a moral imperative. But why do we give? A common assumption, founded in moral and religious history, and evidenced in the writings of Thomas Aquinas, David Hume, Adam Smith, Charles Darwin, Herbert Spencer, William McDougall, and more recently, in contemporary psychology (Hoffman, 1981; Krebs, 1975; Batson, 1987), is that we help out of an altruistic desire to do good to others; a desire often fanned by empathetic feelings. However, a variety of motivations to behave in a prosocial manner exist, beyond pure altruism.

Simpson and Willer (2015) highlight the critical roles that social mechanisms such as normative rules, social reputations and group relations play in our prosocial behaviour, at times obscuring the true underlying individual motivations. Sturmer and Snyder (2010), approaching prosocial behaviour from a group-level theory, argue that people may behave prosocially out of a motivation to gain social or material rewards; to gain satisfaction at sticking or demonstrating personal values; to avoid feelings of distress, shame or guilt at others' suffering; or to demonstrate empathy to others. In the latter case they argue that empathy concerns may be

especially motivational, if the donor feels similar or close to the cause. Batson, Ahmad, and Stocks (2011) adopt a similar, but benefit directed, approach, and separate prosocial motivation into four forms of benefits, only one of which involves altruism. These benefits are egoism (benefit another to benefit oneself), altruism (benefit another as an ultimate goal), collectivism (benefit another to benefit the group), and principlism (benefit another to uphold a moral principle). Duclos and Barasch (2014) also argue that charitable behaviour towards others is most frequently be driven by hopes of a self-benefit, such as that of personal happiness. In line with this prior research I propose that most of the prosocial behaviour that is in evidence in my research will take place as the result of either a 'self benefit' or a 'self benefit from group benefit' motivation, in which the good of the group is seen as overlapping with the good of the self.

Not surprisingly, motivations to behave prosocially are also usually contingent on the complex social relationships that exist between the giver and receiver, and their respective groups. In many situations prosocial behaviour is directed towards close others, family, and in-groups, with distant others are viewed as competitors (van Vugt & Park, 2009). Indeed, Sturmer and Snyder (2010) found that when people behaved prosocially to demonstrate empathy to others, it appeared to be especially motivational if the donor felt similar or close to the cause. This makes intuitive sense to most people, as may be evidenced by the common use of the proverb 'charity begins at home.' Offering evidence for the human propensity towards in-group focused giving, previous research has demonstrated that, in life and death

situations, people are more likely to help kin than non-kin (Burnstein, Crandall, & Kitayama, 1994). Supporting this finding, other research has demonstrated that primes of mortality salience, in North Americans, leads to an increase in donations that are specifically directed to *in*-group charities (Jonas, Schimel, Greenberg & Pyszczynski, 2002). Do thoughts of impending death prompt us to draw up the hatches on a castle under siege, as suggested by the findings of Castano (2004), who demonstrated that people under a mortality salience threat are more likely to tightly define an in-group, and strictly regulate who is admissible?

Despite the remonstrations of Singer (2009) that, from a utilitarian perspective, there is nothing remotely rational about giving to our nearest and dearest instead of to distant others, it seems that we may be hard wired to prioritize 'close others.' This appears to hold true even when the categorization 'close others' makes little sense. Brewer (1979) and Tajfel & Turner (1986) have previously both found that, even when groups were divided by trivial criteria (e.g. the minimal group paradigm), people preferred to give time or money to in-groups. Likewise, Kuchenbrandt, Eyssel, Bobinger, and Neufeld (2013) have found that when robots were categorized as in-group members (vs. out-group members), participants were more likely to anthropomorphize them, interact with them, and increase their evaluations of them. As Cialdini (1984) famously noted, the influential pull of 'similarity' is strong, even when its supposition is false.

Nonetheless, some notable examples of out-group helping do exist (Van Leeuwen,

2007; Van Leeuwen, & Täuber, 2010; Van Leeuwen, & Täuber, 2012), which poses

the question as to what motivates us to help distant others? Hopkins, Reicher,

Harrison, Cassidy, Bull and Levine (2007) have approached this question from a

strategic angle, demonstrating that group members may be motivated to help out-

groups, but for very different reasons to those motivating in-group helping. Motives

for out-group helping thus include the wish to disconfirm negative stereotypes of

their group; for example to counter the supposed meanness of Scottish people

(Hopkins, Reicher, Harrison, Cassidy, Bull, & Levine, 2007). Leeuwen and Täuber

(2012) have furthered this body of research into the strategic side of out-group

helping (see Leeuwen & Täuber, 2010, for an over view) by examining instances in

which out-group helping may also act as a tool to communicate in-group warmth, or

to bolster collective pride (Leeuwen, Dijk, & Kaynak, 2013).

Some out-group helping may have more sinister self-orientated motives, however.

Although some dispute the necessity of an out-group (Brewer, 1999), according to

social identity theory (Tajfel, 1959; Tajfel & Turner, 1979) the denigration of out-

groups, and the bolstering of in-groups, is a necessary part of intergroup behaviour,

with an out-group being a necessary requirement for in-group definition (Yuki &

Takemura, 2013). This intergroup comparison behaviour serves as an effective way

in which to maintain self-esteem; serving both self-protective and self-enhancing

functions, especially in times of identity threat (Branscombe, Ellemers, Spears, &

Doosje, 1999). Nadler (2002; 2010) and Nadler, Harpaz-Gorodeisky, and Ben-David

(2009) have described cases of 'defensive helping,' in which out-group assistance is

focused on low status dependent groups. In this manner, defensive helping acts as a way for an in-group to maintain social dominance and power over an out-group, especially in the face of threatened in-group stability.

This approach to intergroup helping follows a social identity perspective (Turner & Reynolds, 2001), basing itself on self-categorization theory, in order to build an 'Intergroup Helping as Status Relations' (IHSR) model. The 'Intergroup Helping as Status Relations' model argues that dominant groups help others, in order to signal their status to other groups. In summary therefore, we can see that much intergroup prosocial behaviour is motivated by self benefit, be it in the form of in-group helping or out-group helping (Sturmer & Snyder, 2010; Duclos & Barasch, 2014).

In addition to the membership status of the recipient and donor, relative to each other, the self-construal of the donor also has the potential to impact prosocial behaviour. Self-construal orientation appears to influence attitudes towards a range of societal goods, including environmental conservation, sustainability and prosocial behaviour (Arnocky, Stroink and DeCicco, 2007). Past research has suggested that individuals from individualistic cultures may be less cooperative than individuals from collectivist cultures, because the former mainly focus on their own outcomes and less on the welfare of others (Hemesath & Pomponio, 1998; Kagan & Knight, 1979; McClintock, 1974; Parks & Vu, 1994; Probst, Carnevale, & Triandis, 1999). However, as previously discussed, according to Yuki and Takemura (2013), this argument runs the risk of grossly oversimplifying the mechanisms involved in

cultural self-definition and social identity.

Duclos and Barasch (2014) have put forward evidence for a more nuanced perspective, arguing that a more collectivist, or interdependently orientated self-construal orientation is specifically connected to benevolent and prosocial behaviour towards *in*-group recipients. This finding is supported by the research of Kemmelmeier, Jambor and Letner, (2006), who found that individualistic societies in the USA were more disposed to favour out-group targets, than were more collectivist societies. This may, in part, be because, in individualistic societies, personal virtues such as self-determination and self-identity are typically valued apart from group membership. Kemmelmeier, Jambor and Letner (2006), in the same research, also note a tendency to use personal choices, such as voluntary giving, as a means by which to signal personal characteristics and interests to others, which provides additional support for the proposition.

If the arguments of Duclos and Barasch (2014) are correct, and much charitable behaviour is indeed fueled by a motivation to increase personal happiness, it appears reasonable to expect that this will be fulfilled in different ways by those high in interdependent self-construal, compared to those high in independent self-construal. After all, if, according to Yuki and Takemura (2013), people high in interdependent self-construal regard their in-group as a rigid long-term entity; with non-porous boundaries and a membership that is fixed for life, a good deed done to an in-group member is likely to have higher potential to bring personal happiness

longer term than any good deed done to an out-group member. Conversely, for people high in independent self-construal, in-group boundaries are more flexible and porous, and members may come and go. As a result, an out-group member today might possibly be an in-group member tomorrow. The consequence of this is that people, with a high independent self-construal orientation, might be expected to be as likely to provide beneficence to an out-group member as an in-group member. Indeed, previous research has demonstrated that out-group recipients may always fare better seeking support from independent self-construal orientated donors (Duclos & Barasch, 2014).

In an ideal world there would be no prejudice towards others, we would exist in harmony without suffering and pain, and all humanity would adhere to the highest moral codes of conduct in all relationships. Philosophers, psychologists, sociologists and policymakers, however, are left to grapple with the practicalities of poor day-to-day behaviour, and aggressive forms of prejudice and discrimination towards others. Much interest has been directed at discovering methods to combat prejudice and promote more inclusive attitudes towards distant others.

One area for potential research is grounded in the topic of moral identity, and explores the options for expanding our moral circle of concern to more distant others, as a method for improving intergroup conflict, fostering benevolence, and promoting inclusive behaviour to out-groups (Aquino, & Reed, 2002; Reed & Aquino, 2003). The 'moral circle' is the boundary drawn around those entities in the

world deemed worthy of moral consideration, and may be influenced by inclusion and exclusion framing effects (Laham, 2009), as well as similarity and difference frames (Bastian, Costello, Loughnan, & Hodson, 2011). Gaertner, Mann, Murrell, and Dovidio (1989), in a similar vein, have suggested that the re-categorization of individual members representations of an aggregate, has potential to act as a method for reducing both negative bias towards out-group members, as well as positive bias towards in-group members. Levine, Prosser, Evans, and Reicher (2005), likewise, offer evidence that expanding social categorization, via a shared group membership (rival soccer teams vs. all soccer fans), may be a successful manner in which to increase helping behaviour towards recipients in need, and one that allows for a transgression of traditional group boundaries.

Focusing on the commonalities that we share with others has been found to improve our view of them (Dovidio, Gaertner, Isen, & Lowrance, 1995; Gaertner, Dovidio, Banker, Houlette, Johnson, & McGlynn, 2000). Indeed, Bastian, Costello, Loughnan, and Hodson (2011) found that comparing animals to humans had the result of not only expanding moral concern towards animals, but also towards human out-groups; reducing both speciesism and racial prejudice. Recent research, looking at human-animal relations from an intergroup perspective, has likewise found animal attitudes are higher when a more encompassing frame that includes 'other' within self is applied (Amiot & Bastian, 2017). Batt (2009) likewise has found that attitudes towards animals improve in accordance with how much participants perceive the animal species to be similar to themselves. Tam, Lee, and Chao (2013)

have demonstrated that when nature is anthropomorphized, people are both more likely to feel connected to it, and more likely to engage in protective conservation behaviour. I, therefore, predict that primes of similarity to a cause will increase an individual's feelings of connectedness to it, as well as increasing donation support for it. However, once more, I predict that self-construal and inclusion status will moderate these results.

In summary, past research has delivered mixed evidence in the field of prosocial behaviour towards others, following threats or affirmations of inclusion. While some research has suggested that social exclusion may negatively predict prosocial behaviour (Beest & Williams, 2011; Catanese & Tice, 2005; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007), other research has suggested that it may positively predict it (Lee & Shrum, 2012). My proposition is that the discrepant findings might be due, at least in part, to a failure to account for the role that self-construal orientation may play in determining responses to exclusion and inclusion threats, in the context of charitable giving. Moreover I propose, additionally, that the influence that self-construal orientation may have, on perceptions of similarity (vs. difference) to target cause, should also be accounted for. I posit that, just as with my predictions regarding the group formation task, people with an independent self-construal orientation will express greater donation intentions for an out-group charity, and more feelings of psychological closeness and connection to the cause, than people with an interdependent self-construal orientation. However, I expect this effect to be mitigated as a result of an affirmation of social belonging (i.e., as in

the inclusion condition), as well as their perceptions of how similar, or different, they are to the target cause.

In the current research, I endeavor to build upon these two areas of prosocial research–work on charitable giving and work on inclusive behaviour expressed towards others–by examining the moderating roles that self-construal orientation, and inclusion status, may play. In line with past research (Duclos & Barasch, 2014), I predict that individuals high in independent self-construal will normally behave more prosocially towards out-group members than will individuals high in interdependent self-construal. I argue that this is as a result of two factors: first because individuals high in independent self-construal form more flexible dynamic in-groups based on shared categories than do individuals high in interdependent self-construal, and second because individuals high in independent self-construal are more vigilant to cues of social connection potential in out-group members, and will behave in a more socially opportunistic manner if a self-benefit to do so is apparent.

As a result, when we compare high independent self-construal individuals to high interdependent self-construal individuals, the former may appear 'fair-weather friends,' adding and dropping others from flexible in-groups in order to fulfill social resource needs. On the other hand, the latter may appear to be more socially rigid and loyal, tightly bound to pre-determined in-groups, with little opportunity for intergroup movement or admission of outsiders. Following an assurance of social

inclusion, however, I propose that this pattern will not persist. I predict that, under circumstances when social inclusion is assured, high independent self-construal individuals will re-assess their grouping priorities and switch to a more in-group defensive strategy. This strategy, I propose, will be more akin to that seen in individuals high in interdependent self-construal, in which in-group similarity and distinctiveness is important, in-group boundaries must be defended, and out-groups must be strongly differentiated from.

I also predict that individuals high in independent self-construal will be highly responsive to manipulations that re-categorize out-group members as in-group members. Specifically, I argue that, under normal (control) conditions, individuals high in independent self-construal will be more likely to feel higher levels of connection to an out-group cause framed as being similar, and express higher prosocial /donation behaviour towards an out-group cause framed as being similar, than to an out-group cause framed as being different. However, following an affirmation of social inclusion, I predict this pattern will reverse, and that individuals high in independent self-construal will prefer out-group causes that are different from the in-group, since they offer less threat to in-group distinctiveness. As a result, I predict that framing an out-group cause as similar (vs. different) to an individual high in independent self-construal will moderate donation support. Moreover, I predict that the interaction between self-construal and inclusion status will moderate this moderation. Finally, I predict that feelings of connection to the cause will mediate donation intentions, for individuals high in independent self-

construal. As a result, I have generated the following remaining hypotheses:

Hypothesis 7:

Under normal conditions (control group) people with a higher independent self-construal orientation will express increased donation intentions for an out-group animal charity than people with a low independent self-construal orientation.

Hypothesis 8:

Under normal conditions (control group) people with a higher independent self-construal orientation will express increased donation intentions for an out-group animal charity that is framed as similar (vs. different) to them, since it offers increased connection potential.

Hypothesis 9:

Affirmation of social inclusion (inclusion manipulation) will result in reduced donation intentions expressed for an out-group animal charity for people with a higher independent self-construal orientation, compared to under normal conditions.

Hypothesis 10:

Affirmation of social inclusion (inclusion manipulation) will result in increased donation intentions for an out-group animal charity that is framed as different (vs. similar) to the donor for individuals with a higher independent self-construal orientation, since it offers less of a threat to in-group distinctiveness.

Hypothesis 11:

Feelings of connection to the cause will mediate donation support for individuals with high independent self-construal orientation.

Hypothesis 12:

People with an interdependent self-construal orientation will not express higher or lower donation intentions as a result of social inclusion (delivered via an inclusion manipulation).

Chapter 3: Empirical Investigation

3.1 Pre-Test (Social Potential) Study

3.1.1 Overview.

My initial study (study 1) had two goals. The first goal was to explore the role that self-construal might play in group formation and inclusive behaviour towards others. The second goal was to explore whether affiliation motivation–the desire to socially connect with others–might also play a role in group formation, and specifically the decision to include traditional outsiders, such as animals, into a self-formed in-group. However, I expected this to be contingent on whether the animals offered an opportunity for social interaction. Support for this pattern of behaviour comes from previous research, which has demonstrated that people are chronically motivated to create and look for social connections and, if no suitable human options are available, they will be open to attributing human characteristics onto animals, or other objects (Epley, Akalis, Waytz, & Cacioppo, 2008; Gardner, Pickett, & Knowles, 2005; Powers, Worsham, Freeman, Wheatley, & Heatherton, 2014), in an attempt to re-frame them as social resources, capable of gratifying social needs. This behaviour has been termed social anthropomorphism (Epley, Akalis, Waytz, & Cacioppo, 2008), or social shielding (Gardner, Pickett, & Knowles, 2005).

Not all non-humans, however, are likely to offer the same degree of potential for social interaction. For example, a fish might be considered to offer less "social interaction" potential, than a friendly dog, for most people. Similarly, with humans,

there is likely to be a variation in "social interaction" potential, with a stranger

perhaps offering less potential as a meaningful social resource than a friend or

valued family member. With this in mind, this pre-test (social potential) study was

designed with the specific purpose of building a list of human and animal items that

would represent a range of potential for social connection and use as a social

resource.

3.1.2 Procedure.

Materials.

The pre-test study was administered in the marketing research lab of a Canadian

University, using 47 undergraduate student participants (49% female, *Median* $_{age}$ =

21-25years old), who participated in the study in exchange for course credit.

Participants completed the study on Qualtrics Survey Software, at individual

computer terminals in groups of 10-18 per session, and were told that they would

be completing a single task with no further explanation given. Participants were

asked to rate twenty-four animal items and twenty-four human items, on a ten point

scale, for their potential to offer a social interaction likely to provide an opportunity

for one, or more, of the following elements: nurturing, physical or emotional

intimacy, love, trust, companionship, communication, comfort, validation, affection,

support, and/or a feeling of belonging, being needed or being understood by

another.

Animal items were chosen to include a wide range of domestic and wild animals that were likely to be regarded as having high vs. low social connection potential, and included items such as "butterfly", "horse", "chick", "small monkey", "cat", and "dolphin" on the high social potential side and "snail", "goldfish", "tuna", "turkey", "alligator", "stick insect" on the low social potential side. Human items were also chosen to include a range of items that were likely to be regarded as having high vs. low social connection potential, and included items such as "nurse", "friend", "manicurist", "partner", "advice-columnist", "mother" on the high social potential side and "dentist", "stranger", "tele-marketer", "dead person", "border-control officer", "sleeping person" on the low social potential side.

The rating section of the study took less than ten minutes to complete. Following this task, basic demographics were collected and participants were thanked and debriefed.

3.1.3 Results.

Demographics.

Demographics collected showed that participants in the sample identified as 64.4% Chinese, 8.9% South Asian, 8.9% Korean, 6.7% South East Asian, 2.2% Caucasian, 2.1% Japanese, and 6.7% other. Results also showed that 13.3% of participants reported having lived in the USA or Canada for over 21 years, 35.6% for 11-21 years, 24.4% for 6-10 years, and 26.7% for under 6 years. Participants identified as 51.1% female. Age demographics (collected as a categorical variable) were as

follows: 35.6% under 21 years old; 53.3% 21-25 years old; 8.9% 26-30 years old and 2.2% over 30 years old.

Mean ratings were collected for all animal items, which ranged from a high of M=8.91 (SD = 2.09) for a Labrador Dog to a low of M=3.27 (SD=2.42) for a Skunk. The average for animal ratings was M=5.74 (SD=1.56). Mean ratings were collected for all human items which ranged from a high of M=9.84 (SD = 1.83) for Mother to a low of M=4.18 (SD=2.92) for a dead person. The average for human ratings was M=7.16 (SD=1.24). See appendix A.1 for detailed analysis of results.

Following the analysis five low social animal items and five high social animal items were chosen, with preference given to the highest and lowest examples, as measured by their means. As a result a final animal list was created which composed of the following items: (high social) Labrador Dog (M=8.91, SD=2.09); Horse (M=7.93, SD=2.31); Dolphin (M=7.82, SD=2.58); Cat (M=7.58, SD=2.28); Rabbit (M=7.07, SD=2.32) and (low social) Skunk (M=3.27, SD=2.37); Snail (M=3.39, SD=2.42); Stick Insect (M=3.59, SD=2.84); Tuna (M=4.07, SD=2.70); Alligator (M=4.24, SD=2.94). Similarly, a list of five low social human items and five high social human items were chosen, with preferences given to the highest and lowest examples, as measured by their means. As a result, a final human list was created which composed of the following items: (high social) Mother (M=9.84, SD=1.83); Partner (M=9.63, SD=2.10); Friend (M=9.50, SD=1.72); Co-worker (M=8.19, SD=1.78); Nurse (M=7.65, SD=1.58) and (low social) Tele-marketer (M=4.78,

SD=2.76); Sleeping Person (*M*=5.13, *SD*=2.69); Border Control Officer (*M*=5.46,

SD=2.55); Mall-Security Guard (*M*=5.64, *SD*=2.00); Stranger (*M*=5.80, *SD*=2.02).

3.1.4 Discussion.

The results of the pre-test enabled a final list of twenty items to be created that was

balanced between items that ranged in terms of social connection potential, and

included a balance of human and animal items. Following on from the pre-test, the

first study was constructed to examine if a relationship existed between self-

construal and the types of items that were selected in a group formation task, and to

explore whether affiliation motivation towards out-group members might play a

role in decisions regarding in-group membership.

3.2 Study 1

3.2.1 Overview.

Past research has found that people high in independent self-construal may be more

disposed to extend favourable attitudes and behaviours towards prototypical out-

group members than people with high interdependent self-construal

(Kemmelmeier, Jambor & Letner, 2006; Duclos & Barasch, 2014). One of the reasons

for this finding may lie in the differing perceptions of what potential exists for

intergroup mobility. As previously noted, Yuki & Takemura (2013) propose that

individuals with a more interdependent self-construal orientation are more likely to

view their in-group as a non-permeable long-term structure, within which inter-

connective networks must be kept in harmony and group membership is fixed.

Conversely, individuals with a more independent self-construal orientation are more likely to see in-groups as more dynamic and fluid in nature, with the group category, not the membership, being paramount to identity.

While more a more dynamically defined and relaxed approach to in-group membership and boundaries may have advantages, one potential negative consequence is that belonging may not be as assured, or guaranteed, since social inclusion is experienced as a more precarious state (Triandis, 1989). Cushman (1990) has gone as far as to argue that a more independent outlook, such as that found in a person high in independent self-construal, may render a person under constant threat of becoming socially isolated, and lacking in social sustenance. This may be contrasted with the chronically assured belonging status, experienced by individuals with higher interdependent self-construal, who are confident that they will remain as members of their more rigid fixed groups, bound as they are by interconnected ties that buffer and protect them against threats to belonging (Gardner, Pickett & Knowles, 2005; Powers, Worsham, Freeman, Wheatley, & Heatherton, 2014; Uskul & Over, 2014). With this in mind, one task of study 1 was to explore whether people high in interdependent self-construal would be more rigid in terms of in-group definitions and less likely to include animals.

Another task of study 1 was to explore whether affiliation motivation–the desire to form social connections–might play a role in the decision to include traditional outsiders, such as animals, into an in-group. As previously indicated, support for this

motivation is supplied by research demonstrating that people are motivated to

create and look for social connections, and, if no suitable human options are

available, they will be more open to include non-humans in their social framework

(Epley, Akalis, Waytz & Cacioppo, 2008).

Belonging status is vital to monitor and maintain. Past research has put forward a

Sociometer or social monitoring system (SMS) concept, in which attention to social

aspects of the environment are heightened, whenever a threat is perceived (Leary,

Tambor, Terdal, & Downs, 1995; Leary 1999; Pickett, & Gardner, 2005). While most

research has typically measured the effect of the social monitoring system in

situations of social rejection (Leary, Kelly, & Schreindorfer, 2001), Gardner, Pickett,

and Knowles (2005) have clearly stated that the purpose of the social monitoring

system is to attune individuals to information that will help them navigate the social

environment more successfully, whatever the belonging state they find themselves

in. In light of this argument, I propose that it is reasonable to expect that people high

in independent self-construal will be more likely to actively monitor their state of

belonging, due to the more precarious nature of their social bonds, and will

therefore be especially attuned, vigilant, and responsive to signals of social

interaction potential in others.

With this past research in mind, study 1 was designed to examine whether self-

construal effects (independent vs. interdependent self-construal) would manifest in

a group selection task, in which participants were asked to identify in-group

members from the pre-tested list of human and animal targets. I predicted that individuals with a higher independent self-construal orientation would be more open to selecting animals to put in an in-group than individuals with a more interdependent self-construal orientation, for two reasons. First, I expected this increased openness among individuals with a higher independent self-construal because individuals with a higher independent self-construal orientation have a more flexible view of what may be categorized as an in-group member, along with a greater expectation for relational mobility (Yuki & Takemura, 2013). In contrast, I predicted that individuals with a more interdependent self-construal orientation not only believe that there is less potential for intergroup mobility, and regard group boundaries as being less porous, but also will be more likely to regard animals as rigidly out-group, and therefore will be inclined to include less animals in a self-formed in-group category.

Second, I anticipated that individuals with a more independent self-construal orientation would be more motivated to group according to social connection potential, since their belonging needs are less guaranteed, as a result of the more precarious and dynamic nature of their existing in-groups. On the other hand, individuals with a more interdependent self-construal would be more motivated to group according to existing relational connections, along with more rigid and formal group rules. In summary, my hypotheses (H1) were that animals would form a higher percentage of a self-formed in-group the higher a person measures on independent self-construal, and a lower percentage of a self-formed in-group the

higher a person measures on interdependent self-construal. Furthermore, I

predicted (H2) that social affiliation motivation would have a greater influence the

higher a person measured on independent self-construal.

3.2.2 Procedure.

A sample of 95 American participants was recruited using Mechanical Turk, and

completed the study online using Qualtrics Survey Software, in exchange for

monetary compensation. Sample size was based on practical considerations

regarding recruitment and budgetary constraints, but I aimed to get 100 people for

this first correlational study. The study was a correlational design that included a

grouping task, as well as a measure of trait self-construal orientation, using a

previously validated 24-item scale (Singelis, 1994).

Materials.

Participants were told that they would be completing two unconnected tasks. The

first task required them to complete a series of measures, which began with a

condensed 10-item Individual Differences in Anthropomorphism Questionnaire of

which 5-items were intended to measure anthropomorphism (condensed IDAQ; α =

.778). This condensed 10-item IDAQ contained only animal related questions and

was adapted from a longer 30-item measure devised by Waytz, Cacioppo and Epley

(2010) which also contained machine and nature related questions. The condensed

IDAQ was administered for exploratory reasons, since it has previously been shown

to be predictive of increased moral care and concern being expressed towards

animals. The condensed IDAQ contained questions such as " To what extent does a cheetah experience emotions?" and " To what extent does the average fish have free will?". After the condensed IDAQ participants completed the 24-item Self-construal scale (Singelis, 1994; independent self-construal α = .817, interdependent self-construal α = .758). This scale includes twelve questions designed to measure trait independent self-construal, such as "My personal identity, independent of others, is very important to me " and "I enjoy being unique and different from others in many respects", as well as twelve questions designed to measure trait interdependent self-construal, such as "I have respect for the authority figures with whom I interact" and "Even when I strongly disagree with group members, I avoid an argument". This was followed by a 12-item Fear of Negative Evaluation (FNE) scale (Leary, 1983; α = .753), designed to measure people's sensitivity to criticism from others, and also used for exploratory purposes. The FNE contains questions such as " I am afraid that people will find fault with me" and " Other peoples opinions of me do not bother me". Participants then completed a 3 item loneliness scale (Hughes, Waite, Hawkley, & Cacioppo, 2004; α = .910) that consisted of the following questions: "Do you feel that you lack companionship?", "Do you feel isolated from others?" and "Do you feel left out?"

The IDAQ, and FNE scales were administered as a cover story for the study being offered as two unconnected tasks. However, I also wished to measure participant's trait measures on IDAQ and FNE, and check for correlations with self-construal orientation, loneliness, and grouping of humans and animals. Anthropomorphism,

as previously detailed, has been shown to increase with a desire for social connection (Epley, Akalis, Waytz, & Cacciopo, 2008). FNE has been shown to impact impression management and social comparison behaviour, in intergroup settings, and has been linked to stereotyping of out-group members and polarization of evaluations of both in-and out-group members (Stephen & Stephen, 1985). The 3-item loneliness scale was administered to measure loneliness, which has previously been shown to impact people's attitudes towards animals (Epley, Akalis, Waytz, & Cacciopo, 2008).

Following these preliminary measures, participants were told they were now to complete second unrelated task, which was designed to investigate how people categorize information. They were asked to create two groups, from a list of humans and animal items that included human items such as "your mother", "a friend", "a telemarketer", "a sleeping person" and animal items such as "a dog", "a cat", "a snake", "a snail". See appendix A.4 for full list and details. The groups were depicted as empty boxes, with one box already containing a "yourself" item at the start. Participants were requested to click and drag items into a relevant box; to leave no item unselected; and were told that each group must have at least 8 items within it. Following the grouping task, participants were asked a number of demographic questions. Finally, participants were probed for hypothesis guessing, in an open-ended response format, and thanked.

3.2.3 Results.

On inspection of the open-ended responses, no participants appeared to guess the

study 1 hypotheses. My exclusion policy was to exclude participants if they failed all

attention checks, or if they accurately guessed the key study hypotheses. Ten

participants failed all attention checks and were therefore removed from the study

(leaving *n*=85 remaining).

Power.

A post hoc power analysis, using G*Power 3.1, indicated that with the sample size

remaining (*n*=85) there was sufficient power (>.80) to detect correlations of .30 and

greater, with a critical *r*=0.2133 at 95% confidence.

Demographics.

Demographics collected showed that participants in the sample identified as 82.4%

Caucasian, 14.1% Black, and 3.6% mixed other. Results also showed that 95.3% of

participants reported having lived in the USA for over 21 years. Participants

identified as 44.7% female. Age demographics were as follows: 3.5% under 21 years

old; 34.1% 21-30 years old; 29.4% 31-40 years old; 22.4% 41-50 years old; 9.4%

51-60 years old and 1.2% over 60 years old.

A combined self-construal measure was computed, which has been used in past

research (Aaker & Williams, 1998; Singelis, 1994), and is reported as having a high

consistency score of alpha =.86 (Zhang, Feick, & Price, 2006). It is calculated by

adding the reversed independent self-construal score to the standard

interdependent self-construal score. The results of Study 1 showed a significant

negative correlation ($r(83)$=-.294, p=.006) between self-construal (measured using

a combined self-construal scale, Zhang, Feick, & Price, 2006; α =.724) and the

percentage of animals that were included in the in-group; indicating that less

animals were included the higher participants measured in interdependent self-

construal (and more animals included the higher participants measured in

independent self-construal). In order to probe whether the effect was driven more

by one self-construal orientation, than the other, I also separated self-construal into

its two components to run tests. These subsequent analyses revealed that that being

higher in independent self-construal was significantly positively correlated with a

higher percentage of animals being included in a self designated in-group

($r(83)$=.220, p=.04). The reverse was true with interdependent self-construal, in

that higher interdependent self-construal was positively correlated with a lower

percentage of animals being included in a self designated in-group; although not

significantly when measured alone ($r(83)$=-.173, p=.114). Thus, the tendency to

include out-group members in the in-group was more driven by being higher in

independence, than by being lower in interdependence.

Interestingly, the results of study 1 also revealed a positive correlation ($r(83)$=.305,

p=.005) between independent self-construal orientation, and how many "high

social" items were put in the in-group. Put another way, the higher participants

rated in independent self-construal the more items they put in their in-group that

were rated as "high social potential". The "high social" items included both human and animal items. There was no significant correlation between the number of "high social" or "low social" items put in the in-group for participants and high interdependent self-construal orientation ($r(83)=.055, p=.614$).

In terms of trait measures the results of study 1 also revealed a significant positive correlation ($r(83)=.309, p=.004$) between anthropomorphism (measured in the IDAQ) and independent self-construal. Loneliness (measured using the 3-item loneliness measure) and independent self-construal were negatively correlated ($r(83)=-.359, p=.001$). Fear of negative evaluation (FNE) and Loneliness were positively correlated ($r(83)=.321, p=.003$). Study 1 also showed a significant positive correlation between FNE and interdependent self-construal ($r(83)=.245, p=.024$). The results showed that neither trait anthropomorphism (IDA), ($r(83)=.094, p=.392$), nor the Loneliness measure, ($r(83)=-.035, p=.753$), were significantly correlated with the percentage of animals being included in a self-formed in-group. An independent samples t-test showed no significant differences between genders on measures of any of the variables (FNE, IDAQ, self-construal, percentage of animals in in-group).

3.2.4 Discussion.

As predicted, the results of study 1 provided support for H1; that the higher a person measures on independent self-construal, the higher the percentage of a self-formed in-group will be animal out-group members. As a result, study 1 provided

some non-causal support for the argument of Kemmelmeier, Jambor and Letner (2006); that interdependent self-construal is associated with more in-group favouritism. Additionally, study 1 supported the proposition of Yuki and Takemura (2013); that people with a more independent self-construal orientation may have more permeable boundaries to their in-groups and, if sufficiently motivated, may be more willing to allow traditional out-group members in.

The results of study 1 also show that independent self-construal and trait anthropomorphism (measured through the IDAQ) appeared to be positively correlated, offering support for the argument that people with a more independent self-construal orientation may be more open to categorizing animals as potential "honorary humans." Trait anthropomorphism on its own, however, did not appear to be correlated with inclusion of animals.

Study 1 also revealed a positive correlation between how many "high social" items were put in the in-group box, and high independent self-construal, and thereby offered support for H2: that the higher individuals measure in independent self-construal, the greater the number of items that have high social connection potential will be put in a self-formed in-group. There was no correlation between the number of "high social" potential items in the in-group and high interdependent self-construal. This result provides evidence that, while participants with high independent self-construal are likely to include more "high social" humans and

animals in a self-formed in-group, the same relationship is not in evidence for

participants with high interdependent self-construal.

Taken together, the results of study 1 therefore offer support for the suggestion that

at least some of the motivation for the choices made in the group selection task, in

people with an independent self-construal orientation, results from a desire to

maximise social connection potential.

The next task was to investigate, in more detail, the motivations and mechanisms

that enable traditional outsiders, such as animals, to be admitted into an in-group.

Study 1 had offered evidence for one potential motivation, the desire to socially

connect. Study 2 therefore was designed to manipulate social connection.

Limitations.

A limitation of study 1 may be noted from the power analysis, which showed only

sufficient power to detect a correlation of .30 and higher. While some of the

correlations were over .30, others were in the region of .20-.30. To be sure of the

robustness of these results it would therefore be advisable to replicate this study in

future research. A further note regarding study 1 is that the demographic

descriptives, particularly in the areas of ethnicity and age, differed considerably

from the pre-test study demographic descriptives.

3.3 Study 2

3.3.1 Overview.

Social exclusion, in almost any form, is considered to have a significant impact on individuals, and the negative consequences of failed inclusion can be powerful and immediate (Williams, 2009). However the detailed impacts of exclusion and inclusion on subsequent social interactions with others–including in the realms of prosocial behaviour–appear to be complex and nuanced. As previously noted, Epley, Akalis, Waytz, and Cacioppo (2008) argue that both induced exclusion, and chronic isolation, can motivate people to create and look for social connections with others, even including non-humans. Gardner, Pickett, and Knowles (2005) have suggested that when social connection with humans is not an option, seekers may instead look to the use of parasocials, such as plants or pets—a phenomenon they call social shielding. While less research has examined the impacts of social inclusion, both Brewer (1991), and DeWall, Baumeister, and Vohs, (2008) have proposed that not only may people experience belonging satiation, but also that those who feel socially connected may be less motivated to connect with others or gain social acceptance elsewhere. Waytz and Epley (2012) have also demonstrated that social connection may enable dehumanization of others, and increase perceived distance between ourselves and less close others.

A variety of research has explored the impact of inclusion and exclusion on different self-construal orientations. Pfundmair, Aydin, Du, Yeung, Frey, and Graupmann (2015) argue that possession of a more interdependent self-construal orientation

may buffer a person from the negative impacts of exclusion, offering protection in a form that people with a more independent self-construal do not have access to. Pfundmair and colleagues also found that participants with a collectivist orientation showed little difference on a range of measures (antisocial intention, prosocial intention, avoiding intention, affect) following either social inclusion or social exclusion, as compared to participants with a more individualist orientation.

Considering this prior research, study 2 included both an inclusion and an exclusion manipulation, in order to examine how social exclusion and social inclusion might impact a grouping task, and to further probe the role that social connection might be playing in the selection of in-group members, dependent on self-construal orientation. Based on the previous findings, I expected people with a more independent self-construal to respond to an inclusion manipulation, in which they were assured of their future belongingness status with other humans, by showing less interest in interacting with non-humans, and therefore including fewer animals in their self formed in-group. On the other hand, I expected people with an independent self-construal orientation to respond to the exclusion manipulation–in which they were told that they would be more socially isolated over their lifespan– by showing more interest in interacting with non-humans, and therefore including more animals in their self formed in-group. In addition, I predicted that participants measuring high in interdependent self-construal might demonstrate less of a reaction to both the inclusion and exclusion manipulations, being somewhat buffered to these conditions.

In summary, I hypothesized (H5) that people with a higher independent self-construal orientation would respond to the inclusion manipulation by putting a lower percentage of animals into a self-formed in-group. On the other hand, I predicted (H3) that following an exclusion manipulation, people with a higher independent self-construal orientation would put a higher percentage of animals into a self-formed in-group. Furthermore, I predicted that people with a higher interdependent self-construal would produce less of a response to either manipulation.

Study 2 also included an anthropomorphism task as a dependent variable, in order to probe whether anthropomorphism varied with self-construal and the inclusion manipulation. Based on past research, along with the results of Study 1, I hypothesised (H6) that under normal conditions (control), participants with high independent self-construal orientation would be more likely to anthropomorphize animals, especially on factors relating to social connection, but that following an inclusion manipulation this effect would reduce, or disappear. I expected (H4) this effect to reverse following exclusion, and that individuals with higher independent self-construal will give higher ratings of anthropomorphism for a non-human subject.

3.3.2 Procedure.

Study 2 took the form of a single factor 3-level (control, inclusion and exclusion manipulation) mixed experimental design, with self-construal measured as a

moderator variable. The study was administered in the marketing research lab of a Canadian University, using 120 undergraduate student participants (54% female, M_{age} = 24), who participated in the study in exchange for course credit. The sample was a convenience sample and condition was assigned randomly, using the randomizing embedded coding system in Qualtrics Survey Software. The sample size was based on practical considerations, regarding recruitment and budgetary constraints, with a rule of thumb approach regarding power, based on previous,\ similar studies.

Participants completed the study at individual computer terminals, in groups of 10-18 per session, and were told that they would be taking part in two unrelated studies. 'Study One' was described as a study looking at personality characteristics, in which I was interested in how general life views and personal sense of self related to future life events. 'Study Two' was described as a study looking at categorization behaviour.

After filling in a number of trait scales, participants were randomly assigned to one of three conditions: control, inclusion, and exclusion. Dependent on condition participants either received no prediction at all (control), a future life prediction that they would have plenty of friends (inclusion), or a future life prediction that they would have few friends (exclusion). Following the future life prediction, participants were told they would now be starting the second study.

Participants were told the next study was looking at how people categorized information. The first task they completed, was the same grouping task as was used in Study 1. In addition, they were asked to rate their self-formed in-group, in terms of entitativity (group cohesiveness). The prediction for this was that people with a higher independent self-construal would rate the self-formed in-group higher in entitativity, since people with a higher independent self-construal not only form new groups more easily, but also derive meaning specifically from category based groups that they have chosen to belong to. Conversely, people with a higher interdependent self-construal consider themselves tied to long term group structures; which makes it not only harder to form meaningful new groups, but also makes it more likely that any meaningful new groups formed, will be based on pre-existing relational ties, rather than categories. Therefore, I expected that people with a higher interdependent self-construal would feel less attached to their new self-formed group, and would therefore rate it lower in entitativity. Furthermore, I predicted that the manipulation condition would have an impact on perceptions of entitativity of the self-formed in-group. Specifically, following an exclusion manipulation I expected people to rate the self-formed in-group higher in entitativity, as a form of defensive behaviour; whereas following a reassurance of chronic inclusion, a self-formed in-group would not seem so important to personal happiness, and would be evaluated lower in entitativity.

Participants then completed an anthropomorphism photo task, designed to measure how much they were anthropomorphizing, especially in the social realm. Following

this, participants responded to a manipulation check, a hypothesis probe and some demographic questions. Participants were then debriefed, offered candy as a mood elevator, and thanked.

Materials.

Participants were asked to complete the same 24 item self-construal scale (12 items independent self-construal, 12 items interdependent self-construal) as used in study 1. Participants were also asked to complete the same amended Individual Differences in Anthropomorphism Questionnaire (IDAQ; α =.872) previously used by Waytz, Cacioppo, and Epley, (2014) to monitor attitudes to animals, and the same 12 item Fear of Negative Evaluation (FNE; α =.774) scale (Leary, 1983). In addition a 10-item Need To Belong (NTB; α =.665) scale (Leary, Kelly, & Schreindorfer, 2001) was administered (see appendix A.5). These personality scales, taken all together, served to support the cover story; namely that I was interested in how personality traits influenced future life behaviour. The specific scales were selected based on past findings, demonstrating their potential to interact with Human Animal Interactions (HAI), social exclusion threats, and intergroup evaluations and behaviour. The NTB scale was developed to measure need-to-belong, the desire to form meaningful social attachments. Need-to-belong is arguably a fundamental human motivation, and is considered to conform to motivational patterns of satiation and substitutions (Baumeister & Leary 1995).

Prior to receiving one of the three experimental conditions, participants also

completed a 3-Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004; α =.863). This was administered in study 2 in accordance with Behavioural Research Ethics Board requirements, as a precautionary screening test for vulnerable participants, who might experience a more pronounced reaction to the Future Life Prediction.

The Future Life Prediction manipulation has been successfully used on many occasions (Epley, Akalis, Waytz and Cacioppo, 2008 and Twenge, Baumeister, DeWall, Ciarocco and Bartels, 2007), to evoke feelings of loneliness/ exclusion or feelings of belongingness/ inclusion in participants, and takes one of three forms (exclusion, inclusion, and control). With the exclusion manipulation, participants were told that their answers to the prior questions had enabled a 'Future Life Prediction' to be constructed, which predicted that they would lack long-term friendships and relationships and be lonely through much of their life. With the inclusion manipulation, participants were told that their answers to the previous questions had enabled a 'Future Life Prediction' to be constructed, which informed them that they would always have friends and loved ones in their life. In the control condition, participants were not told they would be given a future life prediction, and did not receive one. See appendix A.6 for the full wording of the 'Future Life Prediction'. Participants were then moved onto what they were told was the second study.

In this next section, participants were asked to complete the same grouping

selection that was completed in study 1, and to rate the self created in-group on a 5-item entitativity scale developed for the study (α=.718). This measure asked participants to respond to a series of statements, as follows "I am proud to think of myself as a member of this group", "this group is meaningful and cohesive", "this group is important to its members", "members of this group are similar", and "members of this group share common goals", on a scale of 1-7; where 1 = not at all, and 7 = extremely. Following this task, participants were asked to rate a photograph of a black Labrador dog on a variety of factors relating to anthropomorphism, and especially social anthropomorphism (α=.785); using an amended version of a scale originated and previously used by Epley, Waytz, and Cacioppo (2007) and Epley, Akalis, Waytz and Cacioppo (2008). Social anthropomorphism has been previously identified by Epley, Waytz, and Cacioppo (2007) as a tendency to anthropomorphize based on specific values that may offer potential for social connection, which, for example, are expressed in the statement "This dog can be sympathetic". This may be differentiated from more general anthropomorphism values, such as can be seen expressed in the statement "This dog can suffer from embarrassment at times".

The black Labrador dog was photographed in a lying position, looking towards the camera. See appendix A.7, for both the photograph and the amended anthropomorphism scale. Following this, demographics were collected, along with a manipulation check asking them to recall which future life prediction they received, and to rate their mood following the prediction, using an 8-item scale (positive: happy, positive, content, supported; negative: left out, isolated, negative, lonely). At

the end, participants were asked a hypothesis probe question to check hypothesis guessing. Participants were then debriefed and thanked.

3.3.3 Results.

Two participants, rated moderate on the 3-Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004), and were categorized as vulnerable in accordance with Behavioural Research Ethics Board requirements. They were therefore screened out of the experimental study, before administration of the manipulation, as a precautionary measure (leaving n=118 remaining). The study exclusion policy stipulated that participants would be screened out if they failed all attention checks, or if they accurately guessed the key study hypotheses; which no participants did.

Power.

A post hoc power analysis was conducted, using G*Power 3.1. With a sample size of 81 in a multiple regression model, with 3 predictors (2 predictors and 1 interaction term) and an observed R^2 of 0.12, ρ^2 was calculated at 0.127, which provided a power estimation of 0.71, at 95% confidence level. A post hoc power test conducted, using G*Power 3.1, for an independent sample t-test revealed that with a sample size of 80 (40 per condition) an observed d=0.65, with critical t of 1.991, was needed for a power estimation of >0.80 at 95% confidence level. Furthermore, a post hoc power test for correlations revealed that with a sample size of 118, an observed correlation of .26, was needed for a power estimation of >0.80 at 95% confidence level.

Manipulation check.

To assess whether participants responded as expected to the manipulation, they were asked to recall the prediction they received in a multiple-choice question at the end of the study, after demographics were taken. They were also asked to answer some post prediction mood, and manipulation probe questions. When asked to recall their prediction, 89.4% participants were able to do so with accuracy, 3.3% inaccurately remembered getting a future belonging (inclusion) prediction when in fact they were in the control group (no prediction), and 7.3% could not remember their prediction.

Post manipulation measurements of positive mood were also tested across conditions (inclusion, exclusion, control), at the end of the study following the manipulation probe. A one-way between groups ANOVA revealed a significant main effect of condition on post prediction mood, $F(2,116)=36.57$, $p<.001$, $\eta=.39$. Post hoc comparisons, using Tukey's *HSD* test, indicated that the post prediction mood scores in the exclusion condition ($M=3.58$, $SD=1.31$) were significantly lower than the post prediction mood scores in both the control condition ($M=4.69$, $SD=1.26$), ($p<.001$), 95% CI [-1.74,-0.48] and the inclusion condition ($M=5.77$, $SD=0.85$), ($p<.001$), 95% CI [-2.80,-1.58]. Furthermore, post hoc comparisons indicated that that the post prediction mood scores in the inclusion condition were significantly higher, than the post prediction mood scores in the control condition ($p<.001$), 95% CI [0.49,1.68]. It must be noted, however, that a Levene's test of equality of error variances was

significant $F(2,116)=4.36$, $p=.02$ and therefore the assumption of homogeneity of variance was violated in the test.

Demographics.

Demographics collected showed that participants in the sample identified as 82.1% Asian, 6.3% Caucasian, 3.6% East Indian, 1.8% Black, and 6.3% other. Results also showed that 5.7% reported living in Canada less than 2 years, 17.1% reported living in Canada 2-5 years, 19.5% reported living in Canada 6-10 years, 30.9% reported living in Canada 11-20 years and 26.8% reported living in Canada 21 years or over. Participants identified as 53.9% female. The mean age was 24.1 years old. See appendix A.8 for detailed demographic and trait analyses.

Means comparisons.

Independent samples t-tests were carried out between the control group and respective conditions (exclusion; inclusion), as separate analyses. Tests showed no significant differences between conditions, on the either the grouping task, or the anthropomorphism task. See appendix A.8 for detailed results.

Regression tests for moderation.

Moderated multiple regressions were carried out in SPSS, using process v.2 (Hayes, 2013) to examine a) whether the manipulation (inclusion vs. exclusion condition) influenced participant intentions and evaluations, including the percentage of animals that were included in a self-formed in-group and b) whether these effects

were moderated by independent and interdependent self-construal orientation. Following Cohen and Cohen (1983) and Wendorf (2004), I dummy coded the condition so that the inclusion manipulation (vs. control), and the exclusion manipulation (vs. control), were run as separate tests, and the results reported independently. Independent self-construal and interdependent self-construal scales were kept separate for the analysis, but were mean centered in accordance with guidelines, stipulating that this practice renders subsequent tests of hypotheses, and regression coefficients for X and M, more meaningful and substantially interpretable, as well as to reduce the likelihood of errors in interpretation (Hayes, 2013). All dependent measures were subjected to separate moderated multiple regressions, with each manipulation condition and the control, independent and interdependent self-construal scores, and their interactions, simultaneously entered as predictor variables.

3.3.3.1 Role of exclusion manipulation in grouping, and anthropomorphism tasks.

Summary.

Against expectations, the exclusion manipulation appeared to have no significant impact on either of the dependent variables (grouping task and anthropomorphism task), in terms of a main effect. This was despite appearing to be successful as a manipulation, and despite being accurately recalled by participants. Furthermore, a regression model showed no significant interaction of self-construal (independent;

interdependent) with the exclusion condition. See detailed analyses below, and appendix A.8 for covariate analyses.

Grouping task & independent self-construal.

The percentage of animals included in a self-formed in-group was regressed on to the dummy (exclusion condition) and moderator variables. The social exclusion manipulation, independent self-construal, and the interaction together were not found to account for any significant proportion of variability in the inclusion of animals into an in-group in the overall model, R^2=.07, F(3,70)=1.85, p=.146. Independent self-construal did not significantly predict inclusion of animals B=0.006, SE=0.005, t(74)=1.318, p=.192, 95% CI [-0.003,0.015] nor did the social exclusion manipulation, B=-0.099, SE =0.053, t(74)=-1.873, p=.065, 95% CI [-0.20,0.01], although it appeared to result in a very minor reduction. In sum however there was no conditional effect found for either the manipulation or self-construal. Neither was a significant two-way interaction between the social exclusion condition (control vs. exclusion), and independent self-construal found B=-0.005, SE = 0.007, t(74)=-0.756, p= .452, 95% CI [-0.02,0.01].

Grouping task & interdependent self-construal.

The percentage of animals included in a self-formed in-group was regressed on to the dummy (exclusion condition) and moderator variables. The social exclusion manipulation, interdependent self-construal orientation, and the interaction together were found to account a significant proportion of variability in the

inclusion of animals into an in-group in the overall model, R^2=.117, F(3, 0)=3.09, p=.032. Interdependent self-construal significantly predicted less inclusion of animals B=-0.008, SE=0.004, t(74)=-2.311, p=.024, 95% CI [-0.02,-0.001], but the social exclusion manipulation did not, B=-0.095, SE = 0.051, t(74)=-1.891, p=.067, 95% CI [-0.20,0.01] . In sum there was no conditional effect found for the manipulation. Neither was a significant two-way interaction between the social exclusion condition (control vs. exclusion), and interdependent self-construal orientation found B=0.008, SE = 0.006, t(74)=1.49, p= .141, 95% CI [-0.003,0.02].

Anthropomorphism of dog picture & independent self-construal.
Ratings of social anthropomorphism were regressed on to the dummy and moderator variables for the dog picture. For the picture the social exclusion manipulation, independent self-construal orientation, and the interaction together were found to account for a significant proportion of variability in ratings of social anthropomorphism in the overall model, R^2=.15, F(3,70)=3.98, p=.011. Independent self-construal significantly predicted ratings, B=-0.090, SE =0 .040, t(74)=2.502, p=.02, 95% CI [0.02,0.16], but the social exclusion manipulation did not, B=-0.560, SE = 0.410, t(74)=-1.36, p=.180, 95% CI [-1.38,0.26] . There was no significant two-way interaction between the social exclusion condition (control vs. exclusion), and independent self-construal orientation, B=-0.028, SE = 0.05, t(74)=-0.542, p=.59, 95% CI [-0.13,0.07].

Anthropomorphism of dog picture & interdependent self-construal.

Ratings of social anthropomorphism were regressed on to the dummy and moderator variables for the dog picture. For the picture the social exclusion manipulation, interdependent self-construal orientation, and the interaction together were found to account for a significant proportion of variability in ratings of social anthropomorphism in the overall model, R^2=.11, F(3,70)=2.96, p=.038. Interdependent self-construal did not significantly predict ratings, B=0.001, SE = 0.030, t(74)=0.042, p=.97, 95% CI [-0.06,0.06], neither did the social exclusion manipulation, B=-0.570, SE = 0.420, t(74)=-1.36, p=.18, 95% CI [-1.40,0.26]. There was no significant two-way interaction between the social exclusion condition (control vs. exclusion), and interdependent self-construal orientation, B=0.088, SE = 0.050, t(74)=1.89, p=.06, 95% CI [-0.01,0.18].

Controlling for gender, age and ethnicity in the above analyses revealed no significant results, as detailed in the appendix A.8. Controlling for the trait measures (FNE, IDAQ, NTB, short loneliness scale) also revealed no significant findings. See appendix A.8 for detailed results. In sum, study 2 failed to support the hypothesis (H3), that following an exclusion manipulation people with a higher independent self-construal orientation will put a higher percentage of animals into a self-formed in-group. Furthermore study 2 failed to support the hypothesis (H4), that following an exclusion manipulation people with a higher independent self-construal orientation will anthropomorphize more. Subsequently, I focused the remainder on my analysis on the comparison between the inclusion and the control condition.

3.3.3.2 *Role of inclusion manipulation in grouping and anthropomorphism*

***tasks**.*

Grouping task & independent self-construal.

The percentage of animals included in a self-formed in-group was regressed on to

the dummy (inclusion condition) and moderator variables. The social inclusion

manipulation, independent self-construal orientation, and the interaction together

were found to account for a significant proportion of variability in the inclusion of

animals into an in-group in the overall model, R^2=.12, $F(3,77)$=3.43, p=.02. While

independent self-construal alone did not significantly predict inclusion of animals,

the social inclusion manipulation did, B=-0.110, SE = 0.050, $t(81)$=-2.253, p=.03,

95% CI [-0.21,-0.01] . Importantly a significant two-way interaction between the

social inclusion condition (control vs. inclusion), and independent self-construal

was found B=-0.010, SE = 0.010, $t(81)$=-2.24, p= .03, 95% CI [-0.03,-.002]. [2]

Grouping task & interdependent self-construal.

The percentage of animals included in a self-formed in-group was regressed on to

the dummy (inclusion condition) and moderator variables. The social inclusion

manipulation, interdependent self-construal orientation, and the interaction

together were found to account a significant proportion of variability in the

inclusion of animals into an in-group in the overall model, R^2=.190, $F(3,77)$=6.00,

p=.001. Interdependent self-construal significantly predicted inclusion of animals

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[2] Note I report the unstandardized coefficient (B), rather than betas. Because betas are not properly standardized in interaction terms they are not interpretable, whereas B represents the difference between the un-weighted means of the groups involved (see Cohen, Cohen, West, & Aiken, 2003).

B=-.008, *SE*=.004, *t*(81)=-2.333, *p*=.02, 95% CI [-0.02,-0.001], as did the social

inclusion manipulation, *B*=-0.114, *SE* = 0.048, *t*(81)=-2.364, *p*=.021, 95% CI [-0.21,-

0.02] . There was also a significant two-way interaction between the social inclusion

condition (control vs. inclusion), and interdependent self-construal *B*=0.019, *SE* =

0.005, *t*(81)=3.55, *p*= .001, 95% CI [-0.01,-0.03].

Controlling for demographics (ethnicity, age, gender) revealed no significant

findings. Controlling for the trait measures (FNE, IDAQ, NTB, short loneliness scale)

also revealed no significant findings (see appendix A.8 for results).

To both probe and visualize the nature of the interaction, a floodlight analysis

(Spiller et al, 2013), also known as the Johnson-Neyman (JN) technique, was

performed using Process (Hayes, 2013). A floodlight analysis was chosen, over a

spotlight or simple slopes analysis (Rogosa, 1980; Bauer & Curran, 2005), to avoid

the necessity of making an arbitrary choice for values of M, and to allow for the

results to be of use beyond sample specific circumstances (Hayes, 2013, p. 239).

As illustrated in figure 11, the analysis showed that that under normal

circumstances (control condition), participants that measured higher in

independent self-construal appeared to include significantly more animals in a self

designated in-group, than participants measuring higher in interdependent self-

construal. However, for participants that received an inclusion manipulation, prior

to the grouping task, telling them that a future life prediction suggested they would

always be strongly included by other humans, this pattern significantly reversed. In

the inclusion condition, participants showing a higher independent self-construal

orientation were now less likely to include animals in their self-designated in-group,

than were participants measuring higher in interdependent self-construal. See

figure 11, for the regression lines, with a visualization of the regions of significance,

as derived from the Johnson-Neyman technique, as well as figure 12, for a floodlight

analysis for each interaction, as a plot of $0_{X_{\rightarrow}Y}$ as a function of M along with

confidence bands (Bauer & Curran, 2005; Preacher, Curran, & Bauer, 2006; Rogosa,

1980; Spiller et al. 2013).

Entitativity & independent self-construal.

Participants were also asked to rate the entitativity of their self-formed in-group, on

a number of items, following the grouping task. The entitativity score was regressed

on to the dummy and moderator variables. The social inclusion manipulation,

independent self-construal orientation, and the interaction together were found to

account for a significant proportion of variability in the entitativity rating of the in-

group in the overall model, R^2=.12, $F(3,77)$=3.47, p=.02. While the social inclusion

manipulation alone did not significantly predict the entitativity rating of the in-

group, independent self-construal did, B=0.390, $SE = 0.130$, $t(81)$=3.058, p=.003,

95% CI [0.14, 0.64] . Furthermore a marginal trend was found, albeit not significant,

for the two-way interaction between the social inclusion condition (control vs.

inclusion), and independent self-construal orientation B=-0.280, $SE = 0.170$, $t(81)$=-

1.679, p= .10, 95% CI [-0.62,0.05], which shows that while normally (control) there

appears to be a strong positive correlation between independent self-construal

orientation and subsequent rating of the entitativity of a self-formed in-group, this relationship disappears with an inclusion condition.

Entitativity & interdependent self-construal.
Regression analysis revealed no significant results, in any variables when interdependent self-construal was investigated. See appendix A.8 for detailed results.

See figure 13 for a visual comparison of the trends in entitativity ratings, for both independent and interdependent self-construal.

Anthropomorphism of dog picture.
Ratings of social anthropomorphism were regressed on to the dummy and moderator variables, for the dog picture. For the picture, the social inclusion manipulation, independent self-construal orientation, and the interaction together were found to account for a significant proportion of variability in ratings of social anthropomorphism in the overall model, R^2=.130, $F(3,77)$=3.72, p=.015. Independent self-construal significantly predicted ratings, B=-0.090, SE = 0.040, $t(81)$=2.39, p=.02, 95% CI [0.02,0.17], as did the social inclusion manipulation, B=-0.867, SE = 0.410, $t(81)$=-2.14, p=.04, 95% CI [-1.66,-0.06] . There was no significant two-way interaction between the social inclusion condition (control vs. inclusion), and independent self-construal orientation, B=-0.061, SE = 0.050, $t(81)$=-1.22, p=.23, 95% CI [-0.16,0.04].

While there was no consistent significant two-way interaction between the social

inclusion condition (control vs. inclusion), and independent self-construal

orientation, there was significance in the area of high independent self-construal. I

therefore opted to visualize the interaction and the region of significance using the

Johnson-Neyman technique. A floodlight analysis for the interaction, as a plot of $\theta_{X \to Y}$

as a function of W, along with confidence bands, offered some tentative support for a

hypothesis that, under normal conditions, participants with high independent self-

construal are more prone to anthropomorphizing animals on factors specifically

relating to social connection, but that following an inclusion manipulation, this effect

reduces. Note however the lack of statistical significance for the overall model,

requires caution to be taken over any statistical inferences that may be made from

the result (Hayes, 2013). See figure 14 for a visual representation of the results, and

figure 15 for a floodlight analysis of the interaction, as a plot of $\theta_{X \to Y}$ as a function of

W along with confidence bands including the region of significance.

Anthropomorphism of dog picture & interdependent self-construal.
Ratings of social anthropomorphism were regressed on to the dummy and

moderator variables for the dog picture. For the picture the social inclusion

manipulation, interdependent self-construal orientation, and the interaction

together were not found to account for a significant proportion of variability in

ratings of social anthropomorphism in the overall model, R^2=.07, $F(3,77)$=1.98,

p=.12. Interdependent self-construal did not significantly predict ratings, B=0.001,

SE = 0.030, $t(81)$=0.04, p=.97, 95% CI [-0.06,0.06], but the social inclusion

manipulation did, $B=-0.910$, $SE = 0.420$, $t(81)=-2.17$, $p=.03$, 95% CI [-1.75,-0.07] .

There was no significant two-way interaction between the social inclusion condition

(control vs. inclusion), and interdependent self-construal, $B=0.040$, $SE = 0.050$,

$t(81)=0.88$, $p=.38$, 95% CI [-0.05,0.13].

3.3.4 Discussion.

Study 2 replicated the findings of study 1, and provided an extension to the findings

when participants were manipulated to feel social inclusion. Specifically, in study 2 I

was able to provide further support for H1; that when participants were asked to

make in-groups and out-groups under normal conditions (control), participants

with higher independent self-construal appeared to put a relatively high percentage

of animals into their in-group.

Study 2 did not provide explicit support for my prediction that participants

measuring high in interdependent self-construal would react less to both the

inclusion and exclusion manipulations, being somewhat buffered to these

conditions. However, study 2 did provide evidence that participants who measured

high in interdependent self-construal, would react in a different direction to those

high in independent self-construal. Furthermore, it is perhaps indicative that the

area of significance in the regression model with interdependent self-construal was

in the low regions, rather than the higher regions; in other words the result was

seen for those low in interdependent self-construal. This finding suggests that the

pattern was being driven primarily by high independent self-construal, which is in line with previous research and the predictions.

The ratings of entitativity for the self-formed in-group showed a (non-significant) trend for higher ratings with people who were higher in independent self-construal. This effect disappeared with an inclusion manipulation. Although not significant, this pattern may be compared with the results measuring high interdependent self-construal, where there appeared to be no association between entitativity and interdependent self-construal. This result provides some very tentative support for an argument that under normal conditions individuals with high independent self-construal may rate a self-formed in-group as more cohesive and perhaps more meaningful, than they do after an affirmation of inclusion.

In terms of the social exclusion condition, study 2 did not support hypothesis H3, which predicted that following an exclusion manipulation people with higher independent self-construal would put a higher percentage of animals into a self-formed in-group than in the control. Furthermore, it did not offer support for H4; that people with higher independent self-construal will give higher ratings of anthropomorphism for a non-human subject following an exclusion manipulation than they will normally (control condition). I have no conclusive explanation to offer for this result, since I could find no relationship with any of my measured variables thought to moderate exclusion threat responses, such as fear of negative evaluation (Maner, De Wall, Baumeister, & Schaller, 2007). I can at this stage only speculate

regarding other reasons for the null result. Perhaps the younger age of my participants may have acted as a boundary condition, or perhaps my chosen dependent variables failed to draw out a response from excluded participants. For example, perhaps my participants did not perceive an opportunity to reconnect would be manifested in the outcome variables. As previously detailed by Maner, De Wall, Baumeister, and Schaller (2007) exclusion manipulations can at times deliver complex results.

In terms of the social inclusion manipulation, the results of study 2 provided substantial evidence for H5, that following an inclusion manipulation people with higher independent self-construal will put a lower percentage of animals into a self-formed in-group than normally (control condition). I found a significant two-way interaction between the social connection condition (control vs. social inclusion), and measured self-construal (high-low levels of independent and interdependent self-construal). Repeating the findings of study 1, this demonstrates that, under normal circumstances (control condition), participants that measure high in independent self-construal are more likely to include more animals in a self-formed in-group. However, if participants receive an inclusion manipulation prior to the grouping task, telling them that a future life prediction suggests that they will always be strongly included by other humans, this pattern significantly reverses. In this social inclusion condition, participants showing higher independent self-construal were significantly less likely to include animals in their self-designated in-group than in the control condition.

This finding has interesting theoretical implications, in that it offers an original new explanation for what may be driving the effects of generosity and inclusivity towards distant others, that are seen in people with high independent self-construal. Inclusivity towards distant others was lower in study 2, for people with high independent self-construal, that received an inclusion manipulation, in which they were assured of their chronic future belonging. Study 2, therefore, offers some support for the argument, that the desire for belonging or social inclusion may be the motivation fuelling more inclusive and generous behaviour towards distant others in this group.

Regarding the anthropomorphism findings, although the interaction between inclusion measure and independent self-construal was not significant across the entire range, I believe the fact that the floodlight analysis showed a large region of significance in the medium to upper region of independent self-construal, offers some tentative evidence in support of H6; that people with higher independent self-construal will give lower ratings of anthropomorphism for a non-human subject, following an inclusion manipulation, than they will normally (control condition). Furthermore, it offers some support for the hypothesis that increased anthropomorphism may be related to a desire for social connection, in those higher in independent self-construal.

The motive for an increase in anthropomorphism behaviour is that, by adopting a hyper vigilant approach to cues of social connection potential, and by relaxing

boundaries of what is considered capable of meeting those needs, an individual may maximise social connection possibilities in situations when humans are either not desirable or not available. This finding is in line with the social monitoring system (SMS) concept, the primary purpose of which is to attune individuals to information that will help them navigate the social environment more successfully, whatever the belonging state they find themselves in (Gardner, Pickett and Knowles, 2005).

Furthermore, by visualizing the interaction and the region of significance, using the Johnson-Neyman technique, I show that under normal conditions participants with high independent self-construal are more prone to anthropomorphizing animals on factors specifically relating to social connection, but that following an inclusion manipulation this effect reduces. Whilst not a conclusive finding, the result offers support for the findings of past research demonstrating that anthropomorphism is often highest in people that lack human social contact (Epley, Akalis, Waytz & Cacioppo, 2008). The fact that no significant effect was found in participants with a high interdependent self-construal is unsurprising, since we would expect participants with a more interdependently orientated self-construal to be less open to using animals as parasocials, as well as less open to re-categorizing others for the purposes of social connection, for reasons previously outlined.

In summary, the results of study 2 follow in the direction of prior research, demonstrating that social inclusion may indeed negatively impact inclusive attitudes towards distant others and out-group members (DeWall, Baumeister &

Vohs, 2008; Waytz & Epley, 2007; 2012). The results of study 2, when taken together, also offer some support for the argument that animals may, at times, be used to play a compensatory role for lack of human-to-human relations, but that when human-to-human relations are assured, and this compensatory role is no longer required, then the use of animals as parasocial support mechanisms may reduce. This re-prioritization approach builds on past research of Brown, Young, Sacco, Bernstein and Claypool (2009), who put forward a *reprioritization hypothesis*, which proposed that following social acceptance; a proximal cue that indicates group based survival needs have been satisfied, individuals may shift their motives towards other activities and interests.

That the pattern of response to an inclusion manipulation; as described above, is more apparent in people with an independent self-construal orientation, also builds on past research by Pfundmair, Graupmann, Frey and Aydin (2015), as well as by Ren, Wesselmann and Williams (2013). Both of these research groups have offered up evidence that people with a more interdependent self-construal orientation may not be as susceptible to promises of, or threats to, social inclusion. Moreover, the results of study 2 offer further support for the argument of Yuki and Takemura (2013) that people with a more independent self-construal orientation should regard in-group boundaries as more permeable, than people with a more interdependent orientation.

Finally, study 2 offers up some evidence to support and potentially build on the work of Epley, Akalis, Waytz & Cacioppo (2008); that people will anthropomorphize more when they are in need of social connection, by demonstrating a trend for this behaviour that is specific to people high in independent self-construal, and not for people high in interdependent self-construal. This builds on the results of study 1, which found that there was a significant positive correlation between trait anthropomorphism (measured in the IDAQ) and independent self-construal. Taken together, the results of study 1 and study 2 further support and build upon the past research of Epley, Akalis, Waytz & Cacioppo (2008), by providing evidence that following a reassurance of chronic social inclusion, anthropomorphism ratings specifically reduce for people high in independent self-construal, offering support for the notion that anthropomorphism may be a mechanism that has evolved to facilitate a sense of social inclusion in situations where human company may not be available; also that this is more of a threat for people high in independent self-construal, than for people high in interdependent self-construal.

Study 1 and 2 used an inclusion-grouping task as the main dependent variable. However inclusion of out-group members into an in-group, whilst demonstrating a high level of inclusive behaviour, does not demonstrate some of the more tangible prosocial behaviours that may be directed towards out-group members, such as charitable giving. In study 3, therefore, I wished to investigate whether the behaviour observed in study 1 and 2 might extend into something with financial benefits, such as donation intentions for an out-group charity. I also wished to test

whether feeling either more empathy, or more connection, to an out-group cause would influence donation support for it, and specifically whether this would decrease following a belonging manipulation. Previous research has found empathy to be associated with increased prosocial behaviour (Batson, 1991; Batson & Shaw, 1991; Davis, 2018; Dovidio, Piliavin, Schroeder, & Penner, 2006; Eisenberg & Miller, 1987; Penner, Dovidio, Piliavin, & Schroeder, 2005; Stocks, Lishner & Decker, 2009). With this in mind, I also elected to measure connection and empathy to cause as additional dependent variables. I predicted that connection to cause would be predicted by independent self-construal and would be moderated by the inclusion manipulation. For empathy I was less certain as to my prediction, since past findings regarding the connection between empathy and prosocial behaviour have been mixed, with some finding a relationship and others not (see Eisenberg & Miller, 1987; Underwood & Moore, 1982) for a meta-analysis review).

Finally in study 3 I wished to eliminate the possibility that good mood or positive affect (derived from an inclusion manipulation) may be driving the mechanisms. Specifically, I wished to eliminate the possibility that the reduction in prosocial inclusive behaviour for people high in independent self-construal, was as a result of positive affect, rather than it being as a direct result of an affirmation of social inclusion. In order to examine this, study 3 included a positive affect condition, alongside the inclusion and control conditions. [3]

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[3] Note: A limitation of study 2 may be noted from the power analysis, which showed sub-optimal power (0.71) to detect an effect size of .127 and higher in regressions. Again, as per study 1, to be sure of the robustness of these results it would be advisable to replicate this result in future research.

3.4 Study 3

3.4.1 Overview.

Study 3 had a number of goals. First, I wished to rule out the impact that positive affect might be having on the results. It is possible that just feeling happy, as a result of the inclusion manipulation that delivered a reassurance of long-term social inclusion, might account for the behaviours so far seen. Past research on positive affect has found it to be positively associated with prosocial behaviour (Aderman, 1972; Cunningham, Steinberg, & Grev, 1980; George, 1991; George & Brief, 1992; Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972; Isen, Shalker, Clarke, & Karp, 1978; Rosenhan, Salovey, & Hargis, 1981; Rosenhan, Salovey, Karylowski, & Hargis, 1981). In order to account for this possibility, in study 3 I included a positive affect condition, as well as an inclusion condition and a control.

Another aspect I wished to account for in study 3 was the potential role of participants' baseline trust and thwarted belonging. Twenge, Baumeister, DeWall, Ciarocco, and Bartels (2007), Twenge, Ciarocco, Cuervo, Bartels, and Baumeister (2005), as well as Beest and Williams (2011) and Catanese and Tice (2005) have all offered evidence to suggest that social exclusion may increase aggression and negatively predict prosocial behaviour. However, Lee and Shrum (2012) have argued that being explicitly rejected may conversely lead to more prosocial behaviour. In light of these mixed findings regarding the influence of social exclusion, we may concede that trait personality differences may account for the mixed results.

In study 2 I had measured need-to-belong (NTB), amongst other traits, with no significant results. However, it is possible that not only do people differ in terms of their need to be socially included, but people may also differ in terms of how much their need to be socially included is currently being met—a measurement that may have a greater impact. Thwarted belonging, the extent to which there may be unmet belonging needs or a perceived discrepancy between one's desired and actual levels of belonging, has been found to predict self-defeating behaviours which include increased aggression and reduced prosocial intentions (Thau, Aquino, & Poortvleit, 2007; Twenge, Baumeister, Tice, & Stucke, 2001). Belongingness theory states that people have a fundamental need to maintain high quality relationships with other people, and that when belonging needs are thwarted people will react adversely (Baumeister & Leary, 1995). Adverse reactions happen because the satisfaction of a fundamental need has been denied, causing individuals to suffer from ego depletion and identity threat (Thau, Aquino, & Poortvleit, 2007).

With this in mind it is reasonable to predict that people with higher thwarted belonging might respond differently to an inclusion manipulation, than those who have their belonging needs generally met. For study 3, I therefore decided to measure trait thwarted belonging prior to the manipulation. I, additionally, opted to measure trait levels of trust. The reason for this is that Baumeister, Brewer, Tice and Twenge (2007) also suggest that that one of the reasons why aggression increases and prosocial behaviour decreases when belonging is thwarted is that, despite having a heightened interest in forming new relationships, people may restrain

themselves because they are also distrustful of others. One question for study 3, therefore, was whether high levels of thwarted belonging, and low levels of trust, might attenuate responses to the inclusion manipulation, and if so whether the effect would be the same for both self-construal types.

In study 3 I also wished to investigate whether a different manipulation of inclusion–that of reliving a past real life event in which you felt strongly included and writing about it–would serve to act as an inclusion manipulation. Writing tasks such as these have been successfully used by a number of studies to make salient or prime emotions and mind states (e.g. Arndt, Greenberg, & Cook, 2002, Knowles & Gardner, 2008; Pickett, Gardner, & Knowles, 2004; Manner, DeWall, Baumeister, & Schaller, 2007; Waytz & Epley, 2012). From a practical perspective, such reminders of past events of social inclusion offer more possibilities for real-life applications than the more onerous future life predictions, which take time to set up and may be less plausible in a day-to-day setting. Replicating my previous findings, with an alternate manipulation, would therefore not only potentially increase the robustness of my research, but also the applicability of it.

Additionally, and perhaps most importantly, in study 3 I wished to investigate whether the previously seen inclusive behaviour might extend into another form of prosocial behaviour, one with direct financial benefits. The potential of increasing donations for out-group charities has direct applicability in a real world setting. Many conservation charities, as well as charities aimed at benefiting third world

causes, struggle to attract sufficient donors and funding. For this reason, in study 3 I substituted a donation support dependent variable, in place of the inclusion-group task. My prediction (H7) was that prosocial effects seen in studies 1 and 2 would carry over, and that under normal conditions (control), individuals with high independent self-construal would donate more to an out-group charity than individuals with high interdependent self-construal. Conversely, however, I predicted (H9) that under inclusion conditions, individuals with high independent self-construal would behave more like individuals with high interdependent self-construal, and donate less than in the control condition. My prediction (H12) for individuals with high interdependent self-construal was that they would not only donate less for an out-group charity than those high in independent self-construal in general, but also that the inclusion manipulation would have little impact, based on previous findings (Pfundmair, Graupmann, Frey, & Aydin, 2015; Powers, Worsham, Freeman, Wheatley, & Heatherton 2014). Finally, I also wished to test whether feeling either more empathy, or more connection, to an out-group cause would influence donation support for it, and specifically whether this would decrease following an inclusion manipulation. My expectation here was that feelings of connection, or empathy, for a cause would potentially mediate donation behaviour.

3.4.2 Procedure.

Study 3 took the form of a single factor 3-level (control, inclusion and positive affect manipulation) mixed experimental design, with self-construal measured as a moderator variable. A convenience sample of 187 American participants (47%

female) was recruited using Mechanical Turk, and completed the study in exchange for monetary compensation. Condition was assigned randomly, using randomizing embedded coding within Qualtrics survey software.

The sample size was based on standard calculations, using G*Power 3.1, for a-priori multiple regression with three predictor variables (1 continuous, 1 categorical, and the interaction), using random sampling at 95% confidence level. Residual variance was estimated at $1-(R^2) = 0.85$. Variance explained by special effect (self-construal as a continuous variable) was estimated at 0.08. Calculations estimated a sample size of 106 or greater would be needed for each regression model, in order to achieve a power of >0.80.

Participants were told that they would be completing a series of assignments that would include a short writing skills task, as well as a poster evaluation task. After filling in a number of trait scales, ostensibly to assess mood, participants were randomly assigned to one of three conditions: control, inclusion, and positive affect. Dependent on condition, participants were asked to complete a writing task, the subject of which they were told was randomly generated. In fact participants were either told to "think about a time in which you went to the grocery store" (control condition), to "think about a time in which you felt very happy" (positive affect condition), or to "think about a time in which you felt a strong sense of being included or belonging" (inclusion condition). Participants were asked to recall the event as vividly as possible, then to write a paragraph describing the past event in as

much detail as they were able. This writing task has previously been used successfully (e.g. Knowles & Gardner, 2008; Pickett, Gardner, & Knowles, 2004; Manner, DeWall, Baumeister, & Schaller, 2007; Waytz & Epley, 2012), as a way of manipulating a sense of social inclusion/exclusion. Following the manipulation, participants were thanked and immediately moved on to the next task; which they were told involved evaluating a charity poster appeal for a British Columbia Society for Prevention of Cruelty to Animals (BC SPCA) animal shelter. They were asked to express donation intentions, in a 3-item measure, as well as to state how much empathy, and connection, they felt for the cause. Demographics were then collected. Finally participants were probed as to the subject of the writing task that they received, as a manipulation check, before being debriefed and thanked.

Materials.

Participants were asked to complete the same 24-item self-construal scale as used in Study 1 and 2 (scale reliability: interdependent self-construal 12 items α=.81; scale reliability：independent self-construal 12 items α=.83). Furthermore, a 9-item thwarted belonging (THWB) scale was administered, (scale reliability α=.94)，which was sourced from the 15-item Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte & Joiner Jr., 2012); a scale designed to measure thwarted belongingness and perceived burdensomeness. The thwarted belongingness scale (THWB) contains questions conceived to measure a person's level of *unmet* belonging, as opposed to their desire or need to belong (NTB; see appendix A.9 for full scale). Participants were asked to respond on a 7-point scale (1 = not very true

of me, 7=very true of me) to a series of questions: " I feel like I belong", "I am close to other people", "I have at least one satisfying interaction every day", "other people care about me", "I am fortunate to have many caring and supportive friends", "I feel that there are people I can turn to in times of need", as well as the following reverse coded questions "I feel disconnected from other people", "I rarely interact with people who care about me" "I often feel like an outsider in social gatherings". In view of the results from the need-to-belong measure, administered in study 2, I anticipated higher unmet belonging needs might heighten responses in the inclusion condition. In addition a 2-item trust scale (scale reliability $\alpha=.74$) was administered using the same a 7-point scale (1 = not very true of me, 7=very true of me) to respond to two statements "I can't depend on people to have my best interests at heart", "I feel that people can be counted on to help me". Trust has been previously shown to promote prosocial behaviour (Cuadrado, Tabernero, & Steinel, 2015; Thau, Aquino, & Poortvliet, 2007). Moreover trust has been found to be affected by empathy, and is potentially closely related (Feng, Lazar, & Preece, 2004; Ickes, Stinson, Bissonnette, & Garcia, 1990). Since both empathy and prosocial behaviour, in the shape of donation intentions, were to be measured as dependent variables, I wished to measure trust as a potential covariate trait.

The writing task that followed these measures was used in place of the Future Life Prediction, in order to hopefully increase robustness of the findings, through the use of a different manipulation for social inclusion. Writing tasks have been used by a number of past researchers (e.g. Knowles & Gardner, 2008; Pickett, Gardner, &

Knowles, 2004; Manner, DeWall, Baumeister, & Schaller, 2007; Waytz & Epley, 2012), in order to make specific frames of mind, or emotions, salient for participants. Participants were encouraged to take time to conjure up a past occasion as vividly as possible first, then to relive it through the writing of a detailed description of the event that included their feelings during the event. The detailed instructions are given for each condition in the appendix (A.10).

In the next section of the study, in place of the grouping task used in study 1 and study 2, participants were requested to view a poster for an animal charity, purportedly to assess how they think about pictorial images, and then to rate the cause on a number of dependent variables (see appendix A.11 for poster). The dependent variables included a 3-item donation intentions measure: "how likely are you to donate to this cause", "how willing are you to donate to this cause" and "how inclined are you to donate to this cause", captured using a 7-point scale (low-high) (scale reliability: α=.957). Participants were then asked how much empathy they felt for the cause, and how connected they felt to the cause, using a 7-point scale (low-high). Demographics were collected. Participants were then asked to recall their writing task as a manipulation check, before being debriefed and thanked.

3.4.3 Results.

My study exclusion policy stipulated that participants would be screened out if they failed all attention checks, or if they accurately guessed the key study hypotheses; which no participants did.

Power.

Post-hoc power analyses, using G*Power, detected sufficient power (>.80) to detect correlations of $r(185)=.210$ and higher, effect sizes of $d=0.45$ and higher for independent samples t-tests for condition (group sizes: 60,120), and effect sizes of $d=0.42$ and higher for independent samples t-tests for gender (group sizes: 87,100) at 95% Confidence. See appendix A.17 for power analysis.

Manipulation check.

To assess whether the manipulation had been effective, participants were asked to recall the writing task they received, in a multiple-choice question at the end of the study, after demographics were taken. When asked to recall their writing task 99.5% of participants were able to do so with complete accuracy.

Demographics.

Demographics collected showed that participants in the sample identified as 77.5% Caucasian, 8% Black, 4.3% Latin American, 3.7% South East Asian, 3.2% Asian and 3.2% mixed other (see figure 16). Results also showed that 93% of participants reported having lived in the USA for over 21 years. Participants identified as 46.5% female. Age demographics were as follows: 0.5% under 21 years old; 48.1% 21-30 years old; 27.3% 31-40 years old; 14.4% 41-50 years old; 8.6% 51-60 years old and 1.1% over 60 years old (see figure 17).

Demographic and trait correlations.

Results of Study 3 revealed few significant or conclusive correlations between the demographic and trait participant variables measured, with one exception for social desirability, which was significantly positively correlated with independent self-construal ($r(187)=.244$, $p=.001$) and significantly negatively correlated with interdependent self-construal ($r(187)=-.258$, $p<.001$). See appendix A.12 for detailed non-significant results.

Means comparisons.

An independent samples t-test was carried out between the inclusion group and affect + control condition as a separate analyses. The t-test showed no significant differences between conditions on the donation dependent variable ($t(185)=-0.449$, $p=.65$, nor for empathy to cause ($t(185)=-0.515$, $p=.61$), nor connection to cause ($t(185)=-0.375$, $p=.71$). Furthermore a separate independent samples t-test was carried out between the control group and affect + inclusion condition. This also showed no significant differences between conditions on the donation dependent variable ($t(185)=1.45$, $p=.15$, nor for empathy to cause ($t(185)=0.654$, $p=.51$), nor connection to cause ($t(185)=1.16$, $p=.25$). Finally a separate independent samples t-test was carried out between the affect group and control + inclusion condition. This also showed no significant differences between conditions on the donation dependent variable ($t(185)=-0.981$, $p=.33$), nor for empathy to cause ($t(185)=-0.133$, $p=.89$), nor connection to cause ($t(185)=-0.773$, $p=.44$).

An independent samples t-test was carried out to test for a difference between genders, as separate analysis. The t-test ($t(185)=2.215$, $p=.03$, $d=0.325$) showed a significant difference between genders on the donation dependent variable, with females expressing higher donation intentions ($M=14.71$, $SD=4.77$) than males ($M=13.03$, $SD=5.51$). No gender difference was found regarding empathy to cause ($t(185)=1.579$, $p=.17$), or connection to cause ($t(185)=1.503$, $p=.13$).

Regression tests for moderation.

Moderated multiple regressions were carried out in SPSS using process v.3 (Hayes, 2017) to examine a) whether the manipulation (inclusion vs. control vs. affect condition) influenced participant donation intentions, actual donation and evaluations of the cause, and b) whether these effects were moderated by independent and interdependent self-construal orientation. Following Cohen and Cohen (1983) and Wendorf (2004), I dummy coded the condition so that the inclusion manipulation vs. control, the affect manipulation vs. control, and the affect manipulation vs. the inclusion manipulation were run as separate tests, and the results reported independently. Independent self-construal and interdependent self-construal scales were kept separate for the analysis, but were mean centered in accordance with guidelines, stipulating that this practice renders subsequent tests of hypotheses and regression coefficients for X and M more meaningful and substantially interpretable, as well as to reduce the likelihood of errors in interpretation (Hayes, 2013). All dependent measures were subjected to separate moderated multiple regressions with each manipulation condition and the control,

independent and interdependent self-construal scores, and their interactions

simultaneously entered as predictor variables. As in the previous studies,

unstandardized coefficients (*B*) are reported rather than betas. Because betas are

not properly standardized in interaction terms they are not interpretable, whereas

B represents the difference between the unweighted means of the groups involved

(see Cohen et al. 2003).

3.4.3.1 Role of positive affect manipulation in donation intentions.

Regression analyses showed no significant results for the affect manipulation when

compared to the control condition in a series of separate models. Furthermore, the

pattern of the non-significant influence was in the same direction for both affect and

control, for all the models with independent self-construal. These findings

supported my prediction that the results seen following an inclusion manipulation

were not as a result of positive affect, but were specifically as a result of perceptions

of social inclusion. Although the pattern varied a little in the interdependent models,

in consideration of the fact that in study 1 and study 2 the main significant effects

seen were all in terms of people high in independent self-construal, and low in

interdependent self-construal, the decision was made to focus on the difference

between the inclusion vs. control conditions and interactions between inclusion and

independent self-construal for the remainder of the research. I therefore opted to

analyze the affect and control conditions combined together, in comparison with the

inclusion condition, for the remainder of study 3. See appendix A.12 for a

comparison of all of the affect vs. control models; affect vs. inclusion models; and control (only) vs. inclusion models.

3.4.3.2 Role of inclusion manipulation (vs. control + affect) in donation intentions.

Following the procedures previously outlined, I regressed donation intentions on the dummy (control + affect vs. inclusion) and moderator variables.

Donation intentions and independent self-construal.

Summary of results.

In a separate model with independent self-construal the inclusion manipulation did not significantly predict donation intentions, in terms of a conditional effect, although independent self-construal did. Of greater interest, however, was the significant interaction between independent self-construal and the inclusion manipulation. As predicted, and in line with study 2, whether donation intentions were greater for the inclusion condition, over the control + affect condition, depended on participant's independent self-construal. As illustrated in figure 18, the higher an individual's independent self-construal, the higher the donation intentions, in the control + affect condition. However this pattern was reversed with the inclusion manipulation. See analysis results below.

Regression model of donation intentions & independent self-construal.

Donation intentions were regressed on to the dummy (inclusion condition) and moderator variables. The inclusion manipulation, independent self-construal orientation, and their interaction were found to account for any significant proportion of variability in donation intentions in the overall model, R^2=.050, F(3,183)=3.15, p=.03. Independent self-construal did significantly predict donation intentions B=0.111, SE=0.038, t(187)=2.908, p=.004, [0.04,0.19] but the inclusion manipulation did not, B=-0.552, SE = 0.800, t(187)=-0.690, p=.49, 95% CI [-2.13, 1.03] . In sum there was no conditional effect found for the manipulation but there was for self-construal orientation. There was a significant two-way interaction between the manipulation (control + affect vs. inclusion), and independent self-construal orientation found B=-0.164, SE = 0.071, t(187)=-2.309, p= .02, 95% CI [-0.30,-0.02].

Regression model donation intentions & independent self-construal controlling for gender.

Donation intentions were regressed on to the dummy (inclusion condition) and moderator variables with gender entered as a covariate. The manipulation, independent self-construal orientation, and their interaction were found to account for a significant proportion of variability in donation intentions in the overall model, R^2=.075, F(4,182)=3.701, p=.006, when gender was controlled for. Independent self-construal did significantly predict donation intentions on its own B=0.112, SE=0.038, t(187)=2.969, p=.003, 95% CI [0.04,0.19], but the inclusion manipulation

did not, B=-0.769, SE = 0.797, t(187)=-0.965, p=.34, 95% CI [-2.34,0.80] . In sum there was no conditional effect found for the manipulation. There was a significant two-way interaction between the manipulation (inclusion vs. control + affect), and independent self-construal orientation found B=-0.146, SE = 0.071, t(187)=-2.060, p= .04, 95% CI [-0.29,-0.01] when controlling for gender. Gender did significantly predicted donation intentions on its own B=-1.723, SE=0.760, t(187)=-2.267, p=.03, 95% CI [-3.22,0.22]. See figure 18 for a visualization of this with the Johnson-Neyman Point showing the region of independent self-construal values (filled area above 9.1342) for which a floodlight test would reveal significant differences between the two groups, and figure 19 for a visualization of the floodlight analysis.

Controlling for demographics and trait measures (Thwarted Belonging, Trust, Social Desirability) revealed no different findings to the above, although gender, trust and thwarted belonging were predictive of donation intentions in the models with independent self- construal, and improved predictive models. See appendix A.12 for detailed covariate results including demographic covariates.

Donation intentions and interdependent self-construal.

Summary of results.

In a separate model with interdependent self-construal the inclusion manipulation did not significantly predict donation intentions in terms of a conditional effect, and did not appear to differ significantly from the control + affect condition. The regression model showed no significant interaction between interdependent self-

construal and the affect manipulation. Controlling for the trait measures (Thwarted Belonging, Trust, Social Desirability) revealed no significant or different findings to the above. See main analysis results below. See appendix A.12 for detailed covariate results including demographic covariates.

Regression model of donation intentions &interdependent self-construal.
Donation intentions were regressed on to the dummy (affect condition) and moderator variables. The affect manipulation, interdependent self-construal orientation, and their interaction were not found to account for any significant proportion of variability in donation intentions in the overall model, R^2=.034, F(3,183)=2.17, p=.09. Interdependent self-construal did not significantly predict donation intentions B=0.066, SE=0.044, t(187)=1.498, p=.14, [-0.02,0.15] nor did the inclusion manipulation, B=-0.416, SE = 0.803, t(187)=-0.518, p=.61, 95% CI [-2.00,1.17] . In sum there was no conditional effect found for the manipulation or for self-construal orientation. There was no significant two-way interaction between the manipulation (control + affect vs. inclusion), and interdependent self-construal orientation found B=0.045, SE = 0.070, t(187)=0.636, p= .53, 95% CI [-0.09,0.18].

3.4.3.3 Role of inclusion manipulation (vs. control + affect) on empathy and connection to cause as dependent variables.

Empathy and feelings of connection to a target have been previously found to influence prosocial behaviour (see Batson, 1991; Batson & Shaw, 1991 for further insights). In addition to the donation intentions dependent variable study 3 also

measured two other variables, empathy to cause and connection to cause, in order

to assess whether they might be mediating the result. A correlation analysis showed

empathy to be positively related to donation intentions $r(185)=.743$ $p<.001$, and

connection to cause was also positively related to donation intentions $r(185)=.921$,

$p<.001$. However, there were no significant results found for empathy as a

dependent variable in any of my regression models. There was an approaching

significant regression model with independent self-construal and connection to

cause, which followed the same pattern as donation intentions and produced a

significant interaction. No significant results or patterns were found with

interdependent self-construal. See detailed results analysis below.

Empathy to cause & independent self-construal.

Empathy to Cause was regressed on to the dummy (inclusion condition) and

moderator variables. The inclusion manipulation, independent self-construal

orientation and their interaction together, were not found to account for a

significant proportion of variability in empathy to cause in the overall model,

$R^2=.012$, $F(3,183)=.760$, $p=.52$. Independent self-construal did not significantly

predict empathy to cause $B=0.015$, $SE=.012$, $t(187)=1.273$, $p=.21$, $[-0.01,0.04]$ nor

did the inclusion manipulation, $B=-0.159$, $SE = 0.252$, $t(187)=-0.633$, $p=.53$, 95% CI

$[-0.66, 0.34]$. In sum, there was no conditional effect found for the manipulation, nor

for self-construal orientation. There was no significant two-way interaction

between the manipulation (control vs. inclusion), and independent self-construal

orientation found $B=-0.027$, $SE = 0.022$, $t(187)=-1.213$, $p= .23$, 95% CI $[-0.07,0.02]$.

Empathy to cause & interdependent self-construal.

Empathy to cause was regressed on to the dummy (inclusion condition) and moderator variables. The inclusion manipulation, interdependent self-construal orientation, and their interaction together, were not found to account for any significant proportion of variability in empathy to cause in the overall model, R^2=.017, $F(3,183)$=1.076, p=.36. Interdependent self-construal did not significantly predict empathy to cause B=0.024, SE=0.014, $t(187)$=1.720, p=.09, [-0.004,0.05] nor did the inclusion manipulation, B=-0.122, SE = 0.250, $t(187)$=-.489, p=.63, 95% CI [-0.62, 0.37]. In sum, there was no conditional effect found for the manipulation or for self-construal orientation. There was no significant two-way interaction between the manipulation (control vs. inclusion), and interdependent self-construal orientation found B=0.023, SE = 0.022, $t(187)$=-1.023, p= .31, 95% CI [-0.07,0.02].

Connection to cause & independent self-construal.

Connection to Cause was regressed on to the dummy (inclusion condition) and moderator variables. The inclusion manipulation, independent self-construal orientation, and their interaction together, were found to account for an approaching significant proportion of variability in connection to cause in the overall model, R^2=.040, $F(3,183)$=2.515, p=.06. Independent self-construal did significantly predict connection to cause B=0.037, SE=0.014, $t(187)$=2.619, p=.01, [0.01,0.07], but the inclusion manipulation did not B=-0.175, SE = 0.299, $t(187)$=-0.586, p=.56, 95% CI [-0.77, 0.42]. In sum there was no conditional effect found for the manipulation but there was for self-construal orientation. There was a

significant two-way interaction between the manipulation (control vs. inclusion), and independent self-construal orientation found B=-0.054, SE =0.027, $t(187)$=-2.027, p= .04, 95% CI [-0.11,-0.01].

Connection to cause & interdependent self-construal.

Connection to Cause was regressed on to the dummy (inclusion condition) and moderator variables. The inclusion manipulation, interdependent self-construal orientation, and their interaction together, were not found to account for any significant proportion of variability in connection to cause in the overall model, R^2=.027, $F(3,183)$=1.683, p=.17. Interdependent self-construal did not significantly predict connection to cause B=0.026, SE=0.016, $t(187)$=1.559, p=.12, [-0.01,0.06], nor did the inclusion manipulation, B=-0.127, SE = 0.30, $t(187)$=-0.422, p=.67, 95% CI [-0.72, 0.47]. In sum there was no conditional effect found for the manipulation or for self-construal orientation. There was no significant two-way interaction between the manipulation (control vs. inclusion), and interdependent self-construal orientation found B=0.007, SE = 0.026, $t(187)$=.253, p= .80, 95% CI [-0.05,0.06].

See figure 20 for a visual comparison of the trends for both independent and interdependent self-construal.

3.4.3.4 Tests of mediated moderation.

In consideration of the previous result, my next goal was to test a mediated moderation model, to see if connection to cause acted as a mediator for the

mechanisms involved. Mediated moderation occurs when two predictor variables (for example Condition and Self-Construal) interactively affect a mediator (such as Connection to Cause), which in turn influences an outcome variable, such as Donation intentions (Morgan-Lopez & MacKinnon, 2006). Based on my previous results, I wished to investigate whether the mechanism that was driving donation intentions was mediated by connection to the cause.

Connection to the cause as a mediator (with inclusion vs. control + affect – model 7). I conducted a moderated mediation model (model 7; Hayes 2013) with condition (inclusion = 1; control + affect = 0) as the independent variable, donation intentions as the dependent variable, connection to cause as the mediating variable, and independent self-construal and the moderating variable on the link between condition and connection to cause (see figure 23 for conceptual models used).

Connection to Cause was regressed on to the dummy (inclusion condition) and moderator variables. The manipulation, independent self-construal orientation, and their interaction together, were found to account for an approaching significant proportion of variability in connection to cause in the overall model, R^2=.040, $F(3,183)$=2.515, p=.06. Independent self-construal did significantly predict connection to cause B=0.037, SE=0.014, $t(187)$=2.619, p=.01, 95% CI [0.01,0.07]. However, there was no significant conditional effect of the manipulation (vs. control) on donation intentions B=-0.109, SE=0.443, $t(187)$=-0.245, p=81, 95% CI [-0.98, 0.77]. Nor was there a significant conditional effect of the manipulation (vs.

control) on connection to cause B=-0.175, SE = 0.299, t(187)=-0.586, p=.56, 95% CI

[-0.77,0.42]. There was a significant interaction between the manipulation (vs.

control) and independent self-construal on connection to cause B=-0.054, SE =0.027,

t(187)=-2.027, p= .04, 95% CI [-0.11,-0.001]. Finally, there was a significant

conditional effect of connection to cause on donation intentions B=2.256, SE = 0.108,

t(187)=20.936, p< .001, 95% CI [2.04,2.47].

To test this potential mediation effect, I followed the bootstrapping method (with

5000 iterations) advocated by Preacher, Rucker and Hayes (2007) and Hayes

(2013). This procedure tests the null hypothesis that the indirect path from the

interaction term to the dependent variable via the mediator does not statistically

differ from zero. If zero is not contained in the confidence intervals computed by the

bootstrapping procedure then one can conclude that the indirect effect is indeed

significantly different from zero at p=.05. Bootstrap estimates generated a 95%

confidence interval around the indirect effect, with zero falling inside the confidence

interval, indicating the mediating pathway was not significant at all levels of W

(independent self-construal) Index=-0.1212, Boot SE=0.0728 95% Boot CI [-0.2623,

0.0212]. Although the trend was the same as seen in the moderation models, since

there was a zero in the confidence intervals I could not conclude that connection to

cause offered a mediating pathway to donation intentions, in this model.

3.4.4 Discussion.

Study 3 was able to repeat the main findings of Study 2, whilst using a different inclusion manipulation (writing about a past inclusion event as opposed to an affirmation of future inclusion). Study 3 was also able to extend the pattern of these previous findings across a new dependent variable—that of prosocial behaviour, in the form of donation intentions directed towards an out-group animal charity cause.

Specifically, in study 3 I was able to provide strong support for H7, in that under normal conditions (control group), people with high independent self-construal did appear to express higher donation intentions for an out-group animal charity, when compared to people with lower independent self-construal, as well when compared to those with higher interdependent self-construal. A word of caution must be offered for the latter of these two observations, however. I cannot report the pattern *between* self-construals as statistically significant, since the observation is based visual trends only, and no comparative tests were undertaken between the two types of self-construal; which were measured as continuous variables. Although this result is therefore tentative, I believe it is at least worth noting, since it follows in line with past research which has demonstrated that higher interdependent self-construal is primarily connected to benevolent and prosocial behaviour towards *in*-group recipients, rather than *out*-group recipients (Kemmelmeier, Jambor and Letner, 2006), whilst individuals with high independent self-construal appear to show less preference for the group membership status of the target (Duclos & Barasch, 2014).

Study 3 was also able to provide strong support for H9: that an affirmation of social inclusion (inclusion manipulation) would result in reduced donation intentions, as well as reduced connection to cause, expressed towards an out-group animal charity, for people with a high independent self-construal orientation, compared to under normal conditions (control). This was in line with findings in study 1 and 2 for the inclusion of animals in an in-group outcome variable.

Study 3 also provided evidence that the influence of inclusion on donation intentions was not as a result of feelings of positive affect. Study 3 did this by demonstrating that a separate affect condition did not produce similar results to the inclusion condition, but rather produced results that were more in line with the control condition, for models with independent self-construal. Specifically, study 3 showed that the affect manipulation did not increase or decrease donation intentions for an out-group animal charity, for people with an independent self-construal orientation.

Study 3 also found evidence to support the expectation (H12) that for individuals with high interdependent self-construal, the inclusion condition would have little influence on donation intentions (or connection to cause). Again this finding is in line with past research, showing that an interdependent self-construal may buffer an individual against threats of exclusion (Pfundmair, Graupmann, Frey & Aydin, 2015; Powers, Worsham, Freeman, Wheatley and Heatherton, 2014), and extends the finding into a new area; that of promises for inclusion.

Controlling for personality trait measures (thwarted belonging, and trust) in study 3

revealed no significant or different findings to the above, although both higher levels

of trust and reduced levels of thwarted belonging were predictive of donation

intentions in the models with independent self-construal, and therefore improved

predictive models. They did not appear to interact with any of the other dependent

variables, so my tentative prediction–that thwarted belonging might attenuate

responses to the inclusion manipulation–was not proven to be true.

Study 3 notably found a main effect of gender on donation intentions, as evidenced

by an independent samples t-test, showing that females expressed significantly

higher donation intentions than males. This is in line with much previous research,

evidencing that females donate more to charity appeals than do males (Einolf, 2011;

Hodgkinson & Weitzman, 1992; 1994; 1996; Kirsh, Hume, & Jalnadoni, 1999;

Mesche, Rooney, Steinberg, & Denton, 2006; Winterich, Mittal, & Ross Jr., 2009), and

show more positive attitudes to animal welfare (Heleski, Mertig, & Zanella, 2006;

Herzog, Betchart, & Pittman, 1991; Hills, 1993; Mathews & Herzog, 1997; Schenk,

Templar, Peters, & Schmidt, 1994) and therefore was somewhat expected.

Regression analysis models for gender in study three revealed no significant

interactions between gender, self-construal and inclusion for the donation

intentions task, although gender was predictive of donation intentions when added

as a covariate in the models with independent self-construal, and therefore

improved predictive models.

Study 3 did not find strong evidence in support of H11, that connection to the cause was mediating donation to the cause. However, in the independent self-construal models tested, visualizations showed that the non-significant results were in the predicted direction (see A.11). Study 3 did not test the influence of anthropomorphism (as a trait, or as a result of a specific task) on donation intentions, and whether self-construal and inclusion interacted, since study 3 did not involve an inclusion task.

Finally, study 3, while it did find some evidence that connection to the cause might be predicted by inclusion and independent self-construal, did not find any evidence that empathy for the cause was predicted by inclusion or self-construal. This null finding may offer potentially interesting theoretical insights. While some previous research has suggested that empathy is strongly associated with increased prosocial behaviour (Batson, 1991; Batson & Shaw, 1991; Davis, 1996; Dovidio, Piliavin, Schroeder, & Penner, 2006; Eisenberg & Miller, 1987; Penner, Dovidio, Piliavin, & Schroeder, 2005; Stocks, Lishner & Decker, 2009), other lines of research have produced contradictory results. Underwood and Moore (1982) found no relationship between empathy and prosocial behaviour in a large meta-analysis review. More recently Steele, Schreiber, Guiltinan, Nass, Glynn, Wright, Kessler, Schlumpf, Tu, Smith, and Garratty, (2008) found no relationship between empathy and blood donation behaviour, and Dickert, Sagara, and Slovic (2011) found that empathy did not increase donation intentions, but only the amount actually given once a decision was made. In view of these contradictory findings, my null results in

study 3 for empathy as a dependent variable are not a total surprise. My results

perhaps beg the question as to whether a more nuanced exploration of the impact of

empathy may offer potential for future research.

In conclusion, the results of study 3, when taken alongside study 1 and 2, follow in

the direction of prior research, demonstrating that social inclusion may negatively

impact prosocial attitudes towards distant others and out-group members (DeWall,

Baumeister & Vohs, 2008; Waytz & Epley, 2012). That the pattern of response to an

inclusion manipulation, as described above, is primarily seen in people with high

independent self-construal, also builds on previous research by Pfundmair,

Graupmann, Frey, and Aydin (2015), as well as Ren, Wesselmann, and Williams

(2013), offering up evidence that people with a more interdependent orientation

may not be as susceptible to promises of, or threats to, social inclusion.

Study 3 used a donation intentions dependent variable. However, intention to

donate is not the same as actual donation. In study 4 I wished to investigate whether

the behaviour observed in study 3 might extend into something with real-life

financial benefits: in other words, cash donation towards an animal charity. I also

wished to further explore the motivations for out-group giving in individuals high in

independent self-construal. To do this I planned to test whether feeling similar, or

different, to an out-group cause would influence donation support for it, and

whether similarity or difference would interact with either the inclusion

manipulation or self-construal. My planned method for doing this was to use a

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poster for an animal charity, with a wording frame that discussed either how different animals are from humans "Animals are Different," or one that discussed how similar animals are to humans "Animals are Similar."

I predicted that individuals high in interdependent self-construal would preference in-group giving, and would therefore donate more to an "Animals are Similar" poster frame. This is because I predicted that individuals high in interdependent self-construal would potentially see the "Animals are Similar" frame as an in-group cue, vs. the "Animals are Different" poster frame, which I anticipated that they would see as a clear out-group cue. I did not anticipate that individuals high in interdependent self-construal would show any interaction with the inclusion manipulation, as previously detailed.

Furthermore, I predicted that individuals high in independent self-construal would also preference the "Animals are Similar" poster frame normally (control condition), yet for somewhat different reasons. Study 3 demonstrated that individuals high in independent self-construal donated more to an out-group (animal) charity than individuals high in interdependent self-construal, when the charity wasn't framed as either in-group or out-group. I argue that this was because in study 3 all participants would have seen the charity, by default, as an out-group charity.

We have seen that individuals high in interdependent self-construal express lower donation support for out-group charities than individuals high in independent self-

construal. I have previously argued that the motivation for higher out-group giving by individuals high in independent self-construal is because a) they have more flexible notions of in-group and out-group boundaries, and so they are more likely to view out-group members as potential targets to recruit as in-group members and b) since they are not as chronically reassured of their social inclusion status, compared to individuals with high interdependent self-construal, they monitor and are more vigilant for cues of social connection potential in others. As a result, in study 4, when the out-group charity is specifically framed as similar, I argue that individuals with high independent self-construal will still see it as an out-group, but will take the "Animals are Similar" frame as a cue of social connection potential and will therefore also donate more to the "Animals are Similar" poster frame.

Support for a helping based on similarity hypothesis is longstanding. Psychological literature has demonstrated that even arbitrarily manipulated cues of similarity (shared names, birthdays, etc.) are associated with positive perceptions towards another (Berger, Messian, Patel, del Prado, & Anderson, 2004; Finche & Cialdini, 1989; Gueguen, Pichot, & Le Dreff, 2005; Heider, 2013). Krebs (1975) found that when strangers were perceived as more similar participants, were more willing to assist them and give up resources to do so. Even animals have been found to preference helping similar others (Quervel-Chaumette, Dale, Marshall-Pescini, & Range, 2015). More recently, research in marketing has found that the more similar to humans animals appear, the more favourably they are treated (Connell, 2013). Costello and Hodson (2009; 2010) additionally found that inducing perceptions of

human-animal similarity facilitated more inclusive attitudes to both animal and human outsiders, and predicted less prejudicial attitudes towards even human immigrants. Researchers working in the area of conservation and HAI, have also found that a strong relationship between perceived similarity to humans and preference for animal welfare exists (Butterfield, Hill, & Lord, 2012; Hills, 1995; Kellert, 1980; Kiesler & Kramer, 2007), while Batt (2009) suggests that humans are predisposed to liking others on the basis of perceived shared bio-behavioural traits.

With this in mind, another goal of study 4 was to investigate whether connection to cause, and empathy to cause, would moderate (and potentially mediate), specifically based on perceived similarity to cause. My prediction was that an "Animals are Similar" poster would increase both empathy and connection to cause.

Limitations.

It should be noted that one limit of study 3 was potential power for detecting the interactions in the main regressions. Although G*Power calculations indicated that power would be sufficient for detecting the main (conditional) effects, interaction effects in regressions are typically smaller (Aiken & West, 1991) and therefore require higher power to detect. Accurate calculations for complex regression models require estimates of expected effects sizes (unstandardized regression coefficients), at each level of the categorical variable (or an estimate of the size of relationships between continuous variable interactions and other predictor variables) for all the conditional and interaction effects in the population, which often may not be known

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a priori (Hayes, 2018). While G*Power 3.1 is a respected and commonly used tool for power analysis (Faul, Erdfelder, Buchner, & Lang, 2009), it has been argued it may be limited in correctly detecting power for significant coefficients, in complex regressions, including those that include interactions and mediations (Aberson, 2011; Fritz, & MacKinnon, 2007). Power analysis is a rapidly evolving field and tools, such as pwr2ppl for R, are currently in development for power detection of mediation and complex moderation results (Aberson, 2011). In the meantime a word of caution must be made for the interaction results, and a suggestion for future replication is made, in order to verify the results of this study.

3.5 Study 4

3.5.1 Overview.

Study 4 had a number of objectives. First, I wished to investigate whether the behaviour observed in study 3 might extend into something with real-life financial benefits–in other words, actual cash donation towards an out-group (animal) charity. For this reason, study 4 was designed to collect an actual cash donation measure, as well as a three-item measurement of donation intentions.

Second, I wished to explore more of the *when*s of the process (Hayes, 2013) by examining another potential moderator of the mechanism in study 4. Specifically, I aimed to investigate whether a feeling of closeness and oneness (vs. distance and otherness) with the target (in my case an animal charity), may influence prosocial behaviour, and if so whether it would have significant effects regardless of self-

construal and inclusion status. In order to do this I added an additional factor to study 4: that of framed similarity, or difference, to the cause targets. My prediction in this regard was that under normal conditions all participants would donate more to the "Animals are Similar" poster frame. Following an inclusion manipulation I anticipated that participants high in interdependent self-construal would still donate more to the "Animals are Similar" poster frame, due to the lack of impact inclusion manipulations have on participants high in interdependent self-construal. However, for participants high in independent self-construal, I predicted a different response following an inclusion manipulation. For these participants, I predicted that an "Animals are Different" poster frame would prove more appealing, since such a frame would be more likely to act as a reinforcement of in-group and out-group boundaries.

To clarify, I anticipated that an inclusion manipulation would do two things. First, it would act to reassure participants high in independent self-construal of their social inclusion status, and thereby reduce a desire to seek further social connection with similar others. While I predicted that the "Animals are Similar" poster frame would appeal to these participants under normal conditions (control) precisely because it indicates social connection potential and encourages a relaxing of in-group boundaries, as supported by prior research demonstrating that perceptions of similarity increase prosocial behaviour (Connell, 2013; Costello & Hodson, 2009; Krebs, 1975), under conditions in which the participants had recently been assured of their social inclusion within a human in-group by a social inclusion manipulation,

I predicted that it would hold little appeal, and might even present itself as threatening. This latter prediction is based on what I argue may be the second downstream result of an inclusion manipulation on individuals with a high sense of independent self-construal: an activated desire to bolster the status of the in-group and clearly differentiate it from an out-group.

As previously discussed, I argue that individuals with high independent self-construal hold an essentially more precarious sense of social inclusion or belonging than do individuals with high interdependent self-construal. As a result, while they are willing to see the social potential and similarity of animal out-group members when looking to increase social connection and inclusion, when they are satiated with belonging they will be likely to view animals as more out-group, as evidenced by the findings of studies 1 and 2. Under recently affirmed inclusion circumstances, I argue it should be more beneficial for individuals with high independent self-construal to fortify and defend in-group boundaries against out-group targets, clearly differentiating themselves and their in-group from an out-group. This type of behaviour has been previously addressed from both social identity theory (SIT), and optimal distinctiveness (ODT) theory (Brewer, 1993; Hornsey, & Hogg, 1999; Spears, Doosje, & Ellemers, 1997). Donating to a clearly labelled out-group charity ("Animal are Different"), which is defined by its inferior properties, would therefore act to signal, and solidify, higher in-group status, and offer more potential as an action of self-benefit, than donating to a potentially in-group status threatening out-group charity ("Animal are Similar"). In summary I had two hypotheses for study 4.

First I predicted (H8) that under normal conditions (control group) people with a higher independent self-construal orientation would express increased donation intentions for an out-group animal charity that was framed as similar (vs. different) to them, since it would offer increased connection potential. Second I predicted (H10) that an affirmation of social inclusion would result in increased donation intentions for an out-group animal charity that was framed as different (vs. similar) to the donor for individuals with a higher independent self-construal orientation, since it would offer less of a threat to in-group distinctiveness.

This argument is in line with prior research, suggesting much prosocial behaviour by individuals high in independent self-construal is motivated by a desire to fulfill personal happiness and self benefit needs (Duclos & Barasch, 2014). Moreover, it is also in line with prior research, suggesting that giving to lower status out-groups acts as a mechanism for signalling in-group strengths and bolstering in-group status (Nadler, Harpaz-Gorodeisky, & Ben-David, 2009).

With the above in mind, a third goal of study 4 was to also drill a little deeper into the *how* of the mechanism (Hayes, 2013), to see if a feeling of connection to the cause might be underpinning at least some of the effect seen in study 3. Specifically, I wished to test whether perceived connection to cause would act as a mediator for donation support (donation intentions and actual cash donation), and whether it would mediate primarily with the similar (vs. different) prime. My prediction (H11) was that connection to cause would indeed mediate the effects of independent self-

construal orientation, inclusion and their interaction, on the two dependent variables.

Prior studies have provided evidence that feeling more similar and connected to others enables an opening of admission to one's in-group to a broader set of others (Cuddy, Rock, & Norton, 2007). Additionally, past research on intergroup relations argues that salient in-group/out-group categories play a key role in regulating the perception of self-other similarities (Sturmer & Snyder, 2010). As a consequence, people come to perceive in-group members as more similar to each other (and the self), whereas out-group members are more dissimilar to the in-group (and the self) (Wilder, 1986). As Carnegie (1936) and Cialdini (2001) have both notably observed, we like things better when we feel we share commonalities. Salience of the differences and divisions between in-groups and out-groups, on the other hand, may provoke negatives feelings, such as anxiety or threat (Dijker, 1987; Jackson & Sullivan, 1989; Stephan & Stephan, 1985). Sturmer and Snyder (2010) argue that when there is perceived dissimilarity between helper and target, helping is more likely to occur as a function of perceived cost and benefits to self. The only exception, it seems, is when there is a question as to whether a target is seen to be a typical, or atypical, out-group member, and under these circumstances the pattern may be broken (Manis, Nelson, & Shedler, 1988).

In sum, an integration of the prosocial helping literature, along with the research on intergroup processes, suggests that different processes and motivations are likely to

drive prosocial responses that are dependent on the nature of the in-group vs. out-group relationship between helper and target, and perceptions of differences or similarities.

Finally, in study 4 I wished to measure empathy to the cause and, further, explore its relationship with the other variables. While study 3 found that empathy was not predicted by inclusion and self-construal, past research has had mixed results, and findings suggest that a more nuanced relationship between empathy and prosocial behaviour may exist (Underwood & Moore, 1982). Cialdini, Brown, Lewis, Luce, and Neuberg (1997), in their exploration of the mechanisms by which empathy works, found evidence to support an argument that empathetic concern only increases helping behaviour through its relation to perceived oneness, or self-other overlap. They provide evidence that empathy itself does not increase prosocial behaviour, when perceived oneness is eliminated, and have gone on to question the empathy-altruism model, as a result. Cialdini and colleagues, additionally, offer the added insight that if, rather than empathy, it is self-other-overlap that promotes prosocial behaviour, then helping under these circumstances would not be selfless, but should rather be seen as helping directed towards the self.

This argument (Cialdini et al., 1997), is supported by other research, demonstrating that empathy may only predict helping of in-group targets, and not that of out-group targets (Sturmer & Snyder, 2010). Specifically, Sturmer & Snyder (2010) found that when there is perceived dissimilarity between helper and target, empathy was less

likely to act as a motivator to help. In study 3 I had offered no in-group choice, which may have been a reason for empathy not being significantly predicted in any of my models. However, in study 4 I was offering the two different poster frames ("Animals are Similar" vs. "Animals are Different"), and based on past findings (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Sturmer & Snyder, 2010), my prediction was that empathy ratings would be higher for the poster that emphasised self-other overlap.

I also wished to measure gender in study 4, expecting it again to predict donation intentions. In addition, I also opted to measure pet ownership status in my demographics, as a potential participant variable that might impact the donation and empathy dependent variables, since pet ownership has previously been found to correlate with higher concern for other animals (Bowd, 1984; Bjerk, Østdahl, & Kleiven, 2003; Pagani, 2011; Paul & Serpell, 1993).

3.5.2 Procedure.

Study four took the form of a 2 (condition: control vs. inclusion manipulation) x 2 (poster frame: animals are similar vs. animals are different) mixed experimental design, with self-construal measured as a moderator variable. A convenience sample of 399 American participants (51% female) was recruited, using Mechanical Turk, and completed the study in exchange for monetary compensation. Condition was assigned randomly using randomizing embedded coding within Qualtrics survey software.

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The sample size was based on standard calculations, using G*Power 3.1, for a-priori multiple regression with four predictor variables (1 continuous, 2 categorical, and the interaction), using random sampling at 95% confidence level. Residual variance was estimated at 1-(R^2) = 0.85. Variance explained by special effect (self-construal as a continuous variable), was estimated at 0.08. Calculations estimated a sample size of 120, or greater, would be needed for each regression model, in order to achieve a power of >0.80.

As with the previous study, participants were told that they would be completing a series of assignments, that would include a short writing skills task, as well as a visual and text evaluation task. After filling in a number of trait scales, ostensibly to assess personality, participants then completed one of two versions (control vs. inclusion) of the same writing task that was used in study 3, and has been previously used to manipulate social inclusion (e.g. Arndt, Greenberg, & Cook, 2002 , Knowles & Garner, 2008; Pickett, Gardner, & Knowles, 2004; Manner, DeWall, Baumeister, & Schaller, 2007; Waytz & Epley, 2012). Following this participants were shown one of two posters (animals are similar vs. animals are different), designed to frame similarity or dissimilarity to the charity. After viewing each poster and accompanying text, participants were asked to express donation intentions towards the cause in the same 3-item measure used in study three, as well as to state how much empathy, and connection, they felt for the cause. Finally they were asked how similar they felt to the cause. Participants were then asked how donating made them feel on a personal level.

Following this, participants were informed that they had completed the final task and would be receiving a bonus of an extra 50 cents for their work. They were advised that they could choose to keep the entire bonus, or donate part, or all, of it to the cause that they had been rating. Demographics were then collected, and lastly participants were asked which writing task they had completed, before being debriefed and thanked. All of the money selected by participants to be donated, was donated to the BC SPCA at the close of the study.

Materials.

Participants were asked to complete the same 24 item self-construal scale as used in Study 1, 2 and 3. (scale reliability: interdependent self-construal α =.850; independent self-construal α = .796).

Following this a 16-item Need Fulfillment scale was administered, which is a scale adapted by Pfundmair, Graupmann, Frey & Aydin, 2015) from Zadro, Williams, and Richardson, (2004) and is designed to measure four fundamental needs using 4-items for each need. Examples and scale reliability are as follows: belonging (e.g. I feel poorly accepted; α =. 855); self-esteem (e.g. I feel others fail to perceive me as worthy and likeable; α =.797); autonomy/control (e.g. I feel in control of my life; α =.851); and meaningful existence (e.g. I feel my existence is meaningless; α =.831). Similar to the Interpersonal Needs Questionnaire (INQ), of Van Orden, Cukrowicz, Witte and Joiner Jr., (2012), used in study 3, the Need Fulfillment scale contains questions designed to measure the level of a person's *unmet* needs and each statement was

measured using a 7-point scale (1=not at all true, 7= very true; see appendix A.13 for full scale). I opted to utilize this scale, in preference to the (INQ), since in Study 4 I wished to separate and identify other unmet fundamental needs, in addition to only belonging. My prediction was, primarily, that higher unmet belonging needs would correlate with higher independent self-construal. This expectation is based on past research, suggesting that independent self-construal may be associated with lower sense of belonging (Cushman, 1990; Gardner, Gabriel, & Lee, 1999; Ren, Wesselmann, & Williams, 2013). Regarding the other needs, I predicted that independent self-construal would be positively correlated with self-esteem and autonomy, in line with previous research (Feather & McKee, 1993; Gardner, Gabriel, & Lee, 1999).

Participants were then randomly assigned to one of two conditions: control, or inclusion. Dependent on condition, participants were asked to complete the writing task, previously used in study three; the subject of which participants were told was randomly generated. In fact, participants were either told to "think about a time in which you went to the grocery store" (control condition), or to "think about a time in which you felt a strong sense of being included or belonging" (inclusion condition). As before, participants were asked to recall the event as vividly as possible, then to write a paragraph describing the past event, in as much detail as they were able.

Following the manipulation, participants were thanked and moved on to the next task, which they were told was a visual and text evaluation task that involved assessing a charity poster appeal for a British Columbia Society for Prevention of

Cruelty to Animals (BC SPCA) animal shelter. Participants were shown the same poster picture as in study 3, with one of two pieces of text accompanying it. The first piece of text was designed to frame feelings of similarity ("Animals are Similar") and began "While you look at this poster please consider how similar animals are to human beings". The second piece of text was designed to frame feelings of dissimilarity ("Animals are Different") and began "While you look at this poster please consider how different animals are to human beings". See appendix A.14 for picture and full text of both. After viewing each poster and accompanying text, participants were asked to express donation intentions towards the cause in the same 3-item measure used in study three (scale reliability: $\alpha = .952$), as well as to state how much empathy and connection they felt for the cause on a 7-point scale (1=not at all true, 7= very much). Following this, they were asked how similar they felt to the cause on a 7-point scale (1=not at all true, 7= very much). Lastly, participants were asked answer how donating makes them feel and why they do it in an open ended response.

The final task for the participants was to select how much, if any, of a 50 cent bonus they wished to allot to the charity cause, using a slider scale. Demographics were collected, which included income and pet ownership, participants were asked to recall which writing task they had completed as a manipulation check, and then debriefed and thanked.

3.5.3 Results.

My study exclusion policy stipulated that participants would be screened out if they failed all attention checks, or if they accurately guessed the key study hypotheses. Nineteen participants failed all attention checks, and were removed from the study, leaving n=380 remaining.

Power.

Post-hoc power analyses, using G*Power, detected sufficient power (>.80) to detect correlations of $r(378)$=.150 and higher, effect sizes of d=0.29 and higher for independent samples t-tests for gender (group sizes: 186,191) at 95% Confidence. See appendix A.17 for power analysis.

Manipulation check.

To assess whether the manipulation had been effective, participants were asked to recall the writing task they received, in a multiple-choice question at the end of the study after demographics were taken. When asked to recall their writing task 97.3% of participants were able to do so with complete accuracy.

Demographics.

Demographics collected showed that participants in the sample identified as 78.9% Caucasian, 6.1% Black, 4.2% Latin American, 4.2% Asian, 0.5% South East Asian, and 6.1% mixed other (see figure 21). Results also showed that 94.2% of participants reported having lived in the USA for over 21 years. Participants

identified as 49.2% female. Age demographics were as follows: 1.8% under 21 years old; 32.4% 21-30 years old; 34.2% 31-40 years old; 17.9% 41-50 years old; 8.9% 51-60 years old; and 4.7% over 60 years old (see figure 22). In terms of pre-tax income 20.8% reported under $20,000, 24.2% reported $20,000-$39,999, 23.2% reported $40,000-$59,999, 13.7% reported $60,000-$79,999, 8.2% reported $80,000-$99,999 and 10% reported over $99,999.

Demographic, trait and other correlations.

Results of study 4 revealed that independent self-construal was positively correlated with the following (INQ) individual needs: self-esteem ($r(378)=.472, p <.001$); belonging ($r(378)=.403, p <.001$); control ($r(378)=.453, p <.001$); and meaningful existence ($r(378)=.416, p <.001$). Independent self-construal was also negatively correlated with loneliness ($r(378)=-.289, p <.001$). Interdependent self-construal was not correlated with self-esteem ($r(378)=.039, p =.45$) or meaningful existence ($r(378)=.082, p =.11$) and only moderately with belonging ($r(378)=.180, p <.001$) and control ($r(378)=.142, p =.006$). Interdependent self-construal was not correlated with loneliness ($r(378)=-.06, p =.22$). Unmet belonging needs measured in the INQ were also negatively correlated with Donation intentions ($r(378)=-.129, p=.01$), Connection to Cause ($r(378)=-.119, p=.02$), and Empathy to Cause ($r(378)=-.157, p=.002$). Put another way, the more you felt your belonging needs were met, the higher your expressed donation intentions, connection to cause, and empathy to cause, as well as independent self-construal. My prediction had been that higher unmet belonging needs, specifically, would correlate with high independent self-

construal based on past research, but my research results did not support this finding. Furthermore, I predicted that higher unmet belonging needs would attenuate responses in the inclusion condition. Controlling for unmet belonging did improve prediction in the main regressions, when unmet belonging was entered as a covariate. The conditional effect of unmet belonging was also marginally significant at predicting donation intentions on its own. See regression analyses in appendix A.15 for further details. In terms of donation measures the three-item donation intentions score was found to be significantly correlated with the actual cash donation measure ($r(377)=.368, p <.001$).

Means comparisons.

An independent samples t-test was also carried out to test for a difference between genders as separate analysis. Results showed that females ($n=192$) ($M=14.75$, $SD=5.43$) indicated significantly higher donation intentions than males ($n=187$) ($M=12.11, SD=5.65$), $t(377)=4.636, p<.001, d= 0.476$, as well as higher connection to cause ratings (females $M=5.01, SD=1.87$; males $M=4.08, SD=1.90$) , $t(377)=4.785$, $p<.001, d= 0.490$ higher similarity to cause ratings (females $M=4.53, SD=2.05$; males $M=3.76, SD=1.81$) , $t(374)=3.886, p<.001, d= 0.398$ and higher empathy to cause ratings (females $M=5.86, SD=1.54$; males $M=5.24, SD=1.66$) , $t(373)=3.789, p<.001$, $d= 0.389$. They also made higher (if not significantly) actual cash (cents) donations (females $M=15.60, SD=19.08$; males $M=12.45, SD=17.56$), $t(373)=1.672, p=.095, d= 0.172$. I therefore carried out the primary regression models controlling for gender.

An independent samples t-test was also carried out to test for a difference between pet ownership vs. non-ownership as a separate analysis. Pet owners significantly differed on donation intentions, connection to cause, similarity to cause and empathy for cause ratings (although not as strongly as gender), and differed with near significance on actual cash donation. See appendix A.15 for detailed analysis.

Regression tests for moderation.

Moderated multiple regressions were carried out in SPSS, using process v.3 (Hayes, 2018) to examine a) whether poster style (Animals are Similar vs. Animals are Different) influenced participant ratings of connection to cause, similarity to cause, and empathy to cause, as well as donation intentions, and actual cash donation, and b) whether these effects were moderated by the manipulation (inclusion vs. control condition) and independent self-construal orientation. In consideration of the fact that, based on previous research and the results of study 3, interdependent self-construal was not expected to predict any of the primary dependent variables it was not entered into any of the main regression models of study 4. One exception was made to investigate whether interdependent self-construal interacted with poster type to predict donation intentions in the "Animals are Similar" vs. "Animals are Different" frame.

Following Cohen and Cohen (1983) and Wendorf (2004), I dummy coded the condition for the inclusion manipulation (vs. control), as well as for the poster style different (vs. similar). Independent self-construal was mean centered, in accordance

with guidelines, stipulating that this practice renders subsequent tests of hypotheses and regression coefficients for X and M more meaningful and substantially interpretable, as well as to reduce the likelihood of errors in interpretation (Hayes, 2013). All dependent measures were subjected to separate moderated multiple regressions with each manipulation condition and the control, independent self-construal scores, and their interactions simultaneously entered as predictor variables. As in the previous studies, unstandardized coefficients (B) are reported rather than betas (β). Because βs are not properly standardized in interaction terms they are not interpretable, whereas B represents the difference between the un-weighted means of the groups involved (see Cohen et al. 2003).

3.5.3.1 *Role of inclusion manipulation, poster frame and interdependent self-construal in donation intentions.*

Summary of results.

In a regression model (model 3;Hayes, 2017) with interdependent self-construal, as expected the inclusion manipulation did not significantly predict donation intentions in terms of a conditional effect. Neither did interdependent self-construal predict donation intentions, nor the poster frame. There was no significant three-way interaction between interdependent self-construal, poster frame and the inclusion manipulation, which again was as predicted. Of interest, however, was the significant two-way interaction between interdependent self-construal, and poster frame.

In a two-way regression model (model 1;Hayes, 2017) with interdependent self-construal, neither interdependent self-construal, nor the poster frame predicted donation intentions. However, there was a significant two-way interaction between interdependent self-construal, and poster frame. As predicted, whether donation intentions were greater depended on the poster frame, as well as participant's interdependent self-construal, with donation intentions related to interdependent self-construal only in the "Animals are Similar" poster frame and not in the "Animals are Different" poster frame. See detailed analysis following.

Regression model of donation intentions.

I submitted the donation intentions measure to the MMR analysis (Model 1, Hayes 2018) with interdependent self-construal and Poster type entered as independent variables. The regression model in total was highly significant R^2 = .047, p <.001, $F(3, 376)$= 6.205. I found no conditional effect for the poster type B=-0.532, SE=0.573, $t(380)$=-0.930, p=.35, 95% CI [-1.66, 0.59] nor for the interdependent self-construal measure on its own B=0.035, SE=0.035, $t(380)$=1.005, p=.32, 95% CI [-0.03, 0.10. There was, however, a significant interaction between poster type and interdependent self-construal B=0.105, SE=0.049, $t(380)$=2.161, p=.03, 95% CI [0.01, 0.20]. The two-way interaction showed that individuals with higher interdependent self-construal indicated higher donation intentions with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. A test of highest order unconditional interaction produced an ΔR^2 of .012 $F(1,376)$ = 4.670, p= .03 as a result of the two-way interaction.

A test of the conditional interaction (Poster Style X interdependent self-construal) revealed that the effect on donation intentions was significant at the lower values of interdependent self-construal ($\theta_{X\rightarrow Y \mid W= \text{Interdependent SC-11.67}}$ =-1.7602, *SE*= 0.818, *p*=.03) but not significant at the higher levels ($\theta_{X\rightarrow Y \mid W= \text{Interdependent SC12.37}}$ =0.770, *SE*=0.819, *p*=.35). See figure 23 for a visualization with the Johnson-Neyman Point showing the region of interdependent self-construal values (filled area below -8.1141) for which a floodlight test would reveal significant differences between the two groups, and figure 24 for a visualization of the corresponding floodlight analysis with confidence intervals.

3.5.3.2 *Role of inclusion manipulation (vs. control), poster frame and independent self-construal in donation intentions.*

Summary of results.

Following the procedures previously outlined, I regressed donation intentions on the dummy (control vs. inclusion) and moderator variables. In a regression model with independent self-construal, the inclusion manipulation did not significantly predict donation intentions in terms of a conditional effect, neither did independent self-construal, nor the poster frame. Of interest, however, was the significant three-way interaction between independent self-construal, poster frame and the inclusion manipulation. As predicted, and in line with study 3, whether donation intentions were greater for the inclusion condition, over the control condition, depended on the poster frame, as well as participant's independent self-construal. In view of the result of the t-test, and my prediction that gender would significantly predict

donation intentions, I produced a second regression model that included gender as a covariate. This model was significant and increased significance in the majority of the conditional and interaction effects.

Regression model of donation intentions.

I first submitted the donation intentions measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was not significant R^2 = .031, p = .11, $F(7, 372)$= 1.708. I found no conditional effect of the inclusion condition B=0.104, SE=0.837, $t(380)$=0.124, p=.90, 95% CI [-1.54, 1.75] nor for independent self-construal measure on its own B=-0.086, SE=0.054, $t(380)$=-1.604, p=.11, 95% CI [-0.19, 0.02], or for poster type on its own B=-0.344, SE=0.804, $t(380)$=-0.428, p=.67, 95% CI [-1.93, 1.24]. There was, however, a significant interaction between inclusion and independent self-construal B=0.214, SE=0.077, $t(380)$=2.770, p=.01, 95% CI [0.06, 0.37]. There was no significant interaction between inclusion and poster type B=-0.0001, SE=1.167, $t(380)$=-0.0001, p=1.00, 95% CI [-2.29, 2.29]. However, there was a significant interaction between poster type and independent self-construal B=0.187, SE=0.077, $t(380)$=2.428, p=.02, 95% CI [0.04, 0.34], and most interestingly a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.317, SE=0.113, $t(380)$=-2.815, p=.01, 95% CI [-0.54, -0.10].

The three-way interaction showed that in the control condition individuals with high independent self-construal indicated significantly higher donation intentions

with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition individuals with high independent self-construal preferred the "Animals are Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .021 $F(1,372) = 7.924$, $p= .01$ as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal revealed that the effect on donation intentions was significant with high independent self-construal ($\theta_{XW \rightarrow Y1 Z= 10.67}$ =-3.3836, p=.04) and low self-construal ($\theta_{XW \rightarrow Y1 Z= -10.33}$ =3.2750, p=.05).

Covariate analyses.

A regression model was then produced entering in gender as covariate. Gender was, as predicted, a strong predictor of donation intentions. See results below.

Regression model of donation intentions controlling for gender.

This time controlling for gender I once more submitted the donation intentions measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant $R^2 = .094$, $p <.001$, $F(8, 371)= 4.820$. I found no conditional effect of the inclusion condition B=0.444, SE=0.813, $t(380)$=0.546, p=.59, 95% CI [-1.16, 2.04] nor for poster type on its own B=-0.076, SE=0.780, $t(380)$=-0.097, p=.92, 95% CI [-1.61, 1.46]. There was, however, a significant conditional effect of the independent self-construal measure on its own B=-0.108, SE=0.052, $t(380)$=-2.077, p=.04, 95% CI

[-0.21, -0.01],. There was also a significant interaction between inclusion and independent self-construal B=0.249, SE=0.075, $t(380)$=3.314, p=.001, 95% CI [0.10, 0.40]. There was no significant interaction between inclusion and poster type B=-0.432, SE=1.133, $t(380)$=-0.382, p=.70, 95% CI [-2.66, 1.80]. There was a significant interaction between poster type and independent self-construal B=0.200, SE=0.075, $t(380)$=2.680, p=.008, 95% CI [0.05, 0.35], and most importantly a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.355, SE=0.109, $t(380)$=-3.252, p=.001, 95% CI [-0.57, -0.14]. There was also a significant conditional effect found for gender B=-2.852, SE=0.561, $t(380)$=-5.080, p<001, 95% CI [-3.96, -1.75].

The three-way interaction showed that (as before without gender) in the control condition individuals with high independent self-construal indicated significantly higher donation intentions with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition individuals with high independent self-construal preferred the "Animals are Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .0258, $F(1,371)$ = 10.575, p= .001, as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal revealed that the effect on donation intentions was significant with high independent self-construal ($\theta_{XW \rightarrow Y1Z= 10.67}$ =-4.2259, p=.01) and low self-construal ($\theta_{XW \rightarrow Y1Z= -10.33}$ =3.2398, p=.04). See appendix figure 25 for a visual

of the moderated moderation model, controlling for gender and figure 26 for a visual of the corresponding floodlight analysis with JN points and confidence bands.

Probing the conditional effects of the focal predictor, at values of the moderators, revealed the effect to be significant with the Control Condition at low independent self-construal (Z=-10.33) Effect = -2.1394, SE= 1.0672, t(380)= -2.0046, p=.05, 95% CI [-4.24, -0.04], approaching significant in the Control Condition at high independent self-construal (Z=10.67) Effect = 2.0558, SE= 1.427, t(380)= 1.7991, p=.07, 95% CI [-0.19, 4.30], not significant in the Inclusion Condition at low independent self-construal (Z=-10.33) Effect = 1.1004, SE=1.1859, t(380)= 0.9279, p=.35, 95% CI [-1.23, 3.43], and approaching significant in the Inclusion Condition at high independent self-construal (Z=10.67) Effect= -2.1701, SE= 1.1569, t(380)= -1.857 p=.06, 95% CI [-4.45, 0.11].

Covariate analyses.

A regression model was also produced, entering in pet ownership as a covariate, and another model produced, with unmet belonging as a covariate. Pet ownership predicted donation intentions, but less strongly than gender. Likewise, unmet belonging predicted donation intentions, but again not as strongly as gender. See appendix A.15 for pet ownership and unmet belonging results.

3.5.3.3 *Role of inclusion manipulation (vs. control), poster frame and independent self-construal in actual cash donation.*

Summary of results.

In a regression model with independent self-construal, the inclusion manipulation did not significantly predict actual cash donation, in terms of a conditional effect, neither did independent self-construal, nor the poster frame. Likewise, there was no significant three-way interaction between independent self-construal, poster frame and the inclusion manipulation. In view of the result of the t-test, and my prediction that gender would significantly predict cash donation, I produced a second regression model that included gender as a covariate. This delivered no significant effects or interactions, although significance was approaching at times. A visualisation (figure 27.) shows that the patterns were in the predicted direction with individuals who were high in independent self-construal showing higher actual cash donation for a Similar Poster than for a Different Poster under normal (control) conditions, with a reversal of the pattern following an inclusion manipulation.

Regression model for actual cash donation.

I submitted the actual cash donation measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was not significant R^2 =.015, p = .57, $F(7, 371)$= 0.817. I found no conditional effect of the inclusion condition B=2.883, SE=2.732, $t(379)$=1.055, p=.29, 95% CI [-2.49, 8.26] nor for independent self-construal measure on its own B=-0.173, SE=0.175, $t(379)$=-0.990, p=.32 95% CI [-0.52, 0.17]. There was a marginally significant effect for poster type on its own B=4.947, SE=2.617, $t(380)$=1.890, p=.06, 95% CI [-0.20, 10.09]. There was no significant interaction between inclusion and independent self-construal B=0.191, SE=0.251,

t(379)=0.759, *p*=.45, 95% CI [-0.30, 0.69]. There was no significant interaction

between inclusion and poster type *B*=-6.280, *SE*=3.803, *t*(379)=-1.651, *p*=.10, 95%

CI [-13.76, 1.20]. Moreover, there was no significant interaction between poster type

and independent self-construal *B*=0.358, *SE*=0.251, *t*(379)=1.431, *p*=.15, 95% CI [-

0.13, 0.85], and no significant three-way interaction between poster type, inclusion

and independent self-construal *B*=-0.423, *SE*=0.367, *t*(379)=-1.154, *p*=.25, 95% CI [-

1.14, 0 .30]. A test of higher order unconditional interaction produced a non-

significant Δ*R²* of .004, *F*(1,371)=1.331, *p*=.25 as a result of the three-way

interaction.

Regression model for actual cash donation controlling for gender.

This time controlling for gender, I submitted the actual cash donation measure to

the MMR analysis (Model 3, Hayes 2018). The regression model in total was not

significant *R²* =.026, *p* =.29, *F*(8, 370)=1.209. I found no conditional effect of the

inclusion condition *B*=3.351, *SE*=2.732, *t*(379)=1.227, *p*=.22, 95% CI [-2.02, 8.72],

nor for independent self-construal measure on its own *B*=-0.202, *SE*=0.175, *t*(379)=-

1.156, *p*=.25, 95% CI [-0.55, 0.14], was just significant for poster type on its own

B=5.297, *SE*=2.612, *t*(379)=2.027, *p*=.04, 95% CI [0.16, 10.43]. There was a

marginally significant conditional effect found for gender *B*=-3.724, *SE*=1.883,

t(379)=-1.978, *p*=.05, 95% CI [-7.43, -0.02]. There was no significant interaction

between inclusion and independent self-construal *B*=0.236, *SE*=0.251, *t*(379)=0.940,

p=.35, 95% CI [-0.26, 0.73]. There was an approaching significant interaction

between inclusion and poster type *B*=-6.868, *SE*=3.800, *t*(379)=-1.807, *p*=.07, 95%

CI [-14.34, 0.60]. There was no significant interaction between poster type and independent self-construal B=0.375, SE=0.250, $t(379)$=1.503, p=.13, 95% CI [-0.12, 0.87], and no significant three-way interaction between poster type, inclusion and independent self-construal B=-0.473, SE=0.366, $t(379)$=-1.292, p=.20, 95% CI [-1.19, 0.25]. A test of higher order unconditional interaction produced a non-significant ΔR^2 of .004, $F(1,370) = 1.670$, p= .20 as a result of the three-way interaction. See Figure 27. for a visual representation controlling for gender.

3.5.3.4 *Role of inclusion manipulation (vs. control), poster frame and independent self-construal in connection to cause.*

Following the procedures previously outlined, I regressed connection to cause on the dummy (control vs. inclusion) and moderator variables.

Summary of results.

In a regression model with independent self-construal, the inclusion manipulation did not significantly predict connection to cause in terms of a conditional effect, neither did independent self-construal, nor the poster frame. Of interest, however, was the significant three-way interaction between independent self-construal, poster frame and the inclusion manipulation. As predicted, and in line with the donation intentions models, whether connection to cause were greater for the inclusion condition, over the control condition, depended on the poster frame, as well as participant's independent self-construal. In view of the results of the t-test and previous regression models, I produced a second regression model that

included gender as a covariate. This model was a better predictor and there was increased significance in the majority of the conditional and interaction effects, as a result of adding gender.

Regression model for connection to cause.

I next submitted the connection to cause measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was approaching significant R^2 =.034, p = .08, $F(7, 372)$= 1.857. Once again I found no conditional effect of the inclusion condition B=0.207, SE=0.284, $t(380)$=0.729, p=.47, 95% CI [-0.35, 0.77] nor for independent self-construal measure on its own B=-0.030, SE=0.018, $t(380)$=-1.620, p=.11, 95% CI [-0.07, 0.01], or for poster type on its own B=0.238, SE=0.273, $t(380)$=0.872, p=0.38, 95% CI [-0.30, 0.77]. There was however a significant interaction between inclusion and independent self-construal B=0.073, SE=0.026, $t(380)$=2.768, p=.01, 95% CI [0.02, 0.12]. There was no significant interaction between inclusion and poster type B=-0.191, SE=0.396, $t(380)$=-0.484, p=.63, 95% CI [-0.97, 0.59]. However, there was a significant interaction between poster type and independent self-construal B=0.068, SE=0.026, $t(380)$=2.591, p=.01, 95% CI [0.02, 0.12], and most interestingly a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.113, SE=0.038, $t(380)$=-2.955, p=.003, 95% CI [-0.19, -0.04]. The three-way interaction showed that in the control condition individuals with high independent self-construal indicated significantly higher connection to cause with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion

condition individuals with high independent self-construal preferred the "Animals are Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .023, $F(1,372)= 8.7318$, $p=.003$ as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal, revealed that the effect on donation intentions was significant with high independent self-construal ($\theta_{XW \to Y \mid Z= 10.67}$ =-1.3959, $p=.02$) and near significant with low self-construal ($\theta_{XW \to Y \mid Z= -10.33}$ =0.9746, $p=.08$).

Probing the conditional effects of the focal predictor at values of the moderators, revealed the effect to be significant with the Control Condition at high independent self-construal (Z=10.67) Effect =0.959, SE= 0.3993, $t(380)=2.4021$, $p=.02$, 95% CI [0.17, 1.74], but not significant in the Control Condition at low independent self-construal (Z=-10.33) Effect -0.4607, SE= 0.3737, $t(380)=-1.2328$, $p=.22$, 95% CI [-1.20, 0.27], not significant in the Inclusion Condition at low independent self-construal (Z=-10.33) Effect 0.5139, SE=.4153, $t(380)=1.2373$, $p=.22$, 95% CI [-0.30, 1.33], nor in the Inclusion Condition at high independent self-construal (Z=10.67) Effect -0.4369, SE=0.4041, $t(380)=-1.0811$, $p=.28$, 95% CI [-1.23, 0.36].

Regression model for connection to cause controlling for gender.
I submitted the connection to cause measure to the MMR analysis (Model 3, Hayes 2018) controlling for gender. The regression model in total was significant R^2 = .098, $p < .001$, $F(8, 371)= 5.053$. Once again I found no conditional effect of the inclusion

condition B=0.324, SE=0.276, t(380)=1.176, p=.24, 95% CI [-0.22, 0.87]. However, there was a significant conditional effect for independent self-construal measure on its own B=-0.037, SE=0.018, t(380)=-2.100, p=.04, 95% CI [-0.07, -0.002]. I found no conditional effect for poster type on its own B=0.330, SE=0.264, t(380)=1.247, p=.21, 95% CI [-0.19, 0.85]. There was, however, a significant interaction between inclusion and independent self-construal B=0.085, SE=0.025, t(380)=3.322, p=.001, 95% CI [0.04, 0.14], and between independent self-construal and poster type B=0.072, SE=0.025, t(380)=2.853, p=.005, 95% CI [0.02, 0.12]. There was no significant interaction between inclusion and poster type B=-0.340, SE=0.384, t(380)=-0.886, p=0.38, 95% CI [-1.10, 0.42]. Lastly there was a significant three-way interaction between poster type and independent self-construal B=-0.126, SE=0.037, t(380)=-3.404, p<.001, 95% CI [-0.20,-0.05]. There was a significant conditional effect for gender on its own B=-0.980, SE=0.190, ,t(380)=-5.151, p<.001, 95% CI [-1.35, -0.61]. The three-way interaction showed that in the control condition, individuals with high independent self-construal indicated significantly higher donation intentions with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition individuals with high independent self-construal preferred the "Animals are Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .028, F(1,371) = 11.5859, p< .001 as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal revealed that the effect on donation intentions was

significant with high independent self-construal ($\theta_{XW \to Y1 Z= 10.67}$ =-1.6853, *p*=.002)

and near significant with low self-construal ($\theta_{XW \to Y1 Z= -10.33}$ =0.9625, *p*=.08).

See figure 28 for a visual showing the conditional effect of poster style (*X*; similar vs.

different) on connection to cause (*Y*) as a function of condition (*W*; control vs.

inclusion) and independent self-construal (*Z*) from a moderated moderation model,

controlling for gender, and figure 29 for a visual of the corresponding floodlight

analysis, with JN points and confidence bands.

Probing the conditional effects of the focal predictor at values of the moderators

revealed the effect to be significant with the Control Condition at high independent

self-construal (Z=10.67) Effect=1.0987, *SE*=0.3872, *t*(380)= 2.8376 *p*=.005, 95% CI

[0.34, 1.86], but not significant in the Control Condition at low independent self-

construal (Z=-10.33) Effect =0.4147, *SE*=0.3616 , *t*(380)= -1.1467 *p*=.25, 95% CI [-

1.13, 0.30], not significant in the Inclusion Condition at low independent self-

construal (Z=-10.33) Effect =0.5478, *SE*= 0.4018, *t*(380)= 1.3634 *p*=.17, 95% CI [-

0.24, 1.34], and not significant in the Inclusion Condition at high independent self-

construal (Z=10.67) Effect =-0.5866, *SE*=0.392, *t*(380)= -1.4965 *p*=.14, 95% CI [-

1.36, 0.18].

3.5.3.5 *Role of inclusion manipulation (vs. control), poster frame and*

independent self-construal in empathy for cause.

Following the procedures previously outlined, I regressed empathy for cause on the dummy (control vs. inclusion) and moderator variables.

Summary of results.

In a regression model with independent self-construal, the inclusion manipulation did not significantly predict empathy for cause in terms of a conditional effect, neither did independent self-construal, nor the poster frame. Of interest however, was the small but significant three-way interaction between independent self-construal, poster frame and the inclusion manipulation. As predicted, and in line with the donation intentions and connection to cause models, whether empathy for cause were greater for the inclusion condition, over the control condition, depended on the poster frame, as well as participant's independent self-construal. In view of the results of the t-test and previous regression models, I produced a second regression model that included gender as a covariate. This model was a better predictor and there was increased significance in the majority of the conditional and interaction effects, as a result of adding gender.

Regression model for empathy for cause.

I next submitted the empathy for cause measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant R^2 =.039, p =.04, F (7, 372)= 1.857. Once again, I found no conditional effect of the inclusion condition B=-0.054, SE=0.239, t(380)=-0.225, p=.82, 95% CI [-0.52, 0.42] nor for independent self-construal measure on its own B=-0.013, SE=0.015, t(380)=-0.845, p=.40, 95% CI

[-0.04, 0.02], or for poster type on its own B=0.019, SE=0.229, t(380)=0.081, p=.94, 95% CI [-0.43, 0.47]. There was, however, a significant interaction between inclusion and independent self-construal B=0.054, SE=0.022, t(380)=2.437, p=.02, 95% CI [0.01, 0.10]. There was no significant interaction between inclusion and poster type B=0.187, SE=0.333, t(380)=0.564, p=.57, 95% CI [-0.47, 0.84]. However, there was a significant interaction between poster type and independent self-construal B=0.053, SE=0.022, t(380)=2.418, p=.02, 95% CI [0.01, 0.10], and most interestingly, a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.081, SE=0.032, t(380)=-2.516, p=.01, 95% CI [-0.14, -0.02]. The three-way interaction showed that in the control condition individuals with high independent self-construal indicated significantly higher empathy for cause ratings with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition the Poster Style made little difference to empathy for cause ratings. A test of higher order unconditional interaction produced an ΔR^2 of .016 F(1,372) = 6.3312, p= .01 as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal revealed that the effect on empathy ratings was significant with low independent self-construal ($\theta_{XW \to Y1 Z= -10.33}$ =1.0222, p=.03) but not significant with high self-construal ($\theta_{XW \to Y1 Z= 10.67}$ =-0.675, p=.16).

Probing the conditional effects of the focal predictor at values of the moderators revealed the effect to be near significant with the Control Condition at high independent self-construal (Z=10.67) Effect =0.5848, *SE*=0.3357, *t* (380)=1.7421 *p*=.08, 95% CI [-0.08, 1.25], and near significant in the Control Condition at low independent self-construal (Z=-10.33) Effect =-0.5294, *SE*=0.3142, *t* (380)=-1.685 *p*=.09, 95% CI [-1.15, 0.09], but not significant in the Inclusion Condition at low independent self-construal (Z=-10.33) Effect =0.4928, *SE*=0.3492, *t* (380)=1.4111 *p*=.16, 95% CI [-0.19, 1.18], nor in the Inclusion Condition at high independent self-construal (Z=10.67) Effect =-0.0902, *SE*=0.3398, *t* (380)=-0.2654 *p*=.79, 95% CI [-0.76, 0.58].

Regression model for empathy to cause controlling for gender.

I submitted the empathy for cause measure to the MMR analysis (Model 3, Hayes 2018) controlling for gender. The regression model in total was significant R^2 =.079, *p* <.001, *F* (8, 371)= 3.996. Once again I found no conditional effect of the inclusion condition *B*=0.025, *SE*=0.235, *t*(380)=0.105, *p*=.92, 95% CI [-0.44, 0.49] nor for independent self-construal measure on its own *B*=-0.018, *SE*=0.015, *t*(380)=-1.199, *p*=.23, 95% CI [-0.05, 0.01], or for poster type on its own *B*=0.080, *SE*=0.225, *t*(380)=0.357, *p*=.72, 95% CI [-0.36, 0.52]. There was, however, a significant interaction between inclusion and independent self-construal *B*=0.062, *SE*=0.022, *t*(380)=2.848, *p*=.01, 95% CI [0.02, 0.10]. There was no significant interaction between inclusion and poster type *B*=0.088, *SE*=.327, *t*(380)=0.269, *p*=.79, 95% CI [-0.56, 0.73]. However, there was a significant interaction between poster type and

independent self-construal $B=0.056$, $SE=0.022$, $t(380)=2.605$, $p=.01$, 95% CI [0.01, 0.10], and most interestingly a significant three-way interaction between poster type, inclusion and independent self-construal $B=-0.090$, $SE=0.032$, $t(380)=-2.842$, $p=.01$, 95% CI [-0.14, -0.03]. I found a conditional effect of gender on its own $B=-0.657$, $SE=0.162$, $t(380)=4.053$, $p<.001$, 95% CI [-0.98, -0.34]. The three-way interaction showed that in the control condition individuals with high independent self-construal indicated significantly higher empathy for cause ratings with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition the Poster Style made little difference to empathy for cause ratings. A test of higher order unconditional interaction produced an ΔR^2 of .020, $F(1,371) = 8.0777$, $p= .005$ as a result of the three-way interaction.

See figure 30 for visual of the conditional effect of poster style (X; similar vs. different) on empathy for cause (Y) as a function of condition (W; control vs. inclusion) and independent self-construal (Z) from a moderated moderation model, controlling for gender, and figure 31 for a corresponding visual of the JN points along with confidence bands. A test of the conditional interaction (Inclusion X Poster Style) at values of Independent Self-Construal revealed that the effect on empathy for cause was near significant at high independent self-construal ($\theta_{XW \to Y | Z= 10.67}$ =-0.8689, $p=.07$) and significant with low independent self-construal ($\theta_{XW \to Y | Z= -10.33}$ =1.0141, $p=.03$).

Probing the conditional effects of the focal predictor at values of the moderators

revealed the effect to be significant with the Control Condition at high independent

self-construal (Z=10.67) Effect=0.6784, *SE*=0.3298, *t*(380)= 2.0572, *p*=.04, 95% CI

[0.03, 1.33], but not significant in the Control Condition at low independent self-

construal (Z=-10.33) Effect =-0.4986, *SE*=0.3080, *t*(380)= -1.6188, *p*=.11, 95% CI [-

1.10, 0.11], not significant in the Inclusion Condition at low independent self-

construal (Z=-10.33) Effect =0.5155, *SE*= 0.3422, *t*(380)= 1.5063, *p*=.13, 95% CI [-

0.16, 1.19], and not significant in the Inclusion Condition at high independent self-

construal (Z=10.67) Effect =-0.1905, *SE*=0.3339, *t*(380)=-0.5707, *p*=.57, 95% CI [-

0.85, 0.47].

3.5.3.6 *Role of inclusion manipulation (vs. control), poster frame and*

independent self-construal in similarity to cause.

Following the procedures previously outlined, I regressed similarity to cause on the

dummy (control vs. inclusion) and moderator variables.

Summary of results.

In a regression model with independent self-construal, the inclusion manipulation

did not significantly predict similarity to cause in terms of a conditional effect,

neither did independent self-construal, nor the poster frame. Of interest, however,

was the small but significant three-way interaction between independent self-

construal, poster frame and the inclusion manipulation. As predicted, and in line

with the donation intentions and connection to cause models, whether similarity to

cause ratings were greater for the inclusion condition, over the control condition, depended on the poster frame, as well as participant's independent self-construal. In view of the results of the t-test and previous regression models, I produced a second regression model that included gender as a covariate. This model was a better predictor and there was increased significance in the majority of the conditional and interaction effects, as a result of adding gender.

Regression model for similarity to cause.

I next submitted the similar to cause measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant R^2 = .041, p = .03, F (7, 372)= 2.292. Once again I found no conditional effect of the inclusion condition B=0.460, SE=0.288, t(380)=1.597, p=.11, 95% CI [-0.11, 1.03] nor for independent self-construal measure on its own B=-0.012, SE=0.019, t(380)=-0.638, p=.52, 95% CI [-0.05, 0.03], or for poster type on its own B=0.304, SE=0.277, t(380)=1.099, p=.27, 95% CI [-0.24, 0.85]. There was, however, a significant interaction between inclusion and independent self-construal B=0.061, SE=0.027, t(380)=2.301, p=.02, 95% CI [0.01, 0.11]. There was no significant interaction between inclusion and poster type B=-0.282, SE=0.402, t(380)=-0.703, p=.48, 95% CI [-1.07, 0.51]. However, there was a significant interaction between poster type and independent self-construal B=0.053, SE=0.027, t(380)=2.014, p=.05 95% CI [0.001, 0.11], and most interestingly a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.105, SE=0.039, t(380)=-2.696, p=.007 95% CI [-0.18, -0.03]. The three-way interaction showed that in the control condition

individuals with high independent self-construal indicated significantly higher ratings of similarity to the cause with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition individuals with high independent self-construal provided higher ratings of similarity in the "Animals are Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .019, $F(1,372) = 7.2661$, $p= .007$ as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Type) at values of independent self-construal revealed that the effect on similarity ratings was not significant with low independent self-construal ($\theta_{XW \to Y1 Z= -10.33} =0.7974$, $p=.16$) but was significant with high self-construal ($\theta_{XW \to Y1 Z= 10.67} =-1.3974$, $p=.02$).

Probing the conditional effects of the focal predictor at values of the moderators revealed the effect to be significant with the Control Condition at high independent self-construal (Z=10.67), Effect =0.8733, SE=0.4052, $t(380)= 2.155$, $p=.03$, 95% CI [0.08, 1.67], but not significant in the Control Condition at low independent self-construal (Z=-10.33), Effect =-0.2467, SE=0.3793, $t(380)= -0.6504$, $p=.52$, 95% CI [-0.99, 0.50], and not significant in the Inclusion Condition at low independent self-construal (Z=-10.33), Effect =0.5507, SE= 0.4215, $t(380)= 1.3064$, $p=.19$, 95% CI [-0.28, 1.38], nor in the Inclusion Condition at high independent self-construal (Z=10.67), Effect =-0.5241, SE=0.4102, $t(380)= -1.2779$, $p=.20$, 95% CI [-1.33, 0.28].

Regression model for similarity to cause controlling for gender.

I next submitted the similar to cause measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant R^2 = .085, p < .001, F (8, 371)= 4.304. There was a marginal conditional effect of the inclusion condition B=0.558, SE=0.283, t(380)=1.973, p=.05, 95% CI [0.001, 1.11] but no significant effect for independent self-construal measure on its own B=-0.018, SE=0.018, t(380)=-1.002, p=.32, 95% CI [-0.05, 0.03], or for poster type on its own B=0.381, SE=0.271, t(380)=1.405, p=.30, 95% CI [-0.15, 0.92]. There was, however, a significant interaction between inclusion and independent self-construal B=0.071, SE=0.026, t(380)=2.727, p=.007, 95% CI [0.02, 0.12]. There was no significant interaction between inclusion and poster type B=-0.407, SE=0.394, t(380)=-1.032, p=.30, 95% CI [-1.18, 0.37]. However there was a significant interaction between poster type and independent self-construal B=0.057, SE=0.026, t(380)=2.201, p=.03, 95% CI [0.01, 0.11], and most interestingly a significant three-way interaction between poster type, inclusion and independent self-construal B=-0.821, SE=0.038, t(380)=-3.040, p=.003, 95% CI [-0.19, -0.04]. There was a significant conditional effect of gender B=-0.821, SE=0.195, t(380)=-4.203, p<.001, 95% CI [-1.21, -0.44]. The three-way interaction showed that in the control condition, individuals with high independent self-construal indicated significantly higher ratings of similarity to the cause with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition individuals with high independent self-construal provided higher ratings of similarity in the "Animals are

Different" to us text. A test of higher order unconditional interaction produced an ΔR^2 of .023, $F(1,371)= 9.2389$, $p=.003$ as a result of the three-way interaction.

A test of the conditional interaction (Inclusion X Poster Style) at values of Independent Self-Construal revealed that the effect on similarity to cause was significant at high independent self-construal ($\theta_{XW \to Y1 Z= 10.67} =-1.6398$, $p=.004$) but not significant with low independent self-construal ($\theta_{XW \to Y1 Z= -10.33} =0.7873$, $p=.16$).

See figure 32 for a visual of the conditional effect of poster style (X; similar vs. different) on similarity to cause (Y) as a function of condition (W; control vs. inclusion) and independent self-construal (Z) from a moderated moderation model, controlling for gender, and figure 33 for the corresponding JN points and confidence intervals. Probing the conditional effects of the focal predictor, at values of the moderators revealed the effect to be significant with the Control Condition at high independent self-construal (Z=10.67), Effect=0.9902, SE=0.3974, t(380)= 2.4916, p=.01, 95% CI [0.21, 1.77], but not significant in the Control Condition at low independent self-construal (Z=-10.33), Effect =-0.2082, SE=0.3712, t(380)= -0.5607, p=.58, 95% CI [-0.94, 0.52], not significant in the Inclusion Condition at low independent self-construal (Z=-10.33), Effect =0.5791, SE=0.4125, t(380)= 1.4041, p=.16, 95% CI [-0.23, 1.39], and not significant in the Inclusion Condition at high independent self-construal (Z=10.67), Effect =-0.6496, SE=0.4024, t(380)= -1.6143, p=.11, 95% CI [-1.44, 0.14].

3.5.3.7 *Tests of mediated moderation.*

Conditional process analysis for connection to cause.

My next goal was to test a moderated mediation model (model 11;Hayes, 2017) using conditional process analysis. Conditional process analysis was carried out to investigate the mediation of connection to cause on donation intentions and actual cash donation, whilst being moderated by inclusion (*X*), self-construal (*W*) and poster type (*Z*). Conditional process analysis is a process by which mediation analysis and moderation analysis are combined in a single model of, in my case moderated mediation, and is used to understand and describe the conditional nature of the mechanisms by which a variable transmits its effect on another and to test hypothesis about such contingent effects (Hayes 2018).

Covariate analysis.

In view of the results of the t-test and previous regression models, I carried out the conditional process analyses with connection to cause as a mediator with, and without, gender as a covariate.

Regression model for connection to cause as a mediator.

My previous MMR analyses established that both the Manipulation (inclusion vs. control) X Independent Self-construal interaction, as well as the three-way interaction, Manipulation (inclusion vs. control) X Independent Self-construal X Poster Type, was associated with Connection to the Cause; as well as with Donation intentions; and with Actual Cash Donation. A regression test that placed Connection

to Cause in as a covariate confirmed that the mediator (Connection to the Cause) was related to both Donation intentions B=2.372, t(380)=26.08, p<.001 and Actual Cash Donation B=3.352, t(380)=7.173, p<.001. To test the potential mediation effect I followed the bootstrapping method (with 5000 iterations) advocated by Preacher, Rucker & Hayes (2007). This procedure tests the null hypothesis that the indirect path from the interaction term to the dependent variable via the mediator does not significantly differ from zero. If zero is not contained within the confidence intervals (CI) computed by the bootstrapping procedure, then one may conclude that the indirect effect is indeed significantly different from zero at p<.05.

   a) *Connection to cause on donation intentions.*

A first stage moderated moderated mediation model (Model 11, Hayes 2018) delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -0.2687, Boot *SE*=0.0991, Bootstrap 95% CI = -0.4605 to -0.0645. Probing the interaction we may see that the indirect effect of inclusion on donation intentions through connection to cause (mediator) is positive for those individuals with high independent self-construal (10.67) in the "Animals are Different" Poster type (point estimate: 2.333, Boot*SE*= 1.0389, 95% CI from 0.2110 to 4.3025, but not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" Poster type: (point estimate: -0.9897, Boot*SE*= 0.9984, 95% CI from -2.8774 to 1.0316). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" Poster type (point estimate: -1.2888, Boot*SE*= 0.9041, 95% CI from -

3.0322 to 0.4843), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" Poster type (point estimate: 1.031, Boot*SE*= 0.9805, 95% CI from -0.9909 to 2.8833).

a) *Connection to cause on donation intentions controlling for gender.*

A first stage moderated moderated mediation model (Model 11, Hayes 2018) this time controlling for gender delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -0.2958, Boot *SE*=0.0957, Bootstrap 95% CI = -0.4806 to -0.0995. Probing the interaction we may see that the indirect effect of inclusion on donation intentions through connection to cause (mediator) is positive for those individuals with high independent self-construal (10.67) in the "Animals are Different" Poster type (point estimate: 2.8742, Boot*SE*= 0.9865, 95% CI from 0.8684 to 4.7654, but not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" Poster type (point estimate: -1.0793, Boot*SE*= 0.9412, 95% CI from -2.8757 to 0.8576). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" Poster type (point estimate: -1.2872, Boot*SE*= 0.8747, 95% CI from -3.0054 to 0.4236), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" Poster type (point estimate: 0.9707, Boot*SE*= 0.9703, 95% CI from -1.0410 to 2.7953).

b) Connection to cause on actual cash donation.

A first stage moderated moderated mediation model delivered an index test of

moderated moderated mediation with a slope that was statistically different from

zero, Index = -0.3813, Boot *SE*=0.1445, Bootstrap 95% CI = -0.6632 to -0.0912.

Probing the interaction we may see that the indirect effect of inclusion on cash

donation through connection to cause (mediator) is positive for those individuals

with high independent self-construal (10.67) in the "Animals are Different" Poster

type (point estimate: 3.2558, Boot*SE*= 1.5567, 95% CI from 0.2761 to 6.3952, but

not different from zero for individuals with high independent self-construal (10.67)

in the "Animals are Similar" Poster type (point estimate: -1.4034, Boot*SE*= 1.4489,

95% CI from -4.2967 to 1.3948). Nor was it different from zero for individuals with

low independent self-construal (-10.33) in the "Animals are Different" Poster type

(point estimate: -1.8871, Boot*SE*= 1.2873, 95% CI from -4.3426 to 0.7992), nor for

individuals with low independent self-construal (-10.33) in the "Animals are

Similar" Poster type (point estimate: 1.4619, Boot*SE*= 1.3686, 95% CI from -1.2827

to 4.1469).

a) Connection to cause on actual cash donation controlling for gender.

A first stage moderated moderated mediation model delivered an index test of

moderated moderated mediation with a slope that was statistically different from

zero, Index = -0.4238, Boot *SE*=0.1390, Bootstrap 95% CI = -0.6964 to -0.1480.

Probing the interaction we may see that the indirect effect of inclusion on cash

donation through connection to cause (mediator) is positive for those individuals

with high independent self-construal (10.67) in the "Animals are Different" Poster type (point estimate: 4.0821, Boot*SE*= 1.4947, 95% CI from 1.2862 to 7.0748, but not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" Poster type (point estimate: -1.5458, Boot*SE*= 1.3806, 95% CI from -1.2862 to 7.0748). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" Poster type (point estimate: -1.8813, Boot*SE*= 1.2475, 95% CI from -4.2902 to 0.6948), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" Poster type (point estimate: 1.3914, Boot*SE*= 1.3686, 95% CI from -1.4272 to 3.9766).

Conditional process analysis for empathy and similarity to cause.
As a final test I also produced moderated mediation models (model 11;Hayes, 2017) using conditional process analysis to investigate the mediation of similarity to cause and well as empathy for cause, on both donation intentions and actual cash donation, whilst being moderated by inclusion (*X*), self-construal (*W*) and poster type (*Z*). The empathy to cause and similarity to cause models were only produced as simple models, without gender added as a covariate since findings did not change substantially although, in line with previous findings, gender did improve the prediction of both models. Both of these mediation analyses can be found in the appendix (A.15).

3.5.4 Discussion.

Summary.

The results of study 4 repeated the findings of study 3, by demonstrating that following an inclusion manipulation, donation intentions significantly reduced for individuals that are high in independent self-construal, as compared to donation intentions under normal (control) conditions. In an attempt to advance the findings of study 3, study 4 further probed the mechanisms involved in prosocial donation, through the use of a similar vs. different poster frame for the out-group cause. Under normal (control) circumstances individuals that are high in independent self-construal expressed higher donation intentions for an out-group cause that was framed to highlight similarities with them ("Animals are Similar to Humans"). However, following an inclusion manipulation, donation intentions reduced for this cause. Following an inclusion manipulation, individuals that are high in independent self-construal expressed higher donation intentions for an out-group cause that was framed to highlight differences with them ("Animals are Different to Humans").

In doing so, study 4 offered support for H8: that under normal conditions (control group), people with an independent self-construal orientation will express higher donation intentions for an out-group animal charity that is framed as similar (vs. different) to them. The results for ratings of connectedness to the cause mirrored the pattern of donation intentions, as did the result for actual cash donations (albeit not significantly), in a simple moderated moderation model.

Furthermore, study 4 extended the findings beyond donation intentions, directed towards an out-group animal charity cause, into actual cash donations, in a model that was mediated by connection to cause. A series of mediation analyses showed that feelings of connection to cause acted as a significant mediator, and produced a significant 3-way moderated moderated mediation model for both donation intentions and actual cash donations. See detailed discussion following.

One of the specific goals of study 4 was to investigate whether a feeling of closeness and oneness (vs. distance and otherness) with the target could be manipulated, in order to influence prosocial behaviour, and if so whether it would have significant effects regardless of self-construal and inclusion status. In order to do this I had constructed two posters that framed similarity "Animals are Similar", or difference "Animals are Different", to the cause. My prediction had been that under normal circumstances (control conditions), all participants would prefer the "Animals are Similar" frame, and this would be expressed by an increase in donation intentions.

The results of study 4 supported my prediction that participants high in interdependent self-construal would normally donate more to the "Animals are Similar" poster frame. Regression analysis showed a significant two-way interaction between poster type and interdependent self-construal regarding donation intentions. Put another way, participants with high interdependent self-construal expressed higher donation intentions for the "Animals are Similar" cause in which the poster framed the targets as similar to humans, and lower donation intentions

for the "Animals are Different" cause in which the poster framed the targets as different to humans. In line with my predictions, I found no significant evidence to suggest that interdependent self-construal appeared to interact with the inclusion condition, to predict either donation intentions or actual cash donations in any regression models. This finding also supports my hypothesis (H12) and extends past research by offering evidence that individuals high in interdependent self-construal are not only little impacted by exclusion threats (Gardner, Pickett, & Knowles, 2005; Powers, Worsham, Freeman, Wheatley, & Heatherton, 2014; Uskul & Over, 2014), but that they are also little impacted by inclusion promises. However, as expected, interdependent self-construal did interact with the similar/different prime, in that higher interdependent self-construal predicted donation intentions for the "Animals are Similar" poster and cause. This finding is also in line with past research, which has found interdependent self-construal to be associated with in-group giving, as well as with increased interpersonal closeness (Holland, Roeder, van Baaren, Brandt, & Hannover, 2004).

As outlined, study 4 was able to offer evidence in support of my prediction (H8) that individuals high in independent self-construal would preference the "Animals are Similar" poster frame, under normal (control) conditions. My argument for this prediction is that individuals high in independent self-construal will feel more affinity and connection to out-group causes because, unlike individuals high in interdependent self-construal, they do not see out-groups members as rigidly out-group. This is because, as previously argued, individuals high in independent self-

construal a) have more flexible notions of in-group and out-group boundaries, and so are more likely to view out-group members as potential targets to recruit as in-group members and b) are not as chronically reassured of their social inclusion status, compared to individuals with high interdependent self-construal, and so monitor for cues of social connection potential in others.

As a result, in study 4 when the out-group charity is specifically framed as similar I predicted that individuals with high independent self-construal would still see it as an out-group, but would take the "Animals are Similar" frame as a cue of social connection potential and would therefore donate more accordingly to the "Animals are Similar" poster frame. Regression analysis in study 4 supported this prediction by showing a significant three-way interaction between poster type, inclusion and independent self-construal for donation intentions. Under normal circumstances (control), participants with high independent self-construal did express higher donation intentions for the "Animals are Similar" cause, in which the poster framed the targets as similar to humans, and lower donation intentions for the "Animals are Different" cause, in which the poster framed the targets as different to humans.

This support for the "Animals are Similar" poster frame in study 4 additionally offers support for the argument (H11) that in normal circumstances (control), individuals with high independent self-construal express higher donation intentions to out-group animal charities because they feel a similarity, connection, or oneness with them. Such a feeling of oneness may have purpose, in that it is likely to boost a

sense of belonging or social inclusion, which may be especially motivational for individuals high in independent self-construal. Additionally, as we have previous noted, it make sense for individuals seeking social connection to reduce barriers to in-group entry, and to be more relaxed regarding how they implement in-group boundaries. Past research supports the behaviour of relaxing boundaries when we feel others are similar (Cuddy, Rock, & Norton, 2007).

Following an inclusion manipulation, however, I predicted that participants high in independent self-construal would respond differently to participants high in interdependent self-construal. I predicted (H10) that an "Animals are Different" poster frame would prove more appealing for participants high in independent self-construal following an inclusion manipulation. The reason for this prediction is that I anticipated that an inclusion manipulation would reassure participants high in independent self-construal of their social inclusion status, satiate their belonging needs (DeWall, Baumeister, & Vohs, 2008), and so-by reduce a desire to find similarities with out-group members or seek further social connection with others. While the "Animals are Similar" poster frame would appeal to these participants under normal conditions (control), precisely because it indicates social connection potential and encourages a relaxing of in-group boundaries, under conditions in which the participants had been previously assured of their social inclusion within a human in-group, I predicted that the "Animals are Similar" poster frame would hold little appeal.

Once assured of belonging and inclusion there is little to be gained from finding similarities with out-group members. In fact, it may even be threatening to do so, since finding similarities with out-group members might potentially challenge the recently affirmed social inclusion and in-group status, maybe even presenting itself as a threat to group distinctiveness. Under these circumstances, it may be seen as more beneficial to reinforce in-group and out-group categories, and donate more to a poster that clearly affirms that animals are different from humans. This argument is supported by a wide body of intergroup research on group differentiation in the face of comparison groups (Brown, 1984; Jetten, Spears, & Manstead, 1999; Jetten, Spears, & Postmes, 2004; Van Knippenberg & Ellemers, 1990). This finding is also in line with past research on intergroup processes, suggesting that, dependent on the nature of the in-group vs. out-group relationship between helper and target and perceptions of differences or similarities, different processes and motivations are likely to drive responses. Sturmer and Snyder (2010) argue that when there is perceived dissimilarity between helper and target, helping is more likely to occur as a function of perceived cost and benefits to self. The only exception, it seems, is when there is a question as to whether a target is seen to be a typical or atypical out-group member, and under these circumstances the pattern may be broken (Manis, Nelson, & Shedler, 1988).

Study 4 was also able to build on study 3 by providing further evidence in support of H11, that connection to the cause might act as a successful mediator for donation intentions. My prediction (H11) had been that perceptions of connection to cause

would mediate the effects of independent self-construal orientation, inclusion and their interaction, on the two dependent variables. The findings of study 4 supported this in a model with poster type, inclusion and independent self-construal predicting donation intentions, and additionally provided some boundary conditions to demonstrate how self-construal and inclusion status would impact this mechanism.

For the cash donation dependent variable, a moderated regression analysis showed no significant three-way interaction between poster type, inclusion and independent self-construal for actual cash donations, although the patterns were in the same direction as with donation intentions, and actual cash donations and donation intentions correlated significantly. Controlling for gender and pet ownership improved significance and effect size marginally. A conditional process analysis, using a first stage moderated moderated mediation model, however, confirmed that connection to cause significantly mediated in a model with independent self-construal, poster type and inclusion, and significantly predicted both donation intentions and actual cash donations. Controlling for gender increased the effect size and significance level.

As with study 3, gender in study 4 was found to positively predict donation intentions and actual donations, with females expressing significantly greater donation intentions and making a near significantly greater actual donations. This is in line with most past research, which shows a consistent trend of females donating more to charities (Einolf, 2011; Hodgkinson & Weitzman, 1992; 1994; 1996; Kirsh,

Hume, & Jalnadoni, 1999; Mesche, Rooney, Steinberg, & Denton, 2006; Winterich, Mittal, & Ross Jr., 2009). Study 4 additionally measured pet ownership and, as might be expected, this also positively predicted donation intentions and actual cash donations to a domestic animal charity. Study 4 also measured individual belonging needs, and again as expected this also predicted donation intentions, although not strongly. None of the covariates measured (gender, pet ownership, unmet belonging) interacted with the other independent variables however.

Study 4 also provided evidence to show that empathy to the cause may be predicted by perceptions of similarity vs. difference to the cause, as a function of inclusion status and self-construal. This is in line with prior research (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997), which has offered evidence that empathetic concern only increases helping behaviour through a relationship to perceived oneness, or self-other overlap. A regression analysis showed a significant three-way interaction between poster type, inclusion and independent self-construal regarding empathy to cause. Under normal circumstances (control), participants with high independent self-construal expressed higher empathy to cause for the "Animals are Similar" cause when the poster framed the targets as similar to humans, and lower empathy to cause for the "Animals are Different" cause when the poster framed the targets as different to humans. However, following an inclusion manipulation this pattern reversed for the "Animals are Different" cause. Participants with high independent self-construal expressed higher empathy to cause for the "Animals are Different" cause, following a belonging manipulation. There was no significant impact of

independent self-construal seen for empathy to cause in the "Animals are Similar" cause poster following a belonging manipulation.

In study 4, a conditional process analysis did not find evidence to support a claim that empathy to cause was significantly mediating donation intentions or actual cash donations, as a function of poster type, inclusion status, and self-construal.

Taken together, the findings of study 4 support prior research on the helping based on similarity hypothesis. Krebs famously (1975) found that when strangers were perceived as more similar, participants were more willing to assist them and give up resources to do so. More recently, research in marketing has found that the more similar to humans animals appear the more favourably they are treated (Connell, 2013) and that anthropomorphism may promote a sense of kinship (Veer, 2013). Costello and Hodson (2010) found that inducing perceptions of human animal similarity facilitated more inclusive attitudes to both animal and human outsiders, and predicted less prejudicial attitudes towards immigrants. Likewise, Batt (2009), working in the area of conservation, found a strong relationship between perceived similarity to humans and preference existed, which suggested that humans are predisposed to liking species on the basis of perceived shared bio-behavioural traits.

Limitations.

One limit of study 4 again was potential power for detecting the interactions in the main regressions. Although G*Power calculations indicated that power would be

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sufficient for detecting the main (conditional) effects, interaction effects in regressions are typically smaller (Aiken & West, 1991) and therefore require higher power to detect. As previously noted, accurate calculations for complex regression models require estimates of expected effects sizes (unstandardized regression coefficients) at each level of the categorical variable (or an estimate of the size of relationships between continuous variable interactions and other predictor variables) for all the conditional and interaction effects in the population, which often may not be known *a priori* (Hayes, 2018). While G*Power 3.1 is a respected and commonly used tool for power analysis (Faul, Erdfelder, Buchner, & Lang, 2009), it has been argued it may be limited in correctly detecting power for significant coefficients in complex regressions, especially for those that include mediations as well as interactions (Aberson, 2010; Fritz, & MacKinnon, 2007; Hayes, 2017). Power analysis is a rapidly evolving field and tools such as pwr2ppl for R are currently in development for power detection of mediation and complex moderation results (Aberson, 2010), in addition to other methodology specifically aimed at addressing the problem of indirect effects within mediated regression models (Fritz, & MacKinnon, 2007; Ma & Zeng, 2014; Zhang, 2014). In the meantime, a word of caution must be offered for the interaction and mediation results, and a suggestion for future replication is made in order to verify the results.

3.6 Christmas Giving Study (Study 5)

3.6.1 Overview.

The Christmas Giving study (Study 5) had two goals. The main aim was to examine the roles that self-construal and inclusion would play in donation behaviour, in the real-world setting of a field study. The hope was to replicate the previous findings, in a setting that would enable my research to provide practical feedback that might assist others when devising strategies for cause marketing campaigns. The second aim of study 5 was to test a novel new manipulation for inclusion in the form of a charity poster, with wording designed to manipulate feelings of inclusion (vs. control). I therefore had two predictions; first (H7) that under normal conditions (control group) people with a higher independent self-construal orientation would express increased donation intentions for an out-group animal charity than people with a lower independent self-construal orientation, and second (H9) that an affirmation of social inclusion (inclusion manipulation) would result in reduced donation intentions for an out-group animal charity in people with a higher independent self-construal orientation, as compared to under normal conditions.

3.6.2 Procedure.

Three research assistants, using intercept methods and paper surveys, administered the field study in early December, in the indoor mall of a Canadian city suburb. In total 118 participants were recruited to participate in the study in exchange for $3.00. Participants were told that the study was for non-commercial academic research looking at the topic of donation interest in animal causes, and would take

between 5 and 10 minutes to complete. A consent form was administered to all participants prior to beginning the study. Of the 118 participants recruited, 17 participants either did not complete the survey, or withdrew consent, resulting in a final sample of 101 participants (55% female, *Mode* $_{age}$ = 61 years and older).

Participants filled in the 24-item Self-Construal scale, used in previous studies. They were then shown a small poster for an animal charity and asked to rate the cause on a variety of measures. Following this a 3-item donation measure was taken, as well as single item empathy measure. A short belonging scale was administered and demographic questions were collected. Participants were then thanked and given a debriefing form. Finally participants were given $3.00 as compensation for the study in single dollar coins. After the money had been passed over, but before they had left, participants were informed that the administrator was collecting donations for the charity on the poster and they were offered the opportunity to donate any or all of the compensation that they had been given should they wish. This served as a second dependent variable. All proceeds were donated to the BC SPCA.

Materials.

Participants first completed the 24-item Self-construal scale (Singelis, 1994; independent self-construal α = .638, interdependent self-construal α = .093) used in the previous studies. One item in the interdependent self-construal scale, "It is important to me to respect decisions made by the group", showed extremely poor

correlation with all the other items, and was flagged for removal increasing the shortened scale reliability (α = .700).

Participants were then shown one of two small advertising posters and asked to look at it. Both posters were identical except for the text on them, which was either neutral (control), or belonging (inclusion manipulation) in content. In the inclusion condition participants were encouraged to think during the holiday season, about how much they were cherished by others, and to celebrate their sense of belongingness. In the neutral condition participants were encouraged to think during the holiday season, about taking time off to relax, and enjoying the opportunity to do things they wanted. Both also urged participants to think about donating to the BC SPCA at this time of year (see appendix A.16 for poster materials).

Participants were then asked to evaluate the cause, on five criteria using a 7-point scale (1= very much, 7 = not at all; scale reliability α = .962). Specifically, they were asked how much they liked the cause, were favourable to the cause, were positive about the cause, considered the cause desirable, and considered the cause good. A 3-item donation intentions measure (α = .953) was then taken as the dependent variable. This measure required participants to answer on a 7-point scale regarding how likely, how inclined and how willing they were to donate to a campaign for the cause on the poster they had been shown. Following this participants were asked how much empathy they had for the cause, and a 3-item belonging scale (α = .810)

was administered: "I feel connected with others", "I feel isolated from the rest of the world", " I have a sense of belonging" using a 7-point scale. Brief demographics were collected (age, gender, and pre-tax income) in category form.

3.6.3 Results.

The study was by necessity short in length and administered. As a consequence no attention checks were included, nor was a question regarding the research hypothesis asked. No participants who completed the survey and gave consent were excluded.

Power.

A post hoc power analysis was conducted, using G*Power 3.1. With a sample size of 101 in a multiple regression model with 3 predictors (2 predictors and 1 interaction term) and an observed R^2 of 0.12, ρ^2 was calculated at 0.127, which provided a power estimation of 0.83 at 95% confidence level. A post hoc power test conducted using G*Power 3.1 for an independent sample t-test revealed that with a sample size of 101 (50 per condition) an observed d=0.57, with critical t of 1.984, was needed for a power estimation of >0.80 at 95% confidence level. Furthermore, a post hoc power test for correlations revealed that with a sample size of 101, an observed correlation of .28, was needed for a power estimation of >0.80 at 95% confidence level. See appendix A.17 for power analysis output.

Manipulation check.

The 3-item belonging scale was intended to serve as a manipulation check. It was expected that higher ratings of belonging would be seen in the inclusion condition. However, the short belong scale measure was not found to vary by condition, with the control condition (n=50; M=10.20, SD=4.34) not being significantly different from the inclusion condition (n=51; M=10.18, SD=5.75) according to an independent sample t-test $t(99)$=0.023, p=.98.

Demographics.

Demographic data was not collected on ethnicity within the survey, however, administrators confirmed that the sample was highly Caucasian in content. Survey results showed that 15.8% were 18-30 years, 16.8% were 31-40 years, 18.8% were 41-50 years, 20.8% were 51-60 years, and 27.7% were over 60 years old (see figure 34). In terms of pre-tax income 14.9% reported under $20,000, 13.9% reported $20,000-$40,000, 22.8% reported $41,000-$70,000, 14.9% reported $71,000-$100,000, and 27.7% reported over $100,000, with 5.9% missing. Participants identified as 55% female.

Demographic, trait and other correlations.

Results of the study 5 revealed a significant positive correlation ($r(99)$=.371, p<.001) between donation intentions (measured in the 3-item measure) and independent self-construal, compared to between interdependent self-construal and donation intentions ($r(99)$=.185, p=.06). Independent self-construal also correlated

positively with cause rating (r(99)=.306, p=.002), but not with actual cash donations (r(99)=.013, p=.90). Empathy for the cause did not correlate with either independent self-construal (r(99)=-.022, p=.83). nor interdependent self-construal(r(99)=-.113, p=.26). Actual cash donations did not correlate with donation intentions (r(99)=.072, p=.47). There was a positive correlation between actual cash donations and age r(99)=.228, p=.02, but not between donation intentions and age r(99)=.093, p=.35.

Means comparisons.

An independent sample t-test showed that females (n=55; M=30.07, SD=5.71) rated the cause significantly higher than did males (n=46; M=27.65, SD=6.48) t(99)= -1.996, p=.049, d= 0.40, however neither gender were significantly more likely to express higher intentions to donate t(99)= 0.106, p=.92, or give higher cash donations t(99)= 1.094, p=.28.

An independent sample t-test showed that participants in the control condition expressed significantly higher empathy for the cause (n=50; M=4.46, SD=1.72) than did participants in the inclusion condition (n=51; M=3.41, SD=2.07) t(99)= 2.767, p=.007 d=0.55. Participants in the control condition, however, expressed significantly lower donation intentions for the cause (n=55; M=11.98, SD=4.80) than did participants in the inclusion condition (n=51; M=14.96, SD=4.83) t(99)= -3.109, p=.002 d=0.60. There was no difference on cash donations between conditions t(99)= -0.596, p=.55.

Regression tests for moderation.

Moderated multiple regressions were carried out in SPSS using process v.3 (Hayes, 2018) to examine whether poster style (Control vs. Inclusion) influenced participant donation intentions, actual cash donations, and empathy to cause, and whether these effects were moderated by self-construal orientation.

Following Cohen & Cohen (1983) and Wendorf (2004), I dummy coded the condition for the inclusion manipulation vs. control. Independent and interdependent self-construal were mean centered, in accordance with guidelines (Hayes, 2013) stipulating that this practice renders subsequent tests of hypotheses and regression coefficients for X and M more meaningful and substantially interpretable, as well as to reduce the likelihood of errors in interpretation. All dependent measures were subjected to separate moderated multiple regressions with each manipulation condition and the control, each self-construal scores, and their interactions simultaneously entered as predictor variables. As in the previous studies unstandardized coefficients (B) are reported rather than betas (β). Because βs are not properly standardized in interaction terms they are not interpretable, whereas B represents the difference between the un-weighted means of the groups involved (see Cohen et al. 2003).

3.6.3.1 *Role of poster and self-construal in donation intentions, cash donation, and empathy.*

Summary of results.

Against expectations, neither independent self-construal, nor interdependent self-construal had any significant impact on donation intentions or cash donations in study 5. Furthermore, neither self-construal significantly interacted with the poster condition (control vs. inclusion). The poster condition appeared to have a strong conditional effect, with inclusion positively predicting donation intentions and empathy to the cause, in separate regression models, with both independent and interdependent self-construal. See detailed analyses below.

Moderating influence of poster on independent self-construal for donation intentions. I submitted the donation intentions measure to the MMR analysis (Model 1, Hayes 2018) with independent self-construal and poster (control vs. inclusion) entered as independent variables. The regression model in total was significant R^2 = .218, p <.001, $F(3, 97)$= 9.028. I found a significant conditional effect for the poster B=2.783, SE=1.006, $t(101)$=2.767, p=.007, 95% CI [0.79, 4.78] and for the independent self-construal measure on its own B=0.224, SE=0.097, $t(101)$=2.296, p=.02, 95% CI [0.03, 0.42. There was no significant interaction between poster and independent self-construal B=0.016, SE=0.122, $t(101)$=0.131, p=.90, 95% CI [-0.23, 0.26].
Moderating influence of poster on independent self-construal for actual cash donations.

I submitted the cash donations measure to the MMR analysis (Model 1, Hayes 2018) with independent self-construal and poster (control vs. inclusion) entered as independent variables. The regression model in total was not significant R^2 =.014, p

=.72, $F(3, 97)$= 0.442. I found no conditional effect for the poster B=-0.362, SE=0.374, $t(101)$=-0.967, p=.34, 95% CI [-1.10, 0.38] nor for the independent self-construal measure on its own B=0.014, SE=0.027, $t(101)$=-0.502, p=.62, 95% CI [-0.07, 0.04]. There was no significant interaction between poster and independent self-construal B=0.044, SE=0.045, $t(101)$=0.981, p=.33, 95% CI [-0.05, 0.13].

Moderating influence of poster on independent self-construal for empathy to cause.
I submitted the empathy to cause measure to the MMR analysis (Model 1, Hayes 2018) with independent self-construal, poster (control vs. inclusion), and the interaction between them, entered as independent variables. The regression model in total was significant R^2 =.092, p =.02, $F(3, 97)$= 0.442. I found an approaching significant conditional effect for the poster B=-0.767, SE=0.424, $t(101)$=-1.807, p=.07, 95% CI [-1.61, 0.08] but not for the independent self-construal measure on its own B=0.045, SE=0.041, $t(101)$=1.096, p=.28, 95% CI [-0.04, 0.13]. There was no significant interaction between poster and independent self-construal B=-0.075, SE=0.051, $t(101)$=-1.462, p=.15, 95% CI [-0.18, 0.03].

Moderating influence of poster on interdependent self-construal for donation intentions.
I submitted the donation intentions measure to the MMR analysis (Model 1, Hayes 2018) with interdependent self-construal and poster (control vs. inclusion) entered as independent variables. The regression model in total was significant R^2 = .111, p =.009, $F(3, 97)$= 4.05. I found a significant conditional effect for the poster B=2.795,

SE=0.966, *t*(101)=2.894, *p*=.01, 95% CI [0.88, 4.71] but not for the interdependent self-construal measure on its own *B*=0.065, *SE*=0.095, *t*(101)=0.691, *p*=.49, 95% CI [-0.12, 0.25]. There was no significant interaction between poster and interdependent self-construal *B*=0.037, *SE*=0.120, *t*(101)=0.309, *p*=.76, 95% CI [-0.20, 0.27].

Moderating influence of poster on interdependent self-construal for actual cash donations.

I submitted the cash donations measure to the MMR analysis (Model 1, Hayes 2018) with interdependent self-construal, poster (control vs. inclusion), and the interaction between them, entered as independent variables. The regression model in total was not significant R^2 =.014, *p* =.72, *F*(3, 97)= 0.442. I found no conditional effect for the poster *B*=-0.362, *SE*=0.374, *t*(101)=-0.967, *p*=.34, 95% CI [-1.10, 0.38] nor for the independent self-construal measure on its own *B*=0.014, *SE*=0.027, *t*(101)=-0.502, *p*=.62, 95% CI [-0.07, 0.04. There was no significant interaction between poster and independent self-construal *B*=0.044, *SE*=0.045, *t*(101)=0.981, *p*=.33, 95% CI [-0.05, 0.13].

Moderating influence of poster on interdependent self-construal for empathy to cause.
I submitted the empathy to cause measure to the MMR analysis (Model 1, Hayes 2018) with interdependent self-construal, poster (control vs. inclusion), and the interaction between them, entered as independent variables. The regression model in total was significant R^2 =.134, *p* =.003, *F*(3, 97)= 4.996. I found a significant

conditional effect for the poster B=-1.041, SE=0.373, $t(101)$=-2.789, p=.006, 95% CI

[-1.78, -0.30] but not for the interdependent self-construal measure on its own

B=0.054, SE=0.036, $t(101)$=1.481, p=.14, 95% CI [-0.02, 0.13]. There was a

significant interaction between poster and interdependent self-construal B=-0.116,

SE=0.046, $t(101)$=-2.506, p=.01, 95% CI [-0.21, 0.02].

3.6.4 Discussion.

Results for study 5 were mixed. There appeared to be a main effect of condition,

with participants in the control condition expressing significantly lower donation

intentions for the cause compared to participants in the inclusion condition,

according to independent sample t-tests. This finding was corroborated by the

regressions, which showed a conditional effect for the condition also. H9 was

therefore not supported by the results. There also appeared to be a main effect

found for empathy, but in a reverse direction with reduced empathy reported in the

inclusion condition. No clear effect was found for either self-construal, in terms of

donation intentions or cash donations. H7 was therefore also not supported by the

results. Interdependent self-construal interacted with the inclusion condition to

produce a negative prediction for empathy; in that empathy was reduced following

the inclusion manipulation. Neither rating of cause nor empathy for cause were

found to mediate donation intentions. While previous research has found that

gender moderates prosocial behaviour, and may be mediated by empathy (Willer,

Wimer, & Owens, 2015), this finding was not supported by study 5.

The somewhat mixed findings of study 5 were disappointing, but possibly speak to

the complexities of running field studies where it is hard to control for confounding

variables. Intercept surveys by their nature must be kept short and it is hard to

collect sufficient data to manage for other variables. The sample size was relatively

small, due in part to the time window I had been able to negotiate, in which to

collect data.

Moreover, the demographics in this survey varied dramatically from all previous

studies, with the age range of participants being mainly over 50 years. Research

shows that belonging needs may be experienced differently over a lifespan, and that

responses to inclusion and exclusion threats may differ with age (Andersson, 1998;

Minichiello, Browne, & Kendig, 2000; Newsom & Schulz, 1996; Nicolaisen, &

Thorsen, 2014; Schultz Jr., & Moore, 1984). Specifically research has suggested that

loneliness has a curvilinear relationship with age (Lasgaard, Friis, & Shevlin, 2016),

with those under 25 years and over 65 years experiencing the highest levels of

loneliness (Victor, & Yang, 2012). In view of these findings the skewed age

demographic in my sample may have impacted experiences of the manipulation, as

compared to my previous studies.

Another question hovers around how successful my novel manipulation had been at

increasing feelings of inclusion. In consideration of the fact that the manipulation

check noted problems, in that the 3-item belonging scale failed to offer significantly

different results between conditions, it may be questioned as to whether the

inclusion manipulation that I had constructed, functioned as planned. For some people, perhaps those with a good network of social support, it may indeed have functioned to increase a sense of belonging; but for others, perhaps lonely and isolated it may have had a reverse effect and made current loneliness more salient. It is possible, therefore, that it may have functioned as both an inclusion and exclusion manipulation. This is clearly of concern, and offers a warning to future researchers, who may be looking to try out novel inclusion and exclusion manipulations.

A final aspect of this study, that caused challenges, was the experiences of all the research assistants when collecting the data. There was often confusion over questions on the part of the respondents and some respondents particularly struggled with the self-construal scales. This is may be seen evidenced in the poorer scale reliability for these scales, than may be normally expected, and the need to remove one item entirely from the interdependent self-construal scale. In consideration of the fact that this scale was developed with students in mind it is possible that it lacks reliability and validity across older age groups in the general population. In addition it was challenging to administer the cash donation dependent variable at times, and the results may reflect this struggle. Many people appeared to feel awkward taking part of the compensation payment, and donating another part, and so there was often an all-or-nothing response. Furthermore, being forced to make the choice regarding donation in a public setting may have influenced the response. Past research has found that people will respond

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differently to charity appeals, as a factor of whether they are being made in public, or private, setting (Froming, Walker, & Lopyan, 1982; Kristofferson, White & Peloza, 2014; Simpson, White & Laran, 2018; White & Peloza, 2009; Wu, Gao, & Mattila, 2017). It is also possible that the fact that participants were filling in the survey in public with an administrator, may also have influenced responses to the donation intentions dependent variable. Research has noted that reputational incentives may influence donations and may depend on the situational (public vs. private) context (Reinstein, & Riener, 2012; Simpson, & Willer, 2008). Studies 1-4 had all taken place in a private setting, in which participants could be relatively sure that their responses to questions regarding donation support and inclusive behaviour were to be kept confidential. However, study 5 was conducted in public and as such presented a major difference in context.

In sum, study 5 was not able to offer much support for my predictions, and did not support my expectation that independent self-construal would interact with an inclusion manipulation to reduce donation intentions.

Chapter 4: General Discussion

4.1 General Discussion

Results across four studies provide converging evidence in support of H5 and H9; that an affirmation of social inclusion or belonging will reduce out-group directed prosocial behaviour, in individuals with high independent self-construal. Study 1 offers evidence to support H1: that under normal conditions individuals with high independent self-construal may behave more inclusively towards out-group targets in a grouping task, whilst individuals with high interdependent self-construal behave less inclusively. Study 1 also provides evidence for a relationship between trait anthropomorphism (finding human attributes in objects and non-human others) and high independent self-construal, and supports H2: that high independent self-construal is positively related to the inclusion of more items in the in-group that rate high in potential for social interaction. This is supportive of the argument that individuals with high independent self-construal may use 'social potential' as a cue for in-group selection.

Study 2 replicates the findings of study 1 and offers evidence in support of H5: that the pattern reverses following an affirmation of social inclusion status, after which individuals with high independent self-construal behave less inclusively towards out-group members, in addition to offering support for H6; and that they will also offer reduced ratings of social anthropomorphism in a photo task. Taken together study 1 and 2 offer evidence that individuals with high independent self-construal

may be evaluating and including out-group members, as a result of the social resource potential they offer, but that this behaviour ceases following confirmation of their own social inclusion status. This finding is supported by prior work of Pickett, Gardner, and Knowles (2004), demonstrating that a higher need for belonging correlates with enhanced monitoring of social cues. Moreover, I extend the work of Pickett, Gardner, and Knowles (2004) into the domain of self-construal, by offering evidence to support the proposition that under normal circumstances (control), individuals high in independent self-construal will be more inclined to monitor for social cues, which may indicate a potential for increased social connection. Study 2 also shows that the pattern reverses following an affirmation of inclusion, and I suggest this may be as a result of a reduced need for social connection and an activated desire to signal in-group distinctiveness following an affirmation of belonging. Study 2 also offers evidence, supporting H12, to show that individuals high in interdependent self-construal are buffered against affirmations of inclusion.

Study 3 extends the pattern into the domain of prosocial behaviour, that of donation support directed towards an out-group cause, and offers some evidence to support H8: that individuals with high independent self-construal will normally express higher donation support for out-group causes, but that following an affirmation of inclusion they will express less donation support. Study 4 repeats the findings of study 3 and offers evidence to demonstrate that individuals with high independent self-construal prefer to donate to out-groups that seem similar to them, under

normal conditions, but that following an affirmation of inclusion they prefer to donate to out-groups that appear different from their in-group. This finding supports H10. Study 4 also provides evidence in support of H11: that a perception of connection to the cause mediates donations towards the cause for individuals with high independent self-construal.

Taken together the research provides support for an argument that individuals with high independent self-construal may be more open to admitting out-group members to an in-group, and more supportive of out-group causes, because they are looking for opportunities to connect with others, and therefore are vigilant for cues of social connection potential in others. In doing so, my research provides support for an argument that individuals with high independent self-construal may be equally, if not more, invested in managing their social inclusion status, compared to individuals with high interdependent self-construal. In addition, I argue that following a confirmation of social inclusion, individuals with high independent self-construal experience a reduced desire to seek social resources, and an increased desire to signal and defend in-group status, which may result in a reduction of inclusive behaviour towards out-groups and a consolidation and differentiation of in-group and out-group boundaries (Tajfel, 1979; Tajfel & Turner, 1979; Yuki & Takemura, 2013) in order to maintain self esteem (Branscombe, Ellemers, Spears, & Doosje, 1999).

4.2 Theoretical Implications

This paper contributes to the growing literature examining the impacts of social exclusion and inclusion on prosocial behaviour (Beest & Williams, 2011; Catanese & Tice, 2005; Cuadrado, Tabernero & Steinel, 2015; Lee & Shrum, 2012; Maner, DeWall, Baumeister, & Schaller, 2007; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). While most previous work has focused on the negative downstream consequences of social exclusion, I have instead focused on social inclusion, and have built on past research detailing the negative downstream results of social exclusion (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007), by demonstrating that there may also be negative downstream consequences to inclusion, especially with regard to prosocial support for out-group targets.

Furthermore this dissertation seeks to extend the existing research into the impacts of self-construal orientation on prosocial behaviour (Duclos & Barasch, 2014; Kemmelmeier, Jambor, & Letner, 2006; Pfundmair, Graupmann, Frey, & Aydin, 2015; Ren, Wesselmann, & Williams, 2013; Simpson, White, & Laran, 2018), to propose some boundary conditions regarding the *whens* and the *hows*. Specifically, regarding the former, I offer evidence that, when individuals with high independent self-construal experience an affirmation of inclusion, they will express lower donation intentions, and behave less inclusively, than under normal conditions. Regarding the latter, I demonstrate in my research that the impacts of social *inclusion* appear to primarily affect those individuals high in independent self-construal, whereas individuals high in interdependent self-construal remain

relatively impervious. This finding is in line with past research on the responses of individuals high in interdependent self-construal to social *exclusion*. Furthermore, I make a novel proposition, that this happens as a result of individuals high in independent self-construal seeing prosocial inclusive behaviour as a means by which to improve social connection and to feel more socially included. On the other hand, individuals who are high in interdependent self-construal will consider themselves chronically assured of inclusion, as a result of their longstanding rigid in-group standing, and will therefore be relatively unmoved by exclusion or inclusion manipulations. To support this proposition, I offer preliminary evidence that individuals high in independent self-construal make inclusion choices based on the social potential of others (study 1), and are more likely to anthropomorphize others on attributes relating to social potential (study 2). Furthermore, I demonstrate (study 4) that for individuals with high independent self-construal, donation intentions towards out-group targets is mediated by feelings of connection to the target, and moderated by perceptions of similarity vs. difference with the target.

Additionally, I contribute to the small body of research looking into anthropomorphism, as a function of social exclusion (Epley, Waytz, Akalis & Cacioppo, 2008; Eyssel, & Reich, 2013; Powers, Worsham, Freeman, Wheatley, & Heatherton, 2014; Waytz, Epley, & Cacioppo, 2010; Waytz & Epley, 2012) and provide tentative evidence that not only is independent self-construal specifically, and positively, related to a tendency to socially anthropomorphise, but also that

feelings of social inclusion may interact with independent self-construal to reduce

ratings of social anthropomorphism—a finding that builds on the recent work of

Bartz, Tchalova, and Fenerci (2016).

Taken together, this research adds a degree of depth and nuance to the existing

body of literature by demonstrating the moderating influence of self-construal, and

extends previous work on the negative downstream effects of social exclusion to

include that of social inclusion. Finally, this research also demonstrates that the

findings extend beyond human out-groups, struggling to enjoy adequate prosocial

support, by evidencing that the findings are also relevant in the context of animal

out-groups. In doing so it builds on recent research that is looking at human-animal

relations through an intergroup lens (Amiot & Bastian, 2017).

4.3 Practical Implications

From a managerial perspective the current research provides important insights for

marketing practice, especially in the realms of cause marketing and prosocial

behaviour. In studies 3 and 4 I explicitly investigated whether the more inclusive

behaviour of the earlier studies might extend into other forms of prosocial

behaviour with direct financial benefits, and provided evidence in the affirmative.

The potential of increasing donations for out-group charities has clear direct

benefits for real world setting, since many conservation charities, as well as

charities aimed at benefiting third world causes, struggle to attract sufficient donors

and funding. However, so far, little academic research has examined the

psychological mechanisms behind this behaviour. My hope is that this research goes some way to improving understanding of the motivational mechanisms that increase and decrease prosocial behaviour, towards out-groups and distant others, and will be able to offer valuable insights for conservation organizations, animal welfare and humane charities, and even third world appeals, wishing to leverage these concepts to improve prosocial behaviour.

One important result of my research was the finding that individuals that are high in independent self-construal may behave less prosocially when they are assured of their belonging status. While there are clear ethical problems associated with encouraging people to feel lonely expressly in order to boost donation behaviour, charities should ensure that they do not prime the opposite (social inclusion), as this may well reduce donation behaviour. Furthermore it should be noted that manipulations of belonging can be tricky, as may be seen in my final study (study 5), when a novel attempt at an inclusion manipulation appeared to backfire, potentially causing some of the older study participants to become more aware of their lack of social connections.

One other final finding from my research is the corroboration of past findings, showing that individuals high in interdependent self-construal do appear to give less to out-group charities than do individuals high in independent self-construal (Duclos & Barasch, 2014; Kemmelmeier, Jambor, & Letner, 2006; Pfundmair, Graupmann, Frey, & Aydin, 2015; Ren, Wesselmann, & Williams, 2013). Charities

with tight budgets may wish to plan accordingly with this in mind in order to maximise return on their marketing investments.

Mitigating this issue somewhat, my research points to the need to highlight self-other similarities in charity appeals, which should meet with increased support regardless of self-construal orientation. This builds on previous marketing research, suggesting that the more similar to humans animals appear, the more favourably they will be treated (Connell, 2013). As has been previously noted, a strong relationship between perceived similarity to humans and preference exists, which suggests that humans are predisposed to liking species on the basis of perceived shared bio-behavioural traits (Batt, 2009). However, as also noted, the framing of appeals that highlight similarities needs to be carefully worded in order to avoid the dangers of priming mortality salience (Costello & Hodson, 2010).

Moreover, as my research notes, cues of similarity may come in many forms. Although I used direct text to highlight similarity in study 4, study 2 highlighted another form of 'seeing similar' – that of anthropomorphism. Anthropomorphism has been found to promote a sense of kinship (Veer, 2013), and its use is prevalent in marketing fields, as evidenced by the familiar use of brand spokes-characters such as Kellogg's Tony the Tiger, and the United States Forestry Service's Smokey the Bear. Not surprisingly, conservation workers have found that animals that appear to embody more human characteristics are indeed perceived as more charismatic and appealing by the public (Ducarme, Luque, & Courchamp, 2012), and

conservation charities have already attempted to leverage anthropomorphism as a conservation tool (Chan 2012; Tam, Lee, & Chao, 2013), with some degrees of success. As has been previously noted, however, individuals have a tendency to anthropomorphize more when they are socially excluded (Epley, Waytz, & Cacioppo 2007), and to dehumanize more when they are socially included (Lucas, & Livingston, 2014; Waytz, & Epley, 2012). This research serves to sound a note of caution regarding the potential damage that might conceivably arise from incautious use of such tools. Further research looking into the mechanisms by which anthropomorphism works in this setting would therefore be recommended.

In summary, this research suggests that marketers involved in cause marketing and prosocial appeals would do well to make an effort to understand the specific motivations of their donors, and carefully tailor their charitable marketing materials accordingly, to ensure that they are relevant and appealing to their key supporters and customers.

4.4 Research Limitations and Directions for Future Research

There are a number of general areas highlighted by this research that would benefit from additional future research. One area I did not have time to fully explore was whether anthropomorphism could be harnessed in any positive ways, to increase feelings of similarity and social connection towards out-group targets. In view of past research on intergroup comparison and anthropomorphism (Leyens, Rodriguez-Perez, Rodriguez-Torres, Gaunt, Paladino, Vaes, & Demoulin, 2001), this

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appears to be an area worthy of future study. Likewise, I was not able to explicitly explore whether anthropomorphism impacted donation behaviour, rather than just inclusive behaviour, and therefore this would be another area that would benefit from further research.

Another connected area of research that I was not able to pursue is the area of mimicry. Mimicry, in this case, is defined as the apparently unconscious, or automatic, imitation of gestures, behaviours, facial expressions, speech and movements. Not only has past research indicated that mimicking increases a sense of rapport, interpersonal closeness, and liking and potentially boosts prosocial behaviour (Chartrand & Bargh, 1999; Lakin, Jefferis, Cheng, & Chartrand, 2003; van Baaren, Holland, Kawakami, & van Knipperberg, 2004), but people have also been shown to mimic more when they feel they are similar, even if similarity is incidental (Guéguen, & Martin, 2009). Likewise, evidence has been offered in support of the argument that connectedness to the mimicry target may moderate the behaviour (van Baaren, Janssen, Chartrand, & Dijksterhuis, 2009). Further research also shows that people are more likely to mimic each other when they are excluded and seeking to socially connect (Lakin & Chartrand, 2003; Lakin, Chartrand, & Arkin, 2008; Uldall, Hall, & Chartrand, 2003). Evidence suggests that people with a more interdependent self-construal may mimic more than people with independent self-construal (Ashton-James, van Baaren, Chartrand, Decety, Karremans, 2007; van Barren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003), making mimicry

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a potentially potent tool for use with individuals high in interdependent self-construal.

On a more specific level, future research in this area could benefit from exploring whether these findings are applicable in the context of cultural self-construal. Past research has demonstrated that individualistic regions within a wider country may be more predisposed to donating to charity (Kemmelmeier, Jambor, & Letner, 2006), and it would be useful to examine how experiences of inclusion might moderate cultural self-construal. Future research might also look to replicate these results, by priming individual self-construal within a study framework, as opposed to measuring it. Study 5 also highlighted another potential line of future research: that of the influence of public/private settings on the mechanisms involved in this current research. Whether these findings only hold true in a private setting would be a very valuable area to explore.

In terms of generalizability, it would be useful to replicate some of these studies in the field if at all possible, as well as with more diverse and greater samples, in order to be sure of the robustness of the results. Furthermore, I measured only inclusive behaviour and charitable donation. Future research might look to ascertain whether these findings might extend to other prosocial dependent variables, such as volunteer work. Moreover my research looked at one specific out-group, non-human animals. Past research has found that human-animal similarity primes may result in reduced prejudice towards out-groups containing other humans (Hodson &

Costello, 2010). It would, therefore, be interesting to see if the effects with self-construal, witnessed in my research, extend to these groups as well. On the topic of non-human species it may also be noted that the future belonging manipulation used in study 2 is worded to specifically manipulate feelings of human belonging. While this manipulation has been used to good effect in past research it is possible that it may have primed 'human association' as opposed to general belonging. In consideration of the interspecies context of this research, future research might look to test whether the effects hold true in a non-human specific belonging context moving forward.

Another area that would also be potentially valuable to explore in terms of future research would be to further tease apart what other self-benefits, beyond social connection, may drive prosocial behaviour as a factor of self-construal orientation. As previously noted, self-benefits may include personal benefits, such as those that involve increasing pleasure/decreasing suffering (for example: increasing social inclusion, personal group status; highlighting individual distinctiveness), or social identity based benefits, such as those that confirm a positive group stereotype, or disconfirm a negative group stereotype. More broadly, future research might chose to explore the connection between empathy and the mechanisms detailed, as well as to look at extending this research into the existing research on guilt, self-construal and similarity to target (Chen & Moosmayer, 2018) in a prosocial setting.

Research Limitations.

In terms of research limitations, as previously noted many of the studies may be noted to lack power, in places at least, and at times *p*-values approached significance only. Whilst study 3 and 4 were well powered to detect the conditional effects in each regression model, they may not have been sufficiently well powered to detect all of the smaller interaction effects. In view of this, the fact that the trends and patterns seen in the interactions were repeated over a number of samples in the different studies, adds at least some robustness to the findings. These are admittedly first steps in a novel area of research, and to be more sure of the robustness of the findings it would be advisable to attempt to further replicate these in future research.

Another limitation of my findings may result from the demographic differences seen in my samples. Whilst student samples, typically drawn from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies, are commonly used in behaviour science research, it is acknowledged that they may have unusual features that limit universal replicability (Heinrich, Heine, & Norenzayan, 2010). In particular attention should be drawn to the high Asian ethnic bias in many of my lab sample demographics, compared to my MTurk samples. Demographic differences, in terms of both age and ethnicity, were quite large between all of my MTurk studies and my lab studies. These demographic differences may be considered a weakness, or a strength, considering the patterns across all studies. The fact that interaction trends were repeated with reasonable consistency, despite these changes in

demographics, may speak to the potential for my findings to be generalizable beyond specific populations. A word of caution must be noted, however, regarding the failure of the short field study to replicate the results of the previous 4 studies.

4.5 Concluding Remarks

In summary, this dissertation provides novel insights into the prosocial actions and intentions directed towards animal out-groups, as a function of self-construal. More specifically, I focus on the *whens* and *hows* that describe the circumstances under which self-construal orientation and inclusion status will interact to produce more, or less, prosocial results. Over five empirical studies, the current research examines a key factor (social inclusion) that interacts with independent self-construal to shift prosocial behaviour, in the form of inclusive behaviour and donation intentions towards out-group members that are non-human animals. I also investigate how perceptions of similarity (vs. difference) with an out-group may moderate prosocial intentions, and how assessments of connection to the cause may mediate prosocial intentions, both as a function of self-construal.

In study 1 and 2, I demonstrate that independent self-construal is positively related to the inclusion of out-group members into a self-formed in-group under normal circumstances, but that following an affirmation of social inclusion the relationship reverses. Furthermore, I suggest that this pattern is as a result of a desire to fulfill social connection needs for individuals with a high independent self-construal, and I show that this effect is not as a result of positive affect. In study 3 and 4, I

demonstrate the same pattern in individuals high in independent self-construal, only this time with donation intentions as expressed towards an out-group cause. Additionally, I show that framing the cause as similar (vs. different) has the effect of increasing donation support for individuals high in independent self-construal. I propose that this is as a result of an increased interest for social connectedness, and demonstrate that connection to the cause acts as a mediator to predict donation intentions. Taken together, the studies make theoretical and practical contributions to established literature streams in the areas of prosocial behaviour, self-construal, and the downstream effects of exclusion and belonging on the self. I hope that this dissertation provides useful insights in the area of prosocial behaviour as specifically directed towards out-groups, including animal out-groups.

Chapter 5: Figures

Figure 1. Social Identity vs. Personal Identity
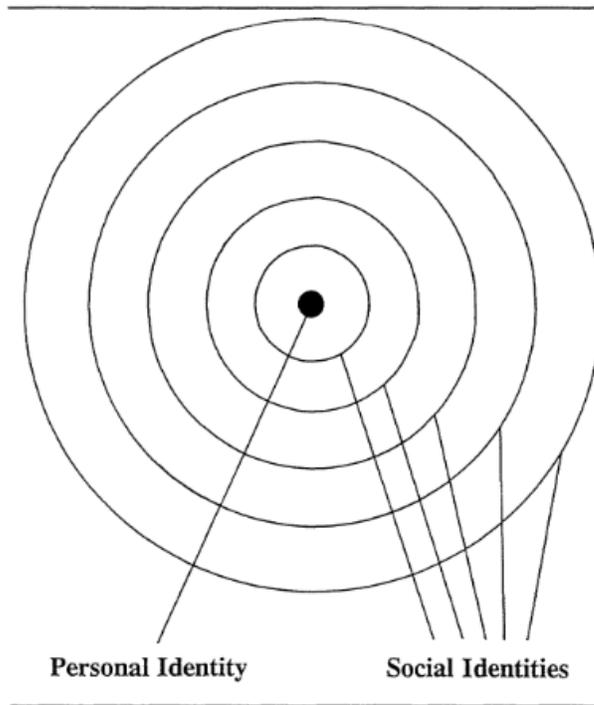
Figure 1 Personal and social identities.

© Brewer, 1991.

Figure 2. Optimal Distinctiveness Model of the Self
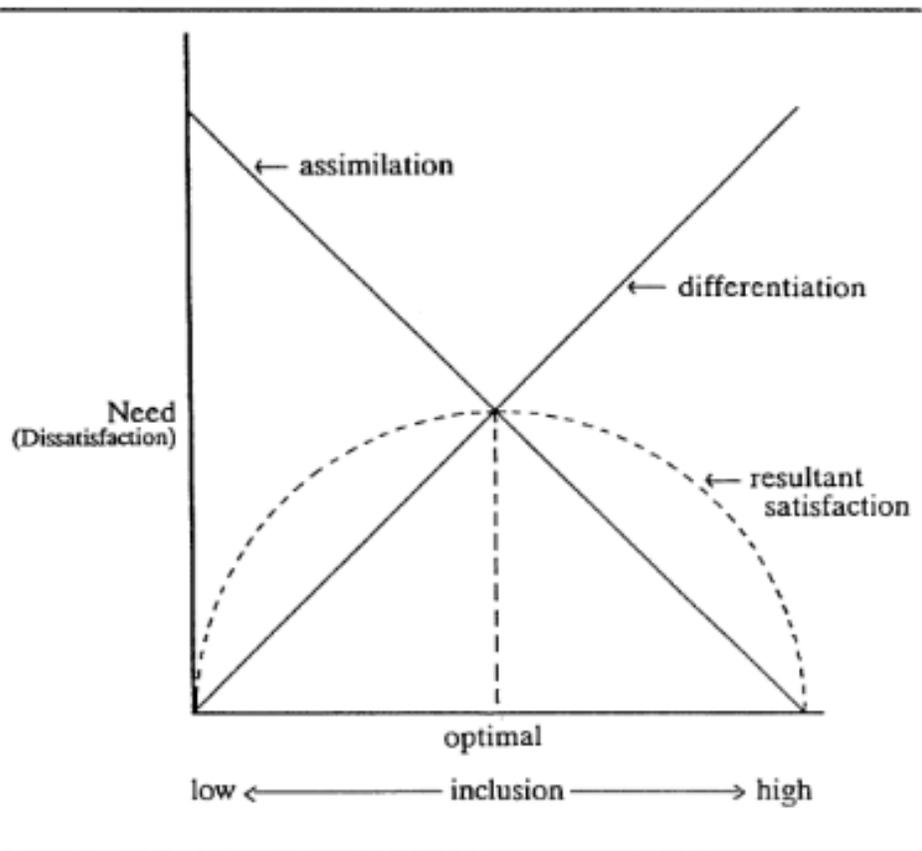
Figure 2 The optimal distinctiveness model.

Figure 3. Construals of Self
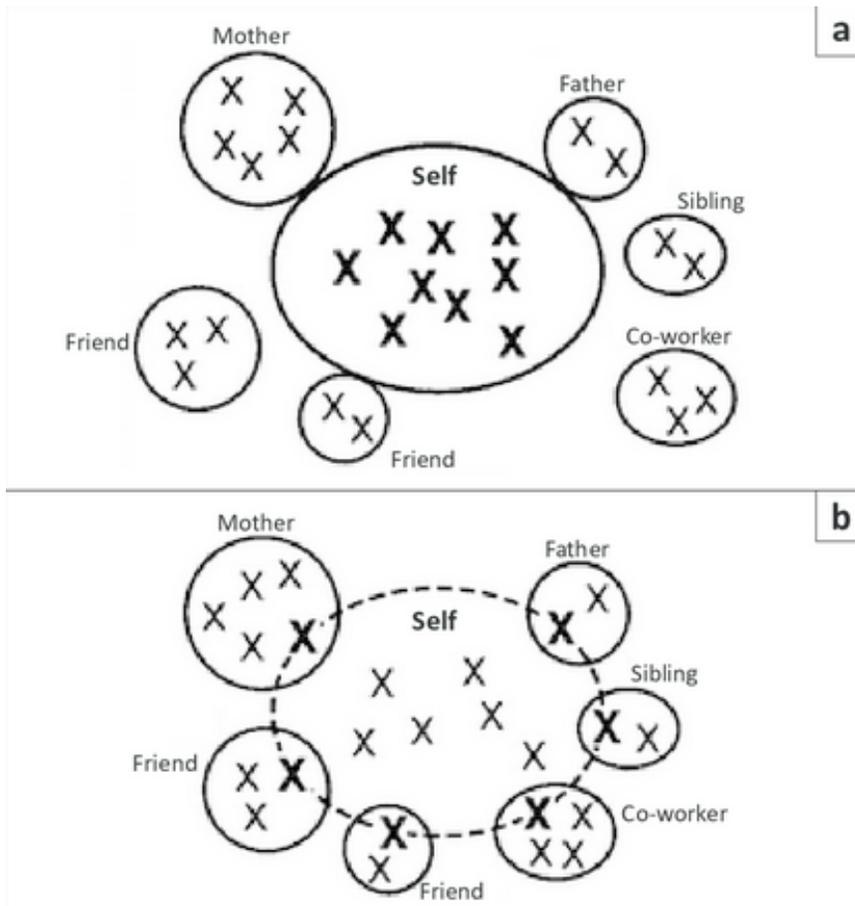
a) Independent view of self, b) Interdependent view of self

© Markus & Kitayama, 1991.

Figure 4. Self-Construal and Prosocial Behaviour Path (Studies 1, 2 and 3)
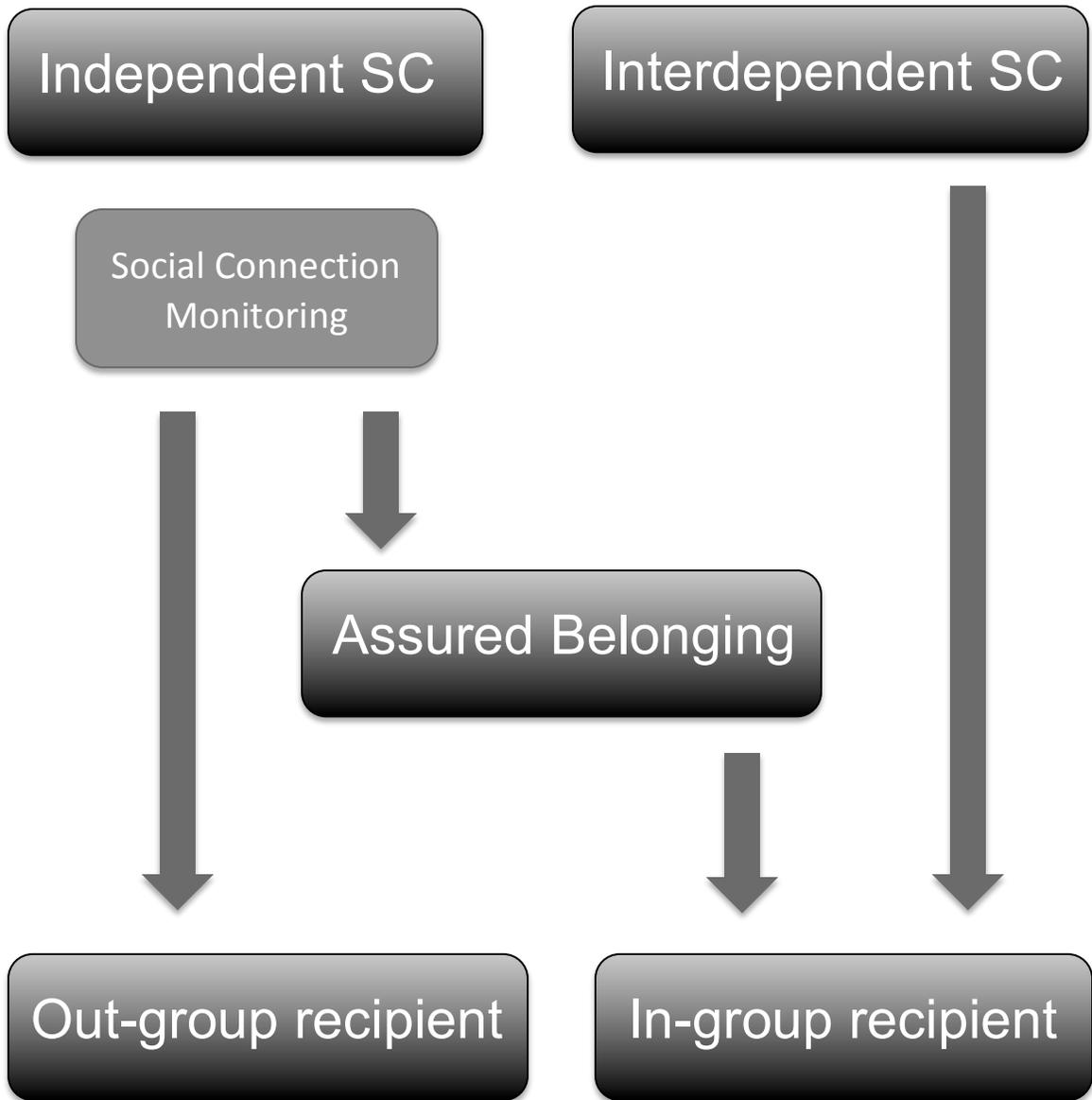
Figure 5. Self-Construal and Prosocial Behaviour Path (Study 4)

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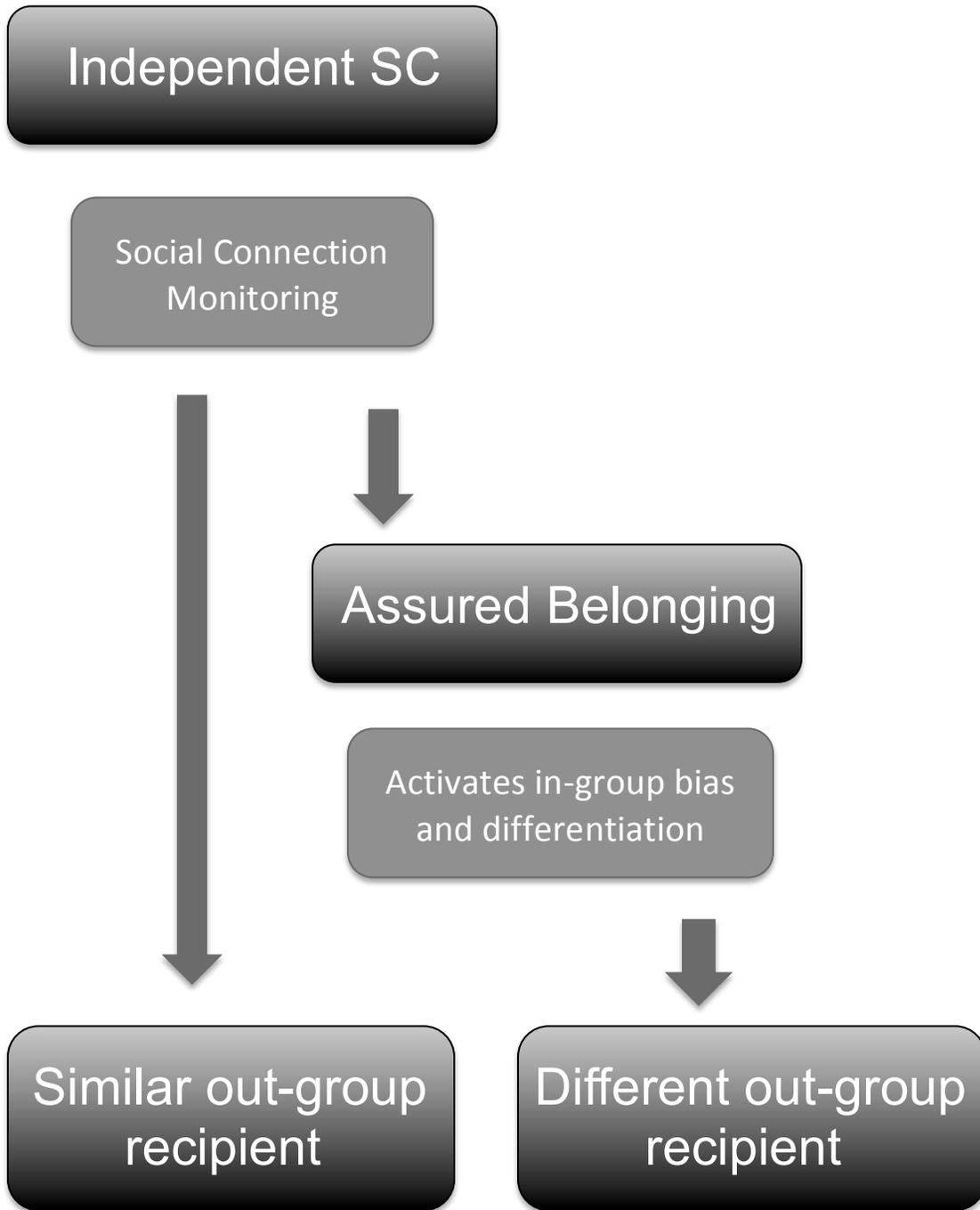
Figure 6. Sample Ethnicity by Percentage (Pre-test Study)
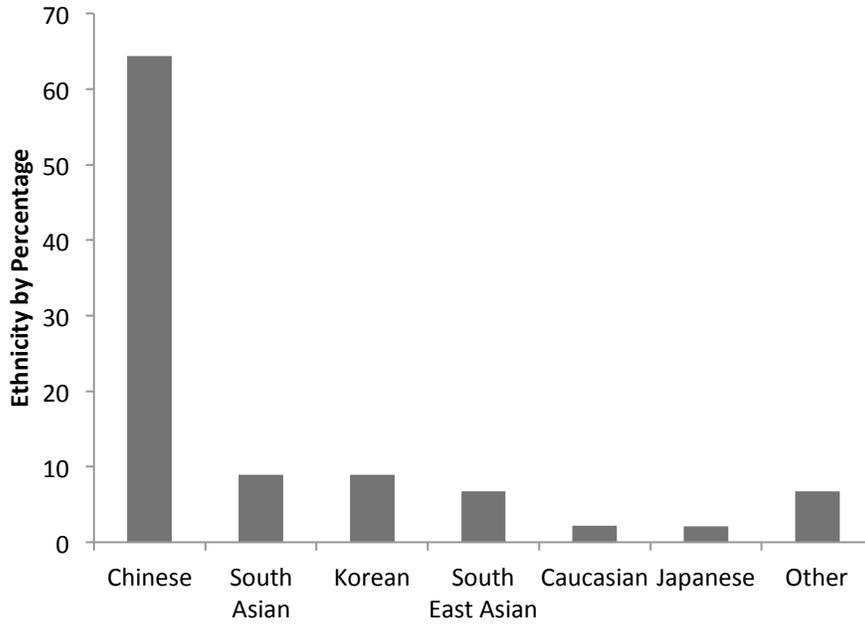
Figure 7. Sample Age by Percentage (Pre-test Study)
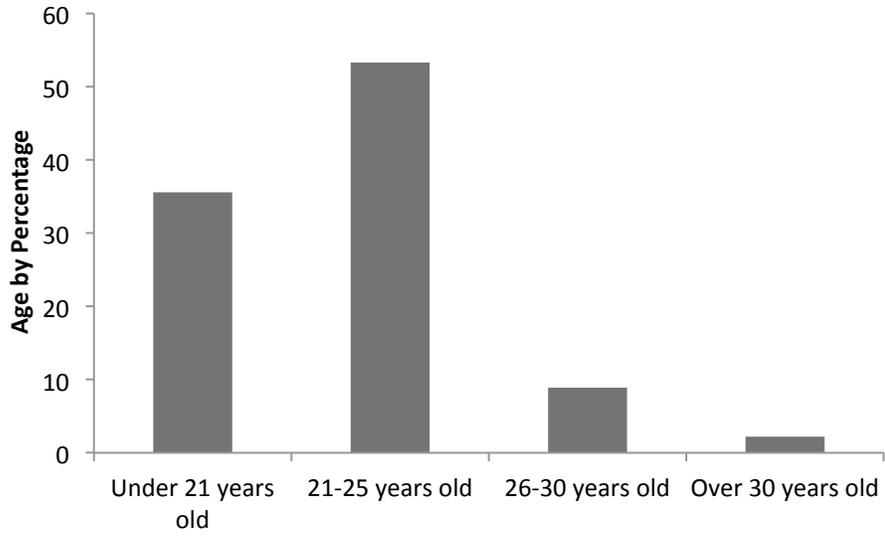
Figure 8. Sample Ethnicity by Percentage (Study 1)
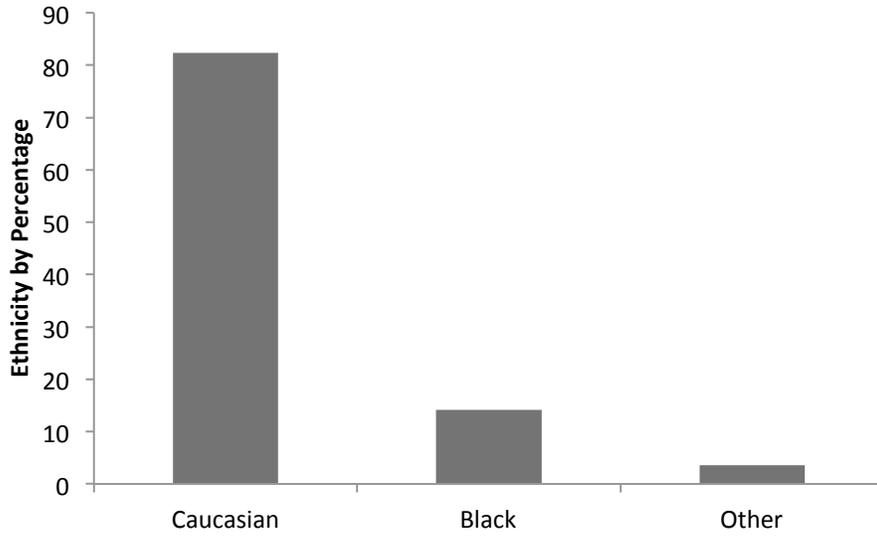
Figure 9. Sample Age by Percentage (Study 1)
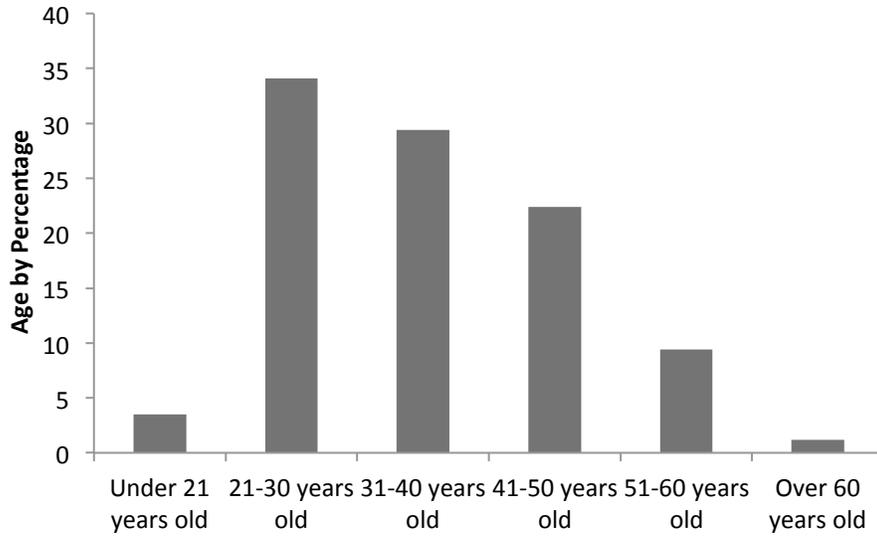
Figure 10. Sample Ethnicity by Percentage (Study 2)
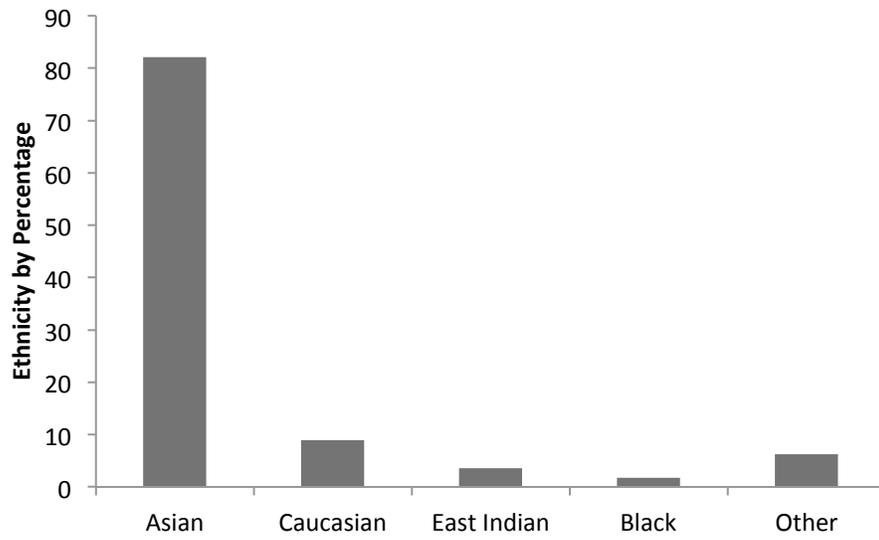
Figure 11. Proportion of In-group made up of Animals as a Function of Condition (Control vs. Inclusion) and Self-Construal (Study 2)
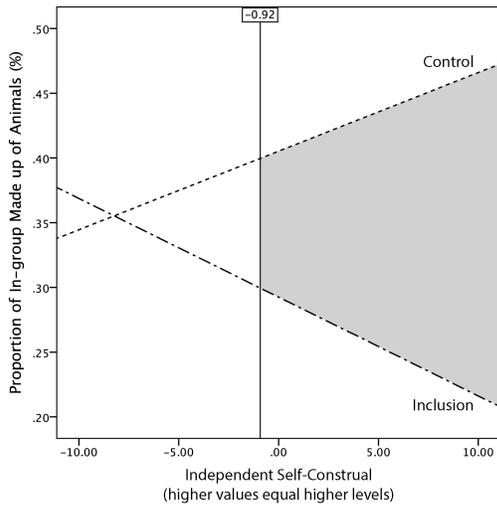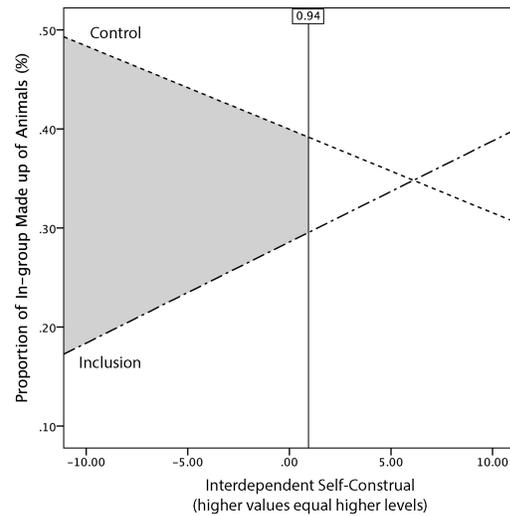
Figure 11. a)   Figure 11. b)

Regression Lines with Johnson-Neyman Points showing the regions of a) independent self-construal and b) interdependent self-construal values (filled areas above -0.92 and below 0.94 respectively) for which a floodlight test would reveal significant differences between the two groups.

Figure 12. Floodlight Analysis of Proportion of In-group made up of Animals as a Function of Condition (Control vs. Inclusion) and Self-Construal (Study 2)
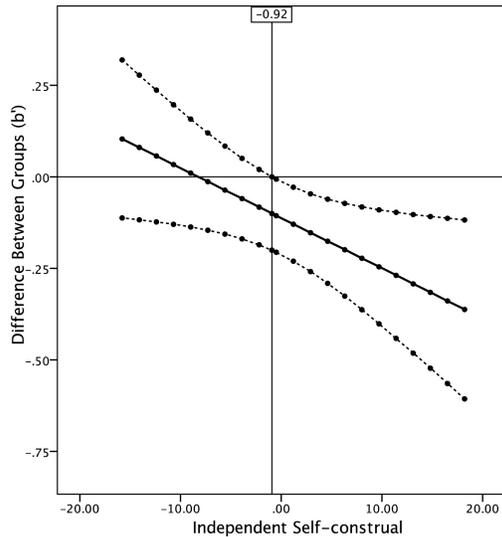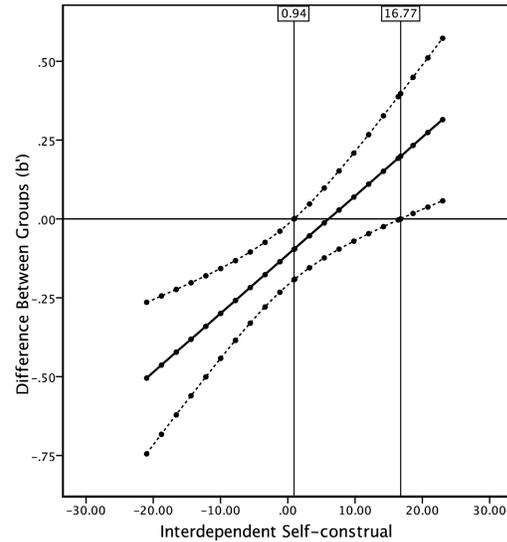
Figure 12. a)   Figure 12. b)

Floodlight analysis of the conditional effect of the condition (*X*; control vs. inclusion) on inclusion of animals in the in-group $\theta_{X \to Y}$ as a function of *M* for a) independent and b) interdependent self-construal orientation, along with confidence bands (Bauer & Curran, 2005; Preacher et al, 2006; Rogosa, 1980; Spiller et al. 2013.)

As can be seen in figure a) when *M*≥-.92 the confidence bands are entirely above the zero and in figure b) when *M*≤.94 and *M*≥16.77 the confidence bands are entirely above the zero.

Figure 13. Entitativity Scores of the In-group as a Function of Condition (Inclusion vs. Control) and Independent Self-Construal (Study 2)
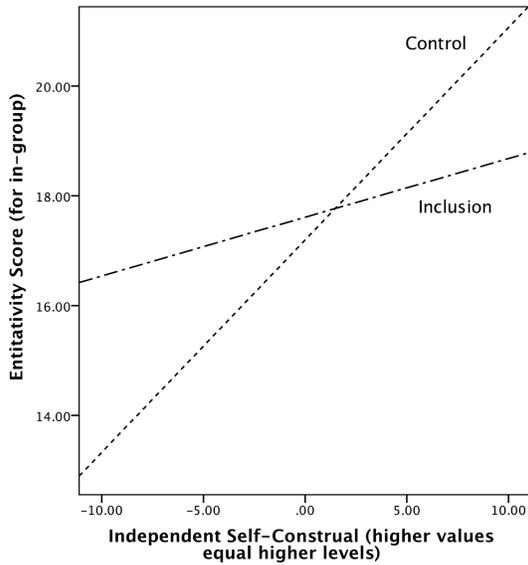
13. a) Independent Self-Construal   13. c) Interdependent Self-Construal
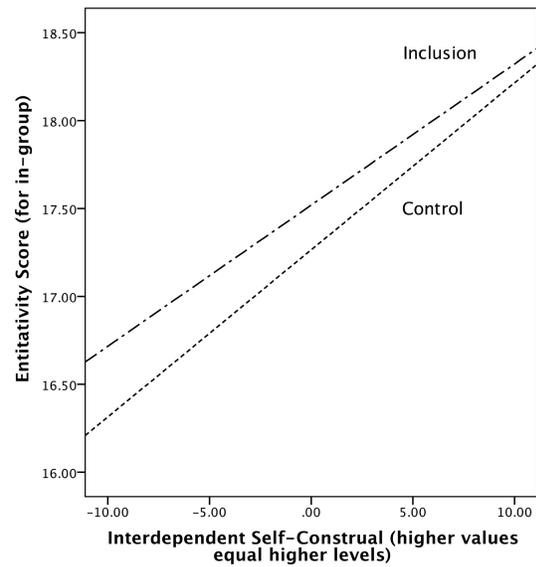
A Visual representation of the moderation of the effect of condition (*X*; control vs. inclusion) on ratings of entitativity of the formed in-group (*Y*) by self-construal (*W*)

Figure 13.a) shows that while normally (control) there appears to be a strong positive correlation between independent self-construal and subsequent rating of the entitativity of a self-formed in-group, this relationship reduces with an inclusion condition.

Figure 13.c) shows no change in entitativity rating as a result of the inclusion condition for interdependent self-construal.

Figure 14. Anthropomorphism of Dog Picture as a Function of Condition

(Control vs. Inclusion) and Independent Self-Construal (Study 2)
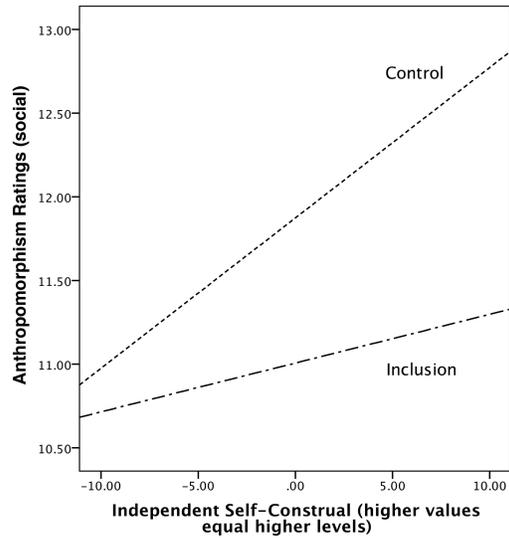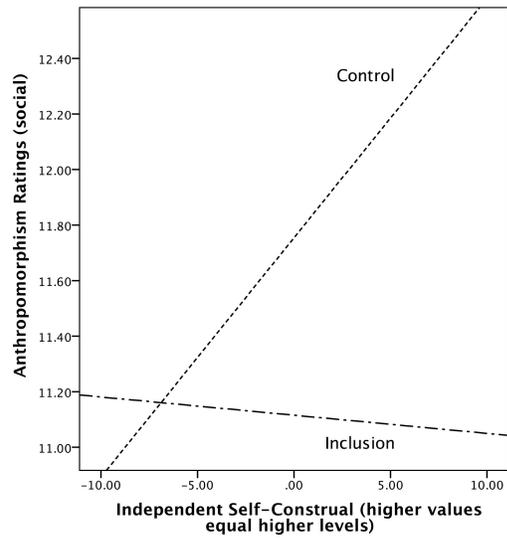
Figure 14. a)   Figure 14. b)

Figure 14. a) A visual representation of the moderation of the effect of condition (*X*; control vs. inclusion) on ratings of (social) anthropomorphism (*Y*) by independent self-construal (*W*).

Figure 14. b) A visual representation of the moderation of the effect of condition (*X*; control vs. inclusion) on ratings of (social) anthropomorphism (*Y*) by independent self-construal (*W*) while controlling for individual differences in anthropomorphism.

Figure 15. Floodlight Analysis of Ratings of Anthropomorphism as a Function of Condition (Control vs. Inclusion) and Independent Self-Construal (Study 2)
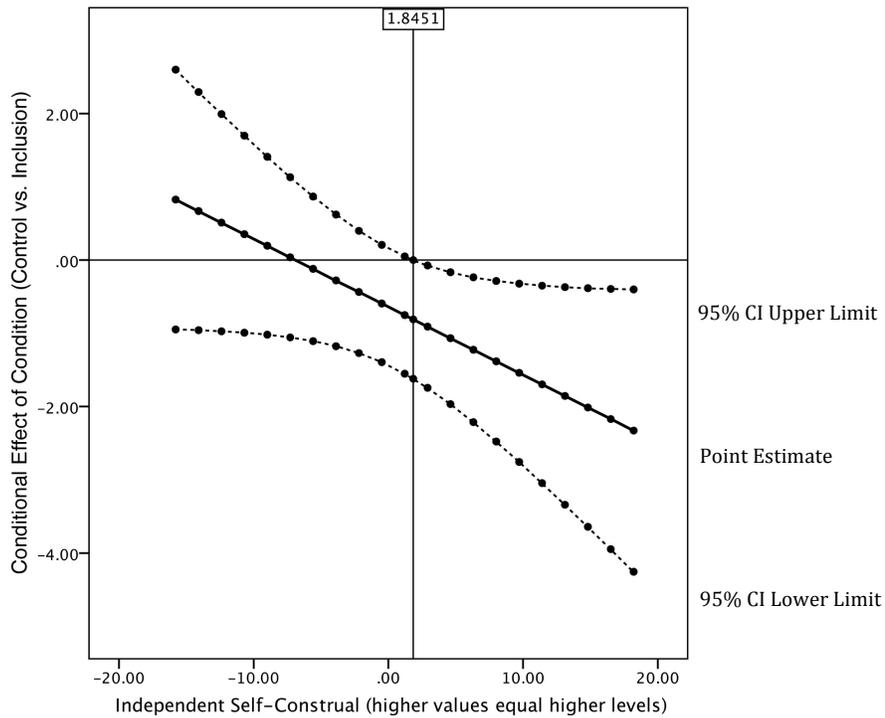
Figure 15. c) The conditional effect of the condition (*X*; control vs. inclusion) on ratings of (social) anthropomorphism ($\theta_{X \to Y}$), as a function of independent self-construal orientation (*W*), controlling for individual differences in anthropomorphism. As can be seen when *W* ≥1.8451 the confidence bands are entirely below the zero.

Figure 16. Sample Ethnicity by Percentage (Study 3)
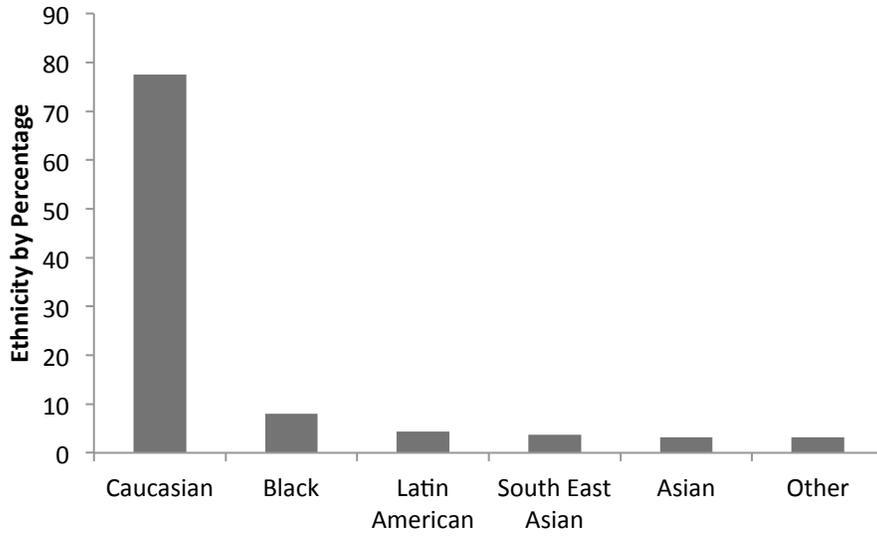
Figure 17. Sample Age by Percentage (Study 3)
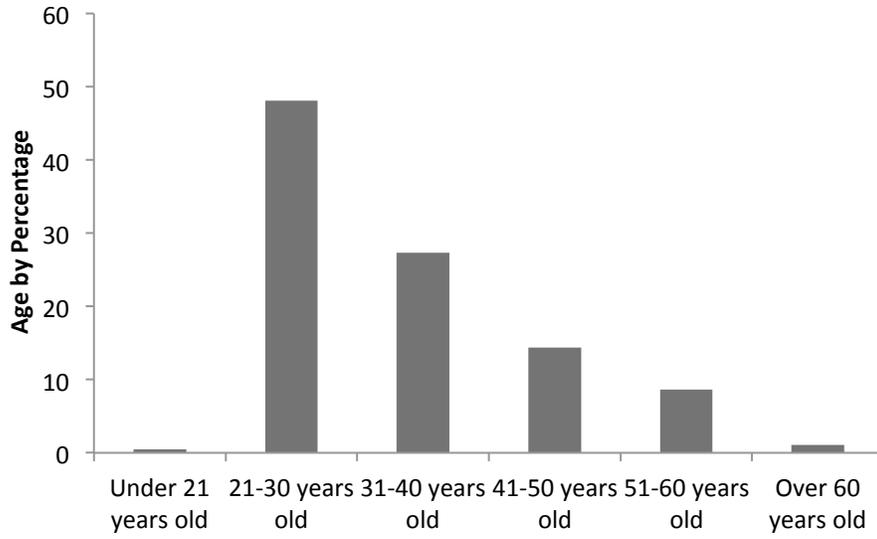
Figure 18. Donation Intentions as a Function of Condition (Control vs. Inclusion) and Independent Self-Construal (Study 3)
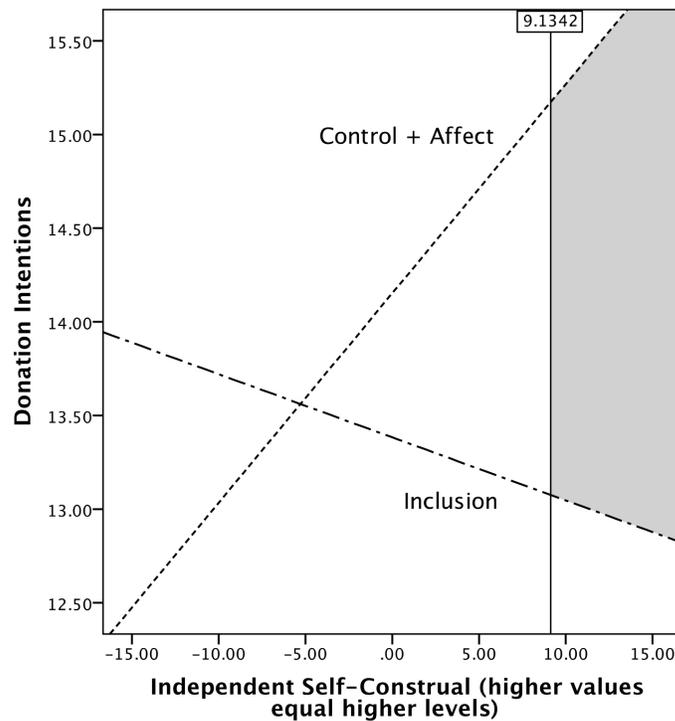
Figure 18. b) Regression lines showing the moderation of the effect of condition (*X*; control vs. inclusion) on donation intention (*Y*) by independent self-construal (*W*) while controlling for gender.

Note: Johnson-Neyman Point showing the region of independent self-construal values (filled area above 9.1342) for which a floodlight test would reveal significant differences between the two groups.

Figure 19. Floodlight Analysis of Donation Intentions as a Function of

Condition (Control + Affect vs. Inclusion) and Independent Self-Construal

(Study 3)
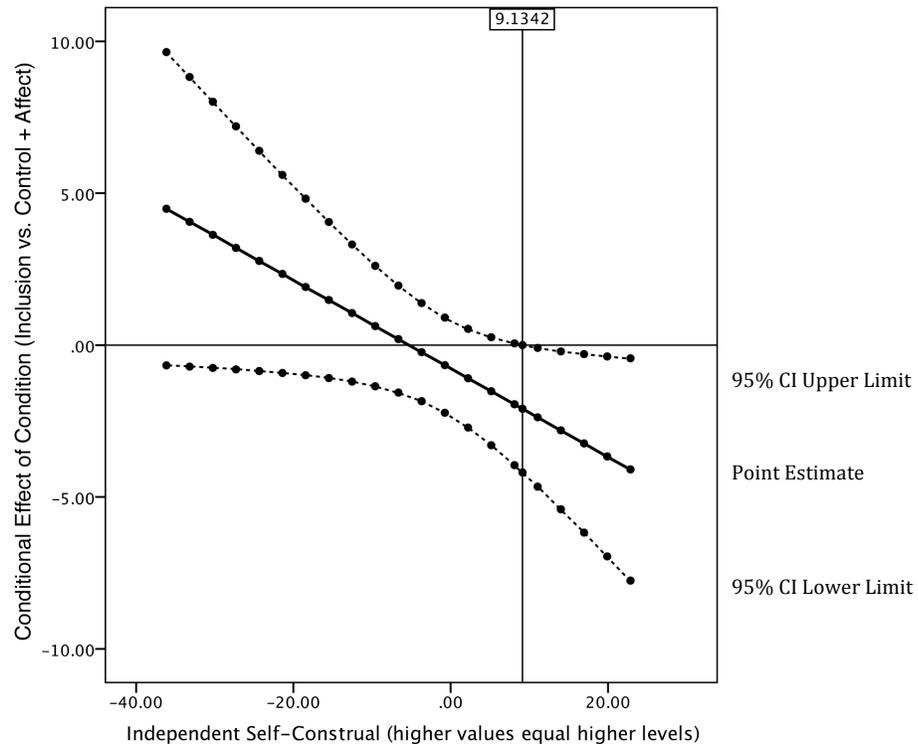
Figure 19. The conditional effect of the condition (*X*; control vs. inclusion) on donation intentions ($\theta_{X \to Y}$), as a function of independent self-construal orientation (*W*), controlling for gender. As can be seen when *W* ≥ 9.13 the confidence bands are entirely below the zero.

Figure 20. Connection to Cause as a Function of Condition (Control vs. Inclusion) and Self-Construal (Study 3)
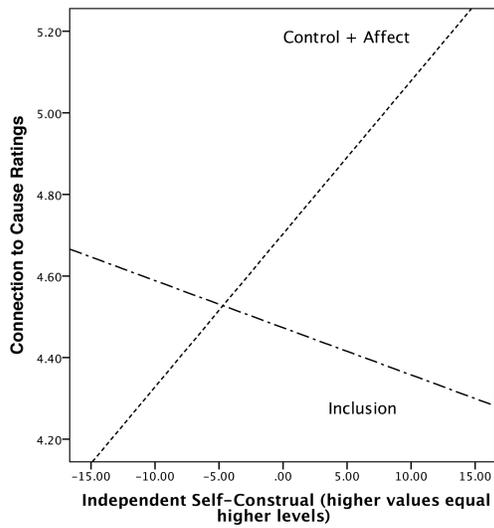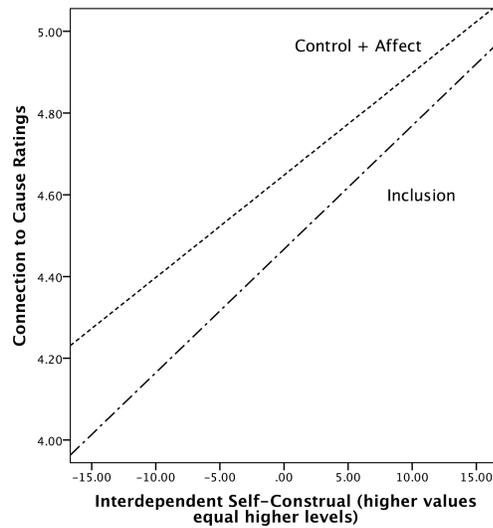
Figure 20. a)   Figure 20.b)

Figure 20. a) A visual representation of the moderation of the effect of condition (*X*; control vs. inclusion) on ratings of connection to cause (*Y*) by independent self-construal (*W*).

Figure 20. b) A visual representation of the moderation of the effect of condition (*X*; control vs. inclusion) on ratings of connection to cause (*Y*) by interdependent self-construal (*W*).

Figure 21. Sample Ethnicity by Percentage (Study 4)
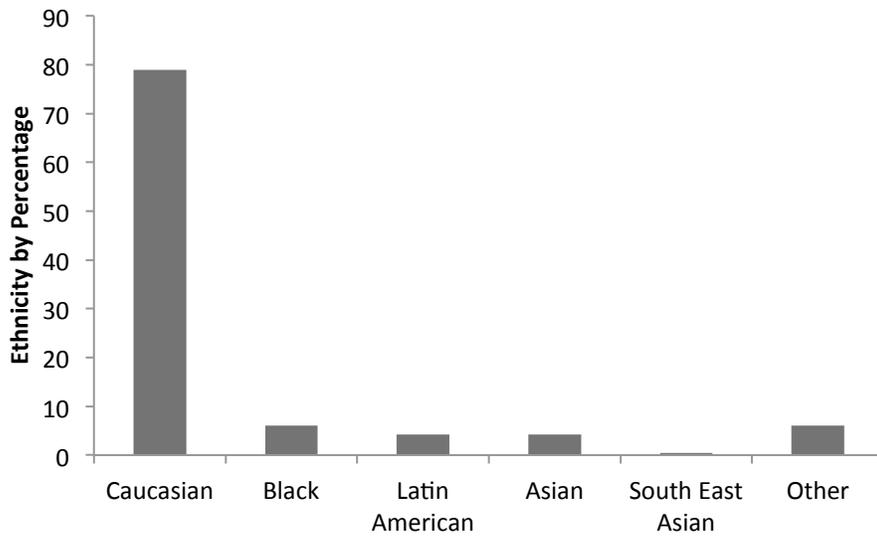
Figure 22. Sample Age by Percentage (Study 4)
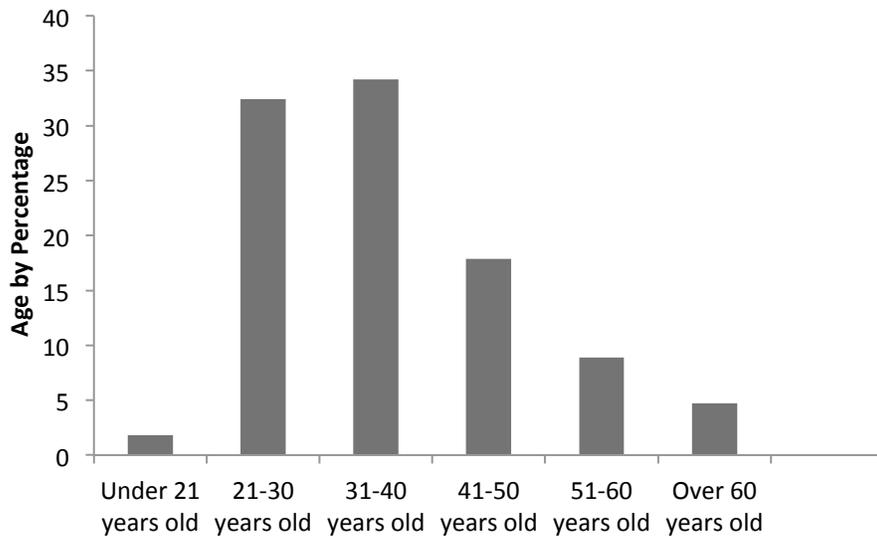
Figure 23. Donation to Cause as a Function of Poster Frame (Similar vs.

Different) and Interdependent Self-Construal (Study 4)
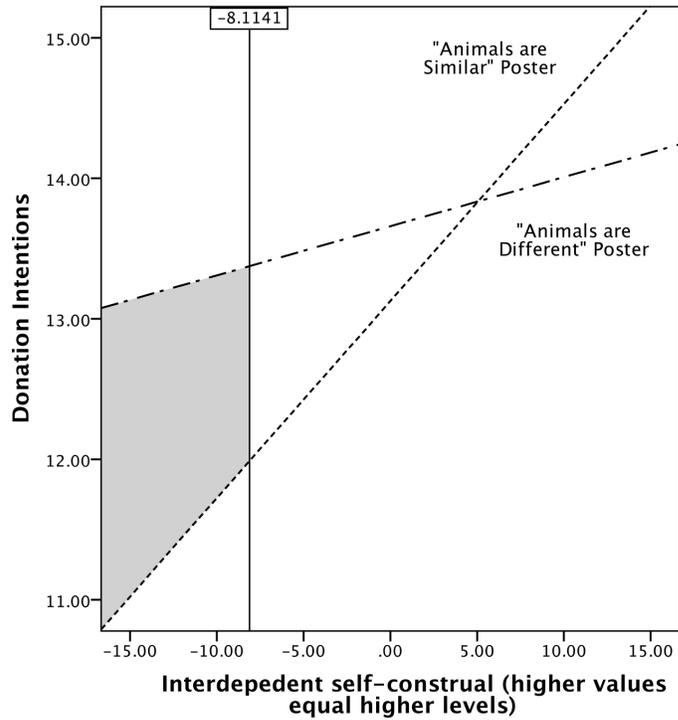
Figure 23. Regression lines showing the moderation of the effect of poster (*X*; similar vs. different) on donation intentions (*Y*) by interdependent self-construal (*W*). Note: Johnson-Neyman Point showing the region of interdependent self-construal values (filled area below -8.1141) for which a floodlight test would reveal significant differences between the two groups.

Figure 24. Floodlight Analysis of Donation Intentions as a Function of Poster Style (Similar vs. Different) and Interdependent Self-Construal (Study 4)
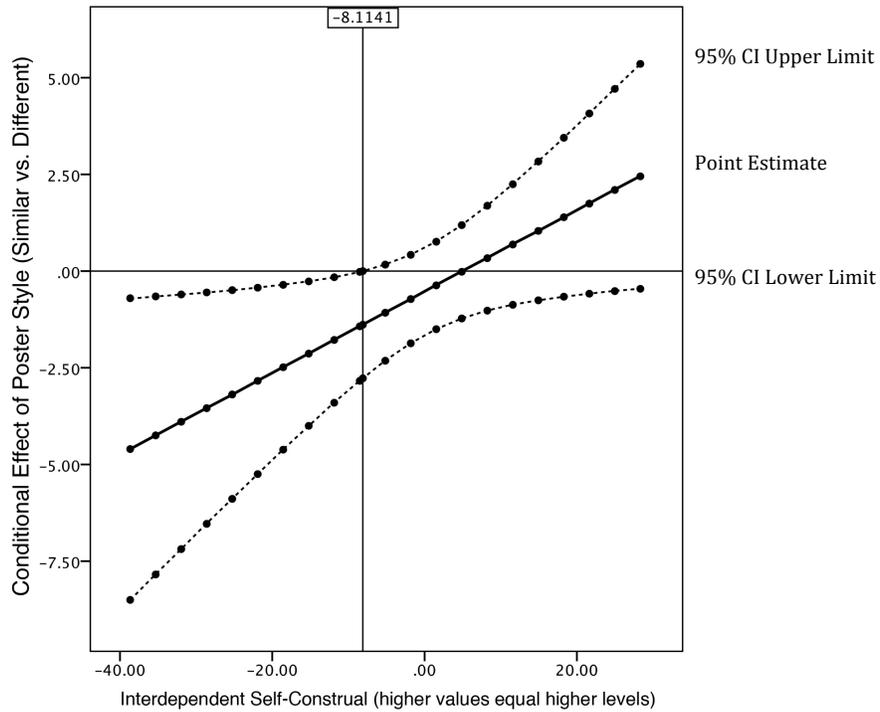
Figure 24. The conditional effect of the poster (*X*; similar vs. different) on donation intention ($\theta_{X \to Y}$), as a function of interdependent self-construal orientation (*W*). As can be seen when *W* ≤ -8.1141 the confidence bands are entirely below the zero.

Figure 25. Donation to Cause as a Function of Condition (Control vs. Inclusion)

Poster Type (Similar vs. Different) and Independent Self-Construal (Study 4)
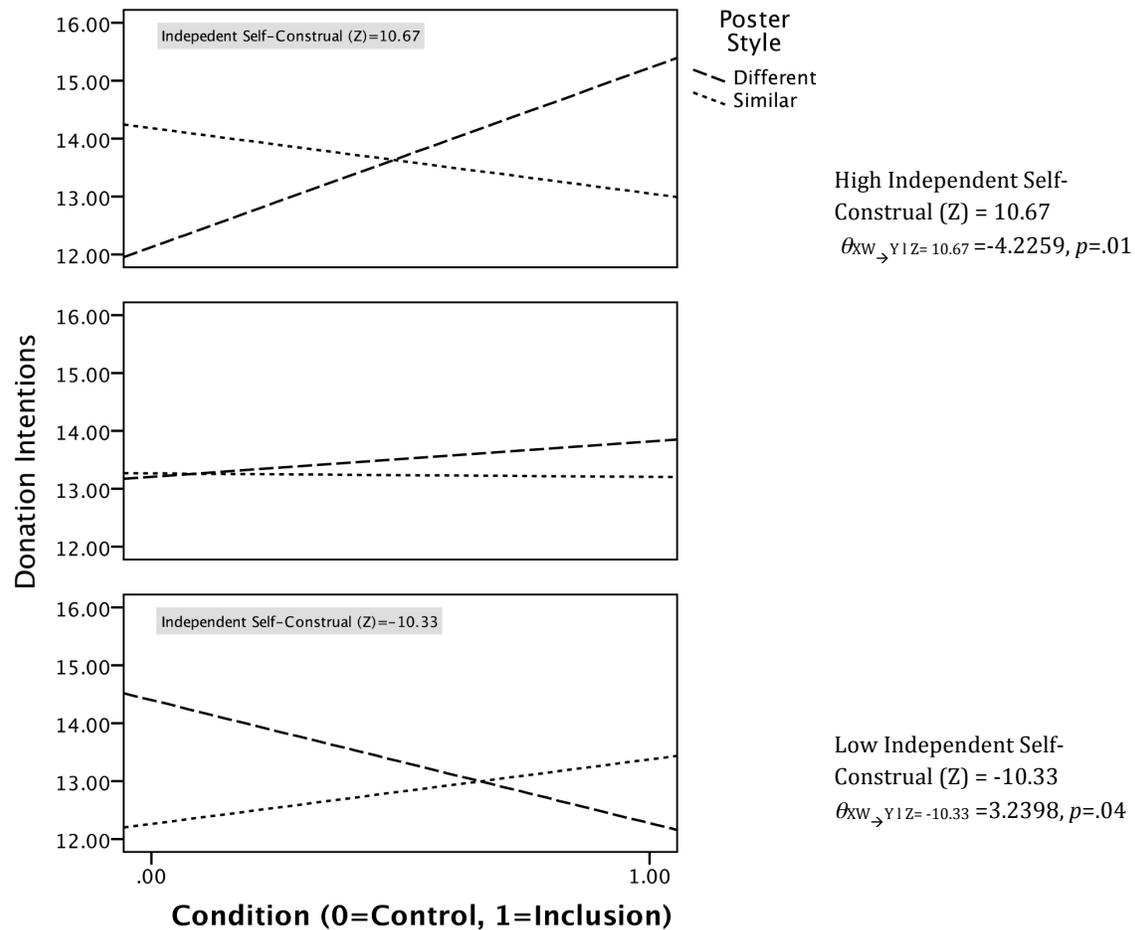
Figure 25. The conditional effect of poster style (X; similar vs. different) on donation intention (Y), as a function of condition (W; control vs. inclusion) and independent self-construal (Z) from a moderated moderation model, controlling for gender.

A test of the conditional interaction (Condition X Poster Style) at values of Independent Self-Construal revealed that the effect on donation intention is significant at both high independent self-construal ($\theta_{XW \rightarrow Y1 Z= 10.67}$ =-4.2259, p=.01) as well as with low independent self-construal ($\theta_{XW \rightarrow Y1 Z= -10.33}$ =3.2398, p=.04).

Figure 26. Floodlight Analysis of Donation Intentions as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
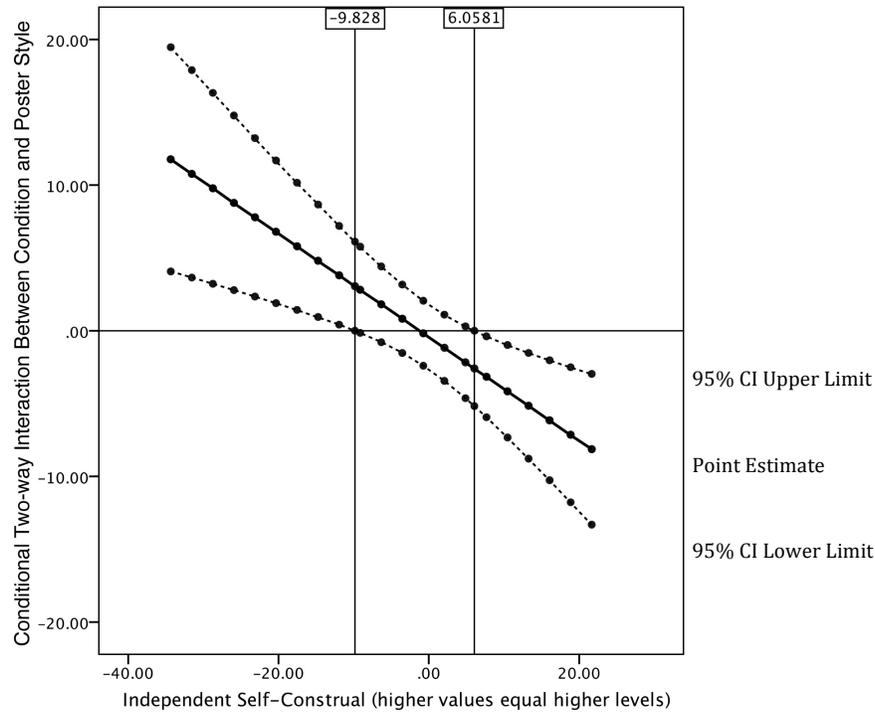
Figure 26. The conditional two-way interaction between condition and poster style ($\theta_{XW \to Y}$) as a function of independent self-construal (Z) when controlling for gender. As can be seen when $Z \leq -9.828$ and ≥ 6.0581 the confidence bands are entirely above and below the zero respectively.

Figure 27. Actual Cash Donation as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
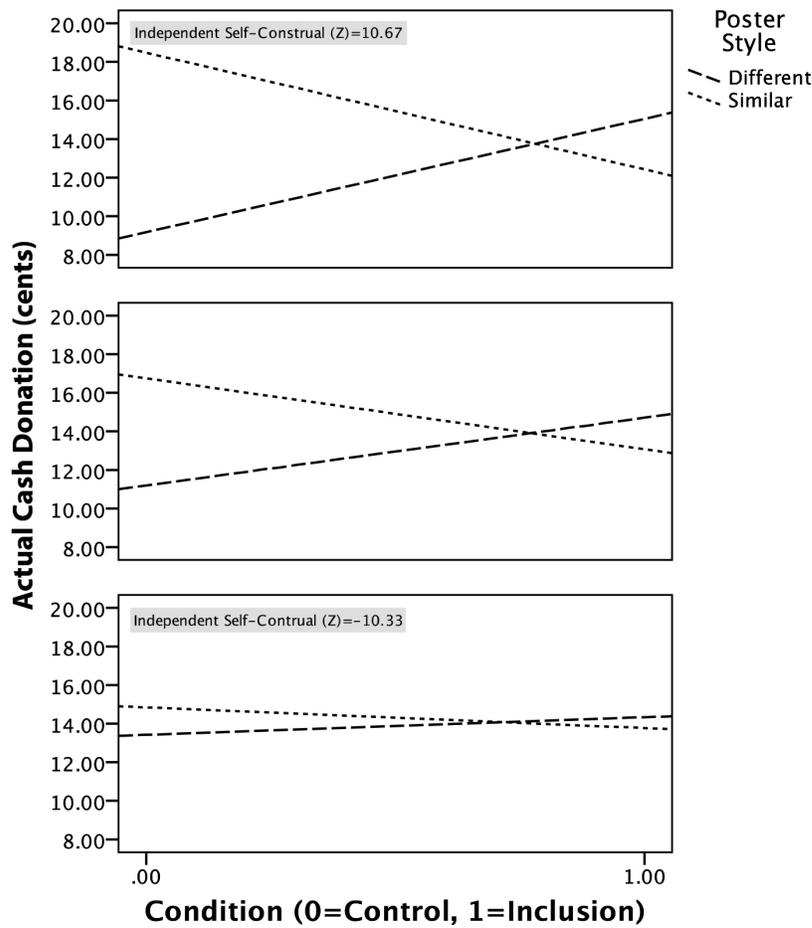
Figure 27. A visual representation of the conditional effect of poster style (*X*; similar vs. different) on actual cash donation (*Y*), as a function of condition (*W*; control vs. inclusion) and independent self-construal (*Z*) from a moderated moderation model, controlling for gender.

Figure 28. Connection to Cause as a Function of Independent Self-Construal,

Inclusion Manipulation and Similar vs. Difference Poster Frame (Study 4)
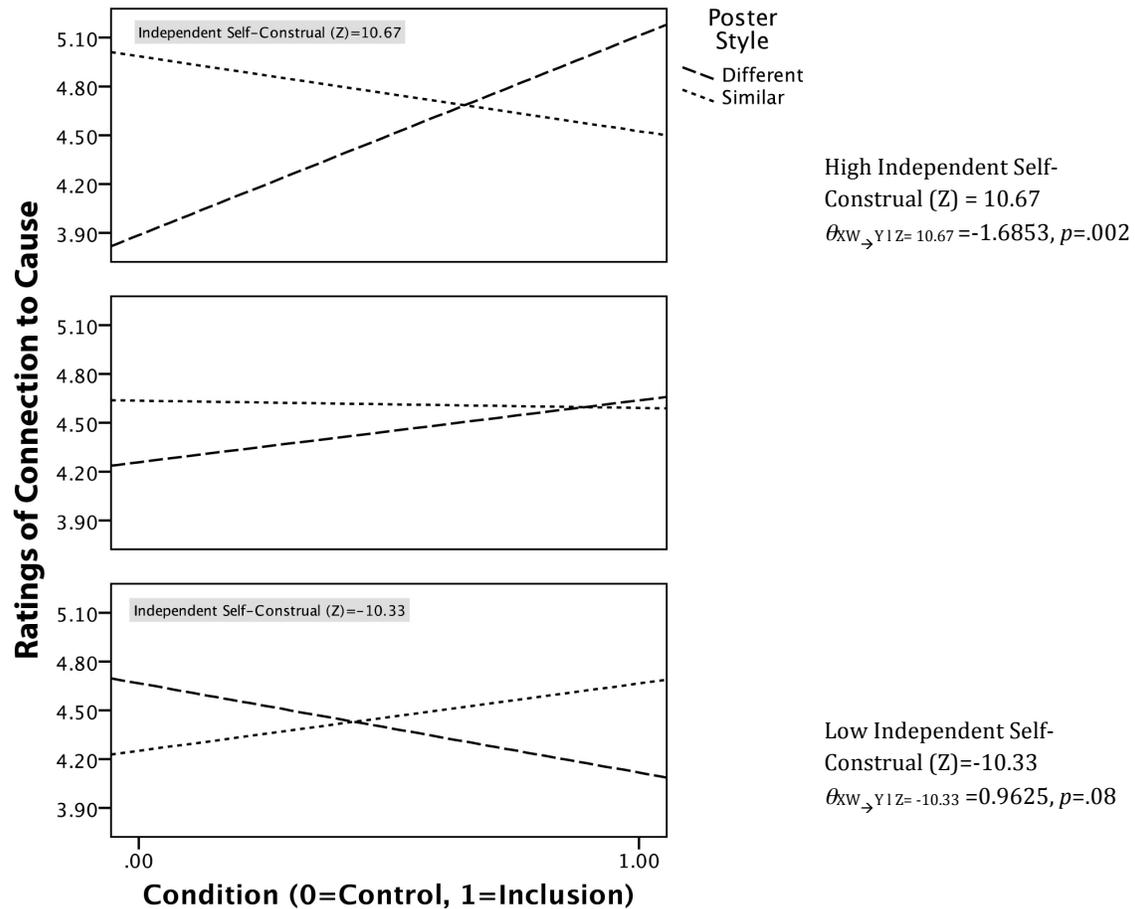
Figure 28. The conditional effect of poster style (*X*; similar vs. different) on connection to cause (*Y*), as a function of condition (*W*; control vs. inclusion) and independent self-construal (*Z*) from a moderated moderation model, controlling for gender.

A test of the conditional interaction (Inclusion X Poster Style) at values of Independent Self-Construal revealed that the effect on connection to cause was significant at high independent self-construal ($\theta_{XW \rightarrow Y | Z= 10.67}$ =-1.6853, *p*=.002) and near significant with low independent self-construal $(\theta_{XW \rightarrow Y | Z= -10.33}$ =0.9625, *p*=.08).

Figure 29. Floodlight Analysis of Connection to Cause as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
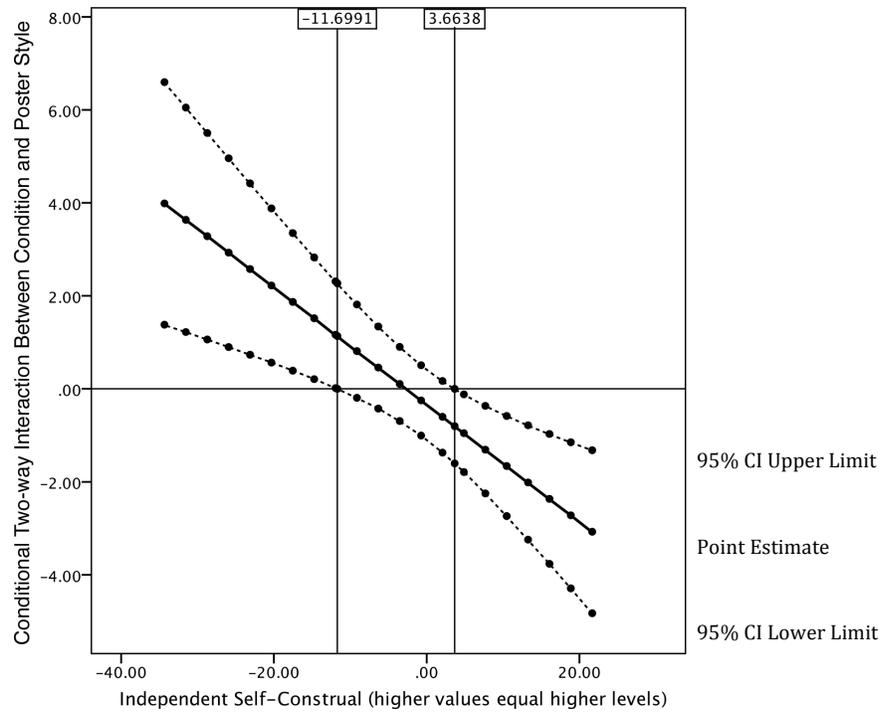
Figure 29. The conditional two-way interaction between condition and poster style ($\theta_{XW \to Y}$) as a function of independent self-construal (Z) when controlling for gender. As can be seen when $Z \leq$ -11.6991 and $\geq$ 3.6638 the confidence bands are entirely above and below the zero respectively.

Figure 30. Empathy to Cause as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
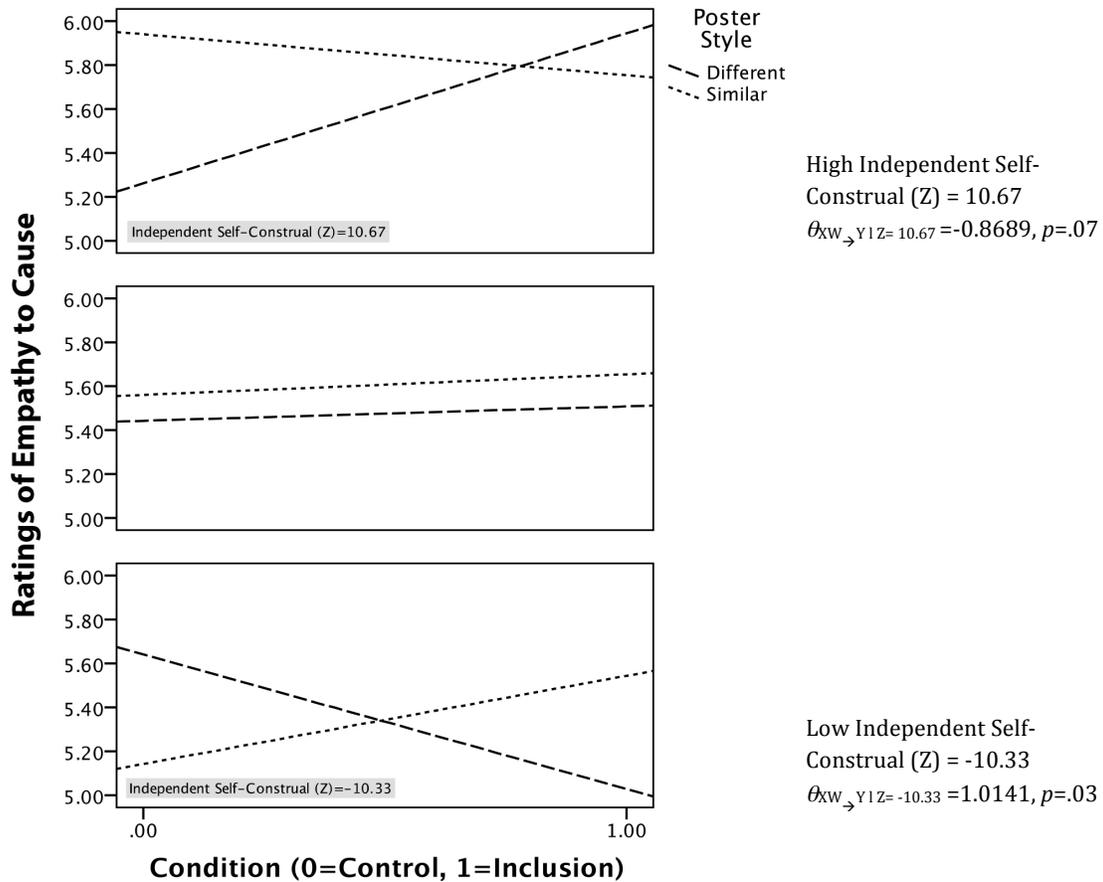
Figure 30. The conditional effect of poster style (*X*; similar vs. different) on empathy for cause (*Y*), as a function of condition (*W*; control vs. inclusion) and independent self-construal (*Z*) from a moderated moderation model, controlling for gender.

A test of the conditional interaction (Inclusion X Poster Style) at values of Independent Self-Construal revealed that the effect on empathy to cause was near significant at high independent self-construal $(\theta_{XW \rightarrow Y|Z=\,10.67} = -0.8689, p=.07)$ and significant with low independent self-construal $(\theta_{XW \rightarrow Y|Z=\,-10.33} = 1.0141, p=.03)$.

Figure 31. Floodlight Analysis of Empathy for Cause as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
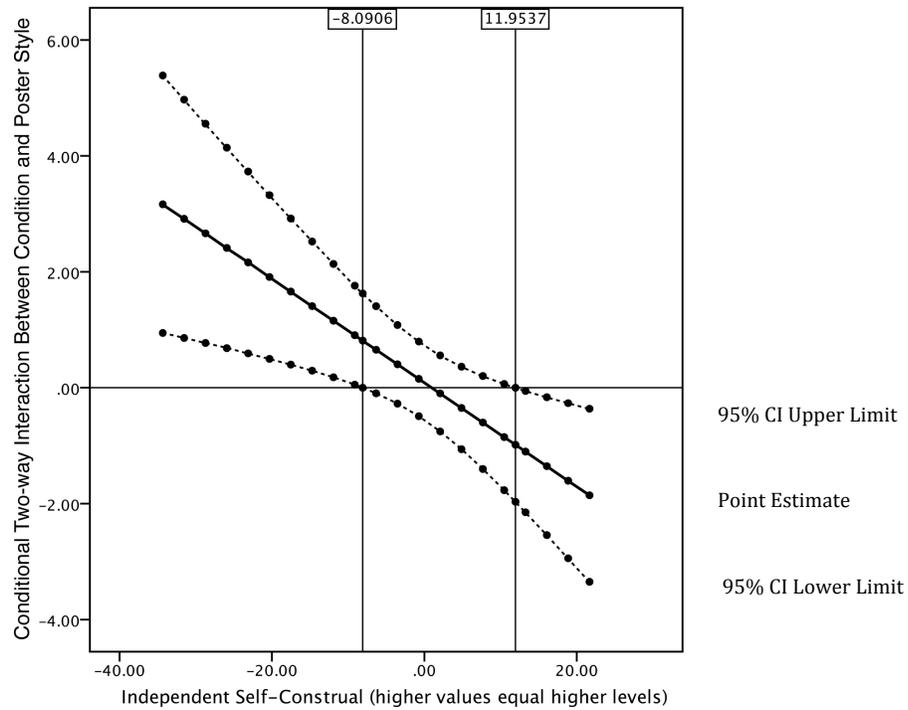
Figure 31. The conditional two-way interaction between condition and poster style ($\theta_{XW \to Y}$) as a function of independent self-construal (Z) when controlling for gender. As can be seen when $Z \leq -8.0906$ and ≥ 11.9537 the confidence bands are entirely above and below the zero respectively.

Figure 32. Similarity to Cause as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
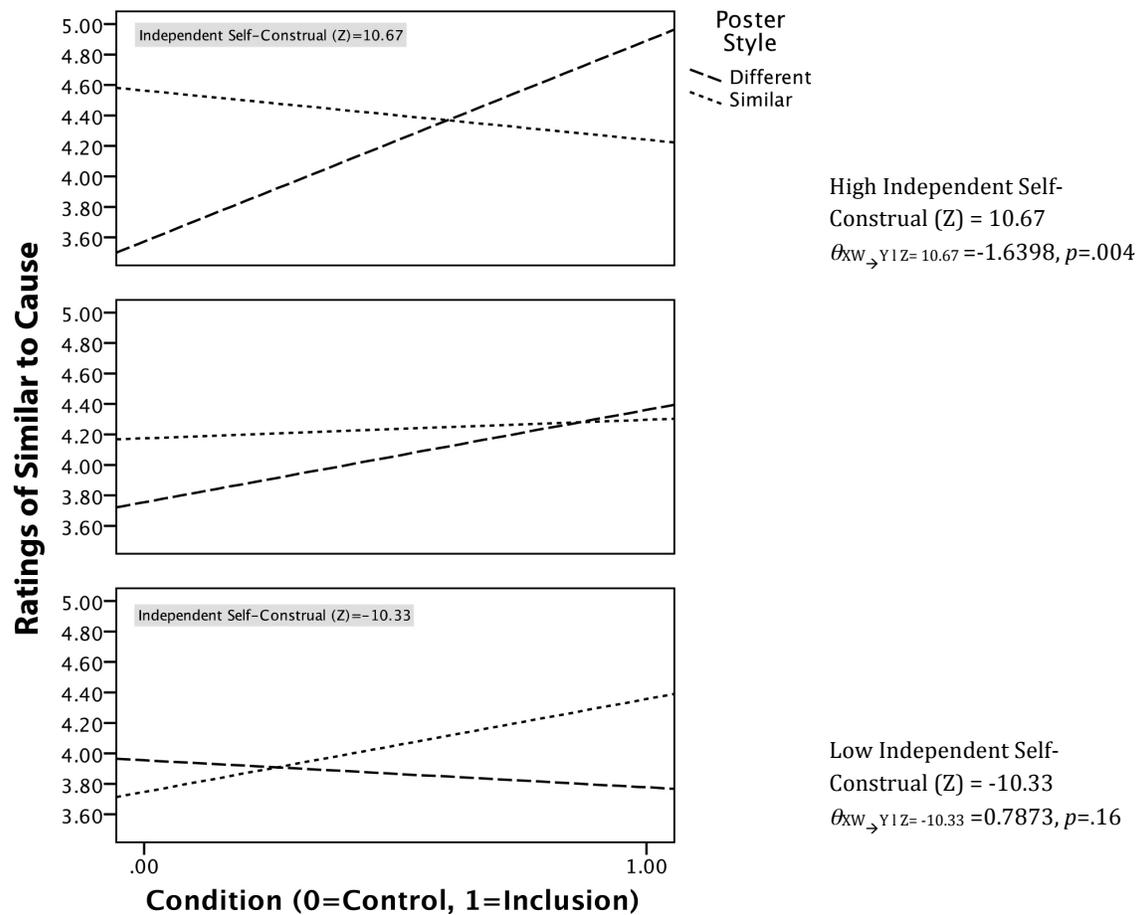
Figure 32. The conditional effect of poster style (*X*; similar vs. different) on similarity to cause (*Y*), as a function of condition (*W*; control vs. inclusion) and independent self-construal (*Z*) from a moderated moderation model, controlling for gender.

A test of the conditional interaction (Inclusion X Poster Style) at values of Independent Self-Construal revealed that the effect on similarity to cause was significant at high independent self-construal *($\theta_{XW\to Y|Z=\,10.67}$* =-1.6398, *p*=.004) but not significant with low independent self-construal *($\theta_{XW\to Y|Z=\,-10.33}$* =0.7873, *p*=.16).

Figure 33. Floodlight Analysis of Similarity to Cause as a Function of Poster Style (Similar vs. Different), Condition (Control vs. Inclusion) and Independent Self-Construal (Study 4)
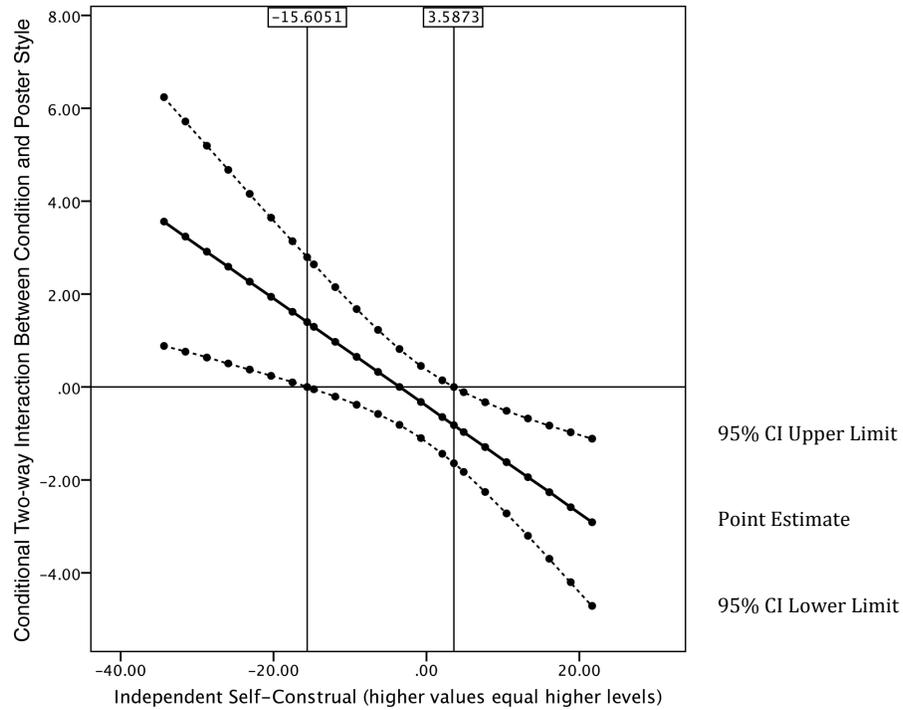
Figure 33. The conditional two-way interaction between condition and poster style ($\theta_{XW \to Y}$) as a function of independent self-construal (Z) when controlling for gender. As can be seen when $Z \leq -15.6051$ and ≥ 3.5873 the confidence bands are entirely above and below the zero respectively.

Figure 34 Sample Age by Percentage (Study 5)
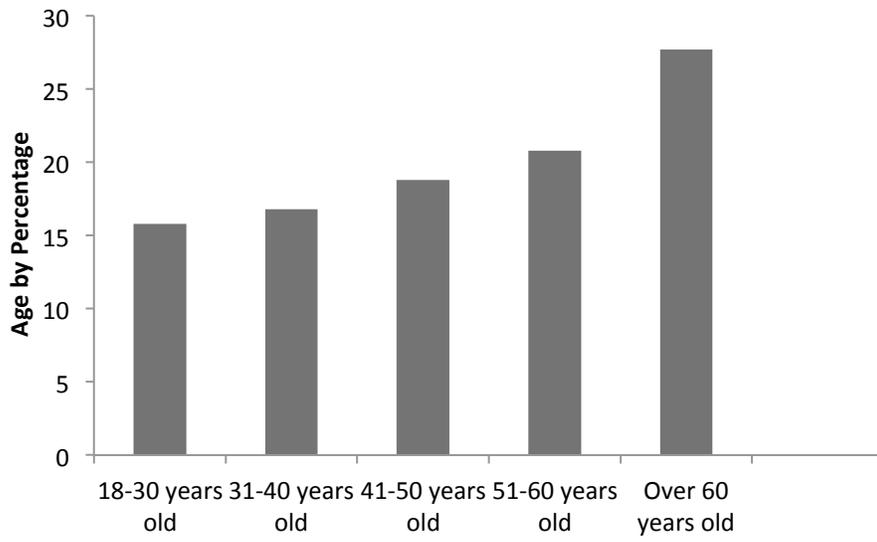
Figure 35. Conceptual Models (Hayes, 2013; 2018) used in Studies 2-5

Conceptual Moderation Model 1 (Hayes, 2013) used in Study 2
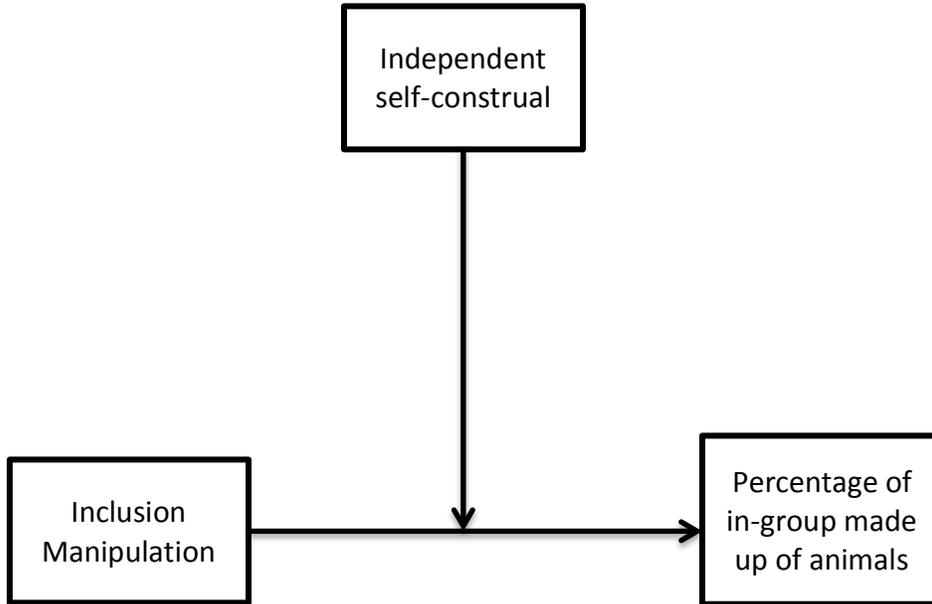
Conceptual Moderation Model 1 (Hayes, 2013) used in Study 3 & 4
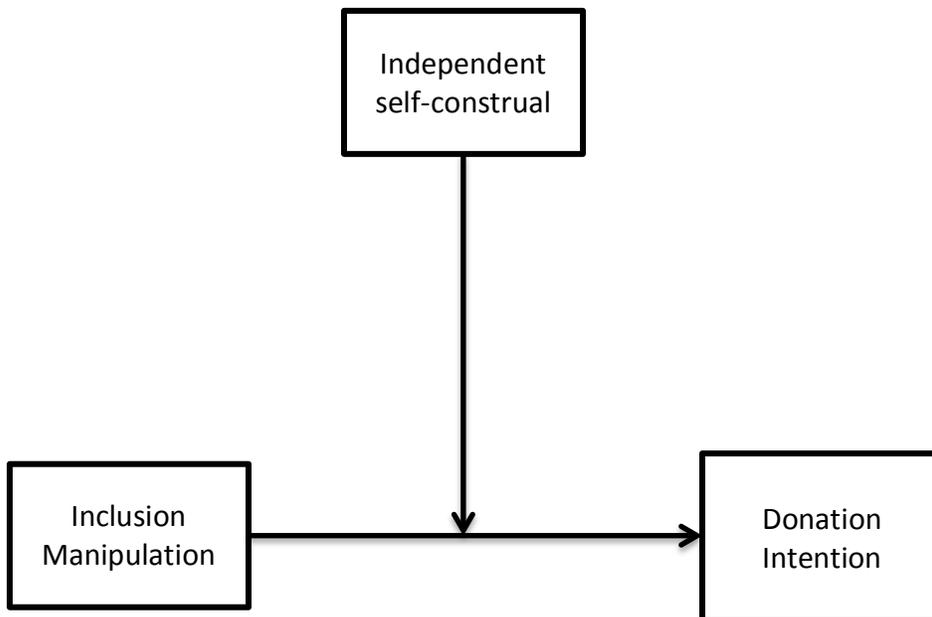
Conceptual Moderated Mediation Model 7 (Hayes, 2018) used in Study 3

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                    ┌─────────────────┐
                    │  Connection to  │
                    │     Cause       │
                    └─────────────────┘
┌─────────────────┐
│  Independent    │
│ Self-construal  │
└─────────────────┘

┌─────────────────┐                    ┌─────────────────┐
│   Inclusion     │                    │    Donation     │
│  Manipulation   │───────────────────▶│    Intention    │
└─────────────────┘                    └─────────────────┘
```
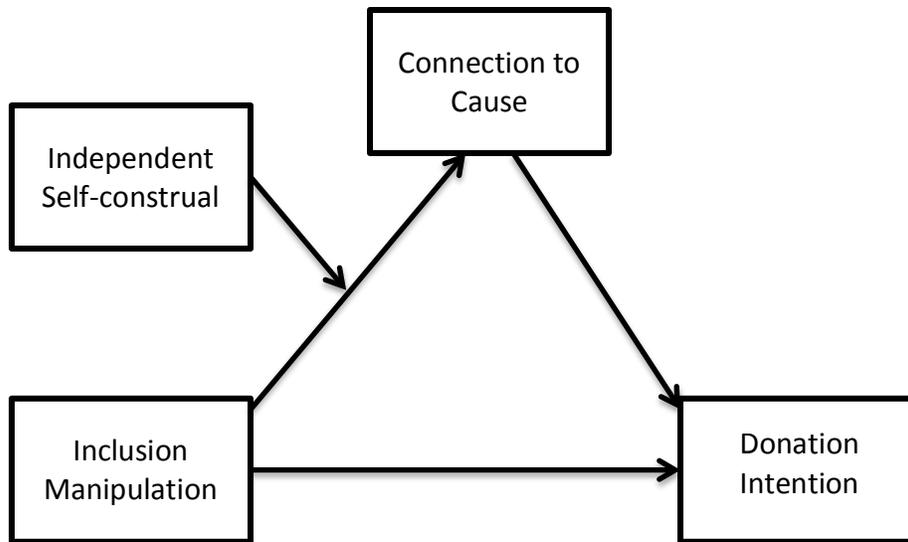
Conceptual Moderated Moderation Model 3 (Hayes, 2018) used in Study 4

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                    ┌─────────────────┐
                    │   Inclusion     │
                    │  Manipulation   │
                    └─────────────────┘

┌─────────────────┐
│  Independent    │
│ self-construal  │
└─────────────────┘
                                        ┌─────────────────┐
┌─────────────────┐                     │    Donation     │
│   Poster Type   │────────────────────▶│    Intention    │
└─────────────────┘                     └─────────────────┘
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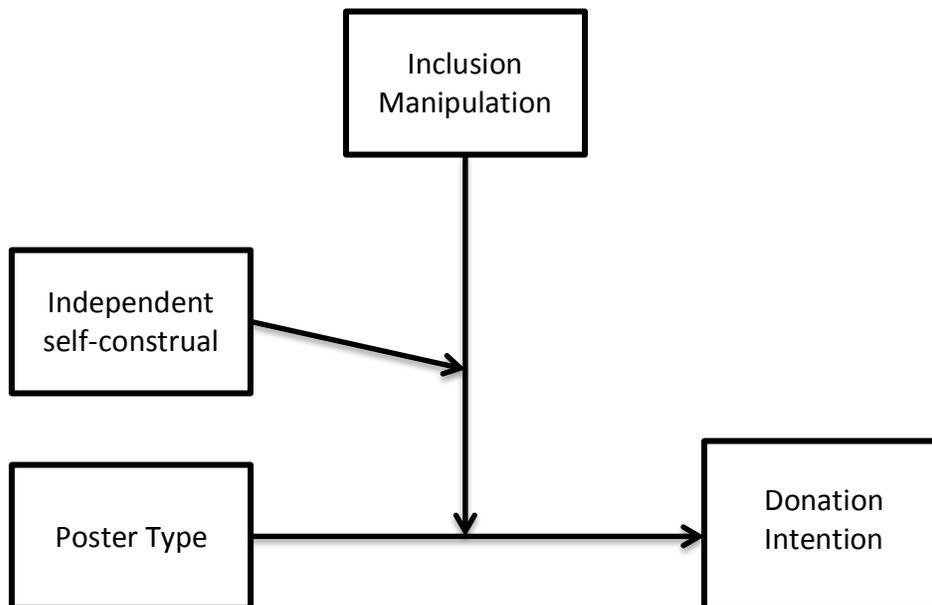
Conceptual Moderated Moderated Mediation Model 11 (Hayes, 2018) used in Study 4
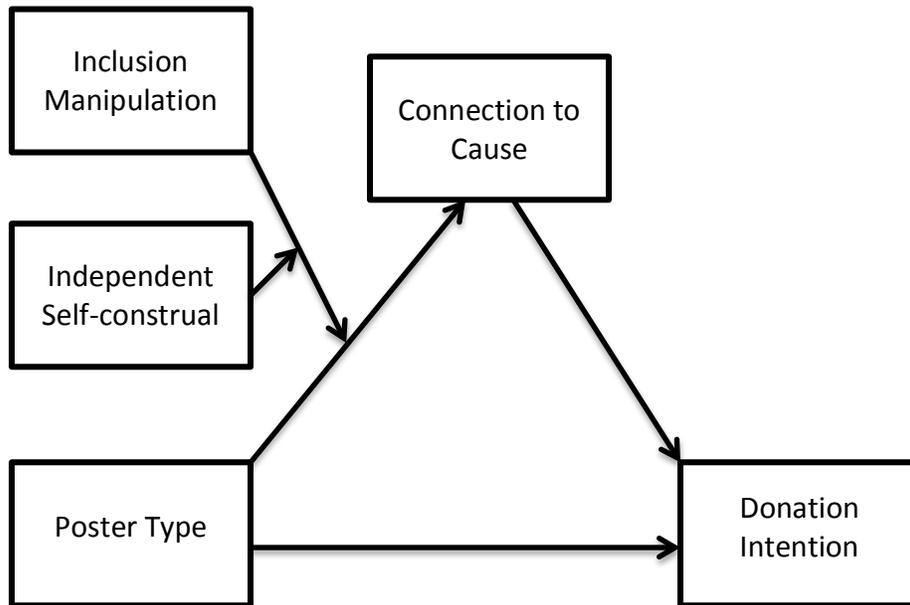
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Appendix: Experimental Materials & Follow-Up Analyses

A.1 Follow-Up Analyses for "Social Connection" Potential Items (Pre-test Study).

Demographic differences.

An independent t-test found no significant gender differences in ratings of any of the individual animal and human items, nor any significant gender differences in ratings of grouped high social and low social animal and human items. A One-Way Anova found no significant differences in ratings of animal items across age categories. However, a number of human items showed significant differences across age categories. These were Cousin $F(3,41)=12.48$, $p=.04$; Advice columnist $F(3,41)=16.96$, $p=.03$; and Grandmother $F(3,41)=24.69$, $p<.001$. A One-Way Anova found no significant differences in ratings of animal items across ethnicity, except in the case of the Small Monkey item where there was a significant effect of ethnicity, $F(6,38)=2.67$, $p=.03$. A One-Way Anova found no significant differences in ratings of most human items across ethnicity, except in the cases of Cousin, $F(6,38)=10.73$, $p=.02$; Kindergarten Teacher $F(6,38)=17.50$, $p<.001$; Dance Coach $F(6,38)=13.63$, $p=.001$; Dentist $F(6,38)=7.27$, $p=.02$ and Grandmother $F(6,38)=14.02$, $p=.002$ where there were significant effects of ethnicity. In order to minimize effects of age and ethnicity the items that showed a significant variation based on age or ethnicity were excluded from use in the final selection list.

A.2 Self-Construal Scale (Singelis, 1994)

(Scale of 1-7, where 1 = Strongly disagree, 7 = Strongly agree)

Interdependent:

1. I have respect for the authority figures with whom I interact:
2. It is important for me to maintain harmony within my group:
3. My happiness depends on the happiness of those around me:
4. I would offer my seat on a bus to my boss
5. I respect people who are modest about themselves:
6. I will sacrifice my self-interest for the benefit of the group I am in:
7. I often have the feeling that my relationships with others are more important than my own accomplishments:
8. I should take into consideration my parents' advice when making important life plans:
9. It is important to me to respect decisions made by the group:
10. I will stay in a group if they need me, even when I'm not happy with the group:
11. If my brother or sister fails, I feel responsible:
12. Even when I strongly disagree with group members, I avoid an argument:

Independent:

1. I'd rather say "No" directly, than risk being misunderstood:
2. Speaking up during a meeting is not a problem for me:
3. Having a lively imagination is important to me:
4. I am comfortable with being singled out for praise or rewards:
5. I am the same person at home that I am at work:
6. Being able to take care of myself is a primary concern for me:
7. I act the same way no matter who I am with:
8. I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am:
9. I prefer to be direct and forthright when dealing with people I've just met:
10. I enjoy being unique and different from others in many respects:
11. My personal identity, independent of others, is very important to me:
12. I value being in good health above everything:

A.3 Study 1 Scales

i) Concise version (animal anthropomorphism only) of 30 item Individual Differences in Anthropomorphism Questionnaire IDAQ (Waytz, Cacioppo, & Epley, 2010).

1. **To what extent does the average fish have free will?**
2. To what extent are pets useful?
3. To what extent is the average amphibian lethargic?
4. **To what extent do cows have intentions?**
5. **To what extent does a cheetah experience emotions?**
6. **To what extent does the average insect have a mind of its own?**
7. To what extent is the average cat active?
8. To what extent is a tortoise durable?
9. **To what extent does the average reptile have consciousness?**
10. To what extent is the average dog good looking?

IDAQ items are bolded. Non-bolded items are clearly observable items added to dissociate anthropomorphism from dispositional attribution. All items rated on a 0 (*not at all*) to 10 (*very much*) scale. IDAQ is computed by summing of bolded items.

ii) Brief FNE Scale (Leary, 1983).

1. I am usually worried about what kind of impression I make.
2. I am afraid that others will not approve of me.
3. When I am talking with someone, I worry about what they may be thinking about me.
4. I am afraid that people will find fault with me.
5. I often worry that I will say or do the wrong things.
6. I am frequently afraid of other people noticing my shortcomings.
7. I worry about what people will think of me even when I know it doesn't make any difference.
8. Sometimes I think I am too concerned with what other people think of me.
9. I am unconcerned even if I know people are forming an unfavourable impression of me. (R)
10. If I know someone is judging me, it has little effect on me. (R)
11. Other people's opinions of me do not bother me. (R)
12. I rarely worry about what kind of impression I am making on someone. (R)

iii) 3-Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004).

Please answer the following questions about how you feel right now

1. Do you feel that you lack companionship?
2. Do you feel left out?
3. Do you feel isolated from others?

(1 = not at all, 2 = a little, 3 = somewhat, 4 = very much)
A.4 Study 1 Experimental Grouping Task Item List and Instructions

Please make up two groups by dragging items from the list below into two boxes. One box already has "yourself" in it. Each group must have a minimum of 8 items. No item may remain unselected.

Labrador dog; dolphin; horse; cat; rabbit (HS)
Skunk; snail; tuna fish; alligator; stick insect (LS)

Mother; nurse; a friend; your partner; fellow student/worker (HS)
Mall security guard; a stranger; telemarketer; sleeping person; border control officer (LS)

[HS = High Social ; LS = Low Social]

A.5 Study 2 Scales

i) Need-to-Belong (NTB) Scale (Leary, Kelly, Cottrell, & Schreindorfer, 2013).

Please answer this second block of questions about how much you feel each of the following statements **is true of you.**

Please answer on a scale of 1-5, where 1 is not at all, and 5 is extremely **true of you**.

1. If other people don't seem to accept me, I don't let it bother me (R)
2. I try hard not to do things that will make other people avoid or reject me
3. I seldom worry about whether other people care about me (R)
4. I need to feel that there are people I can turn to in times of need
5. I want other people to accept me
6. I do not like being alone
7. Being apart from my friends for long periods of time does not bother me (R)
8. I have a strong "need to belong"
9. It bothers me a great deal when I am not included in other people's plans
10. My feelings are easily hurt when I feel that others do not accept me

ii) UCLA Loneliness Scale V.3 (Russell, 1996).

4-point scale (1= *never*, 2= *rarely*, 3= *sometimes*, 4= *always*)

1. How often do you feel you are "in tune" with the people around you? (R)
2. How often do you feel you lack companionship?
3. How often do you feel there is no one you can turn to?
4. How often do you feel alone?
5. How often do you feel part of a group of friends? (R)
6. How often do you feel that you have a lot in common with the people around you? (R)
7. How often do you feel that you are no longer close to anyone?
8. How often do you feel that your interests and ideas are not shared by those around you?
9. How often do you feel outgoing and friendly? (R)
10. How often do you feel close to people? (R)
11. How often do you feel left out?
12. How often do you feel that your relationships with others are not meaningful?
13. How often do you feel that no one really knows you well?
14. How often do you feel isolated from others?
15. How often do you feel you can find companionship when you want it? (R)
16. How often do you feel that there are people who really understand you? (R)
17. How often do you feel shy?
18. How often do you feel that people are around you but not with you?
19. How often do you feel that there are people you can talk to? (R)
20. How often do you feel that there are people you can turn to? (R)

Reverse Scoring (R). Higher scores equal greater degrees of loneliness.

A.6 Study 2 Future Life Manipulation (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007).

Thank you for your time so far, and all your answers to Study Two. Based on what you have told us, we were able to generate a personalized future life prediction for your profile. We hope it will be of interest.

Future Alone (Exclusion).

You're the type of person that will end up alone later in life. You may have friends and relationships with other people now, but by your middle age most of these people will have drifted away from you. You may even marry or have several marriages, but these are likely to be short-lived. Your relationships with other people don't last, and when you're past the age where people are constantly forming new relationships, the odds are you'll end up being alone, without human company, more and more.

Future Belonging (Inclusion).

You're the type of person who has rewarding relationships with other people throughout life. You're likely to have a long and stable marriage and have friendships with people that will last into your later years. The odds are that you'll always have human company in the form of friends and people who care about you.

A.7 Study 2 Anthropomorphism Picture and Task Instructions

Please choose the answer that indicates the extent to which you agree or disagree with each statement. Scale of 1-5, where 1= Strongly Disagree, and 5= Strongly Agree

This dog can sometimes be thoughtful
This dog may be considerate at times
This dog can be sympathetic
This dog can suffer from embarrassment at times
This dog can behave in a creative way
This dog may sometimes be devious
This dog can get jealous
This dog can be aggressive
This dog is sometimes active
This dog may be fearful
This dog can be agile
This dog may sometimes be lethargic
This dog looks muscular
This dog can be energetic
This dog looks friendly
This dog seems keen to play

*items in bold are social anthropomorphism items.

A.8 Follow-Up Analyses Study 2

Demographic and trait correlations.

Results of Study 2 revealed a significant positive correlation ($r(113)=.322$, $p<.001$) between anthropomorphism (measured in the IDAQ) and independent self-construal (compared to between interdependent self-construal and IDAQ ($r(113)=.189$, $p=.043$). Loneliness (measured using the 3-item loneliness measure) and independent self-construal were negatively correlated ($r(113)=-.193$, $p=.04$). Study 2 showed a significant negative correlation between FNE and independent self-construal($r(113)=-.317$, $p=.001$), following a somewhat similar pattern to study 1, which showed a significant positive correlation between FNE and interdependent self-construal. The results showed that neither trait anthropomorphism (measured with the IDAQ), ($r(113)=.100$, $p=.272$), nor the Loneliness measure, ($r(113)=-.082$, $p=.365$), were significantly correlated with the percentage of animals being included in a self-designated in-group. An independent samples t-test showed no significant differences between genders on measures of any of the following variables (IDAQ, self-construal, percentage of animals in in-group), which was in line with expectations. Females had significantly higher ratings of FNE ($M=42.06$, $SD=9.88$) compared to males ($M=37.58$, $SD=8.40$), according to an independent samples t-test ($t(110)=-1.466$, $p=.02$, $d=0.479$), and females also had marginally higher scores of NTB ($M=33.86$, $SD=6.95$) than males ($M=31.14$, $SD=6.54$), according to an independent samples t-test ($t(110)=-2.57$, $p=.04$, $d=0.161$).

Grouping task: Means differences.

An independent samples t-test showed that the mean of the percentage of self-formed in-group made up of animals was lower in the exclusion condition ($M=0.32$, $SD=0.23$, $SE=0.04$, $n=38$) than in the control condition ($M=0.40$, $SD=0.24$, $SE=0.04$, $n=41$), although not significantly $t(77)=-1.536$, $p=.13$, $d=0.49$, 95% CI[-0.19,0.02]. When comparing the inclusion group with the control group in a separate test, the mean of the percentage of self-formed in-group made up of animals was also lower in the inclusion condition ($M=0.31$, $SD=0.22$, $n=44$) than in the control condition

(M=0.40, SD=0.24, SE=0.04, n=41), although again not significantly t(77)=-1.713, p=.08, d=0.56, 95% CI[-0.19,0.01]

Anthropomorphism task: Means differences.

An independent samples t-test showed that the mean of the ratings of anthropomorphism was lower in the exclusion condition (M=11.11, SD=1.77, SE= 0.29, n=38) than in the control condition (M=11.88, SD=1.87, SE=0.29, n=41), although not significantly t(77)=-1.882, p=.06, 95% CI[-1.59,0.05]. An Independent samples t-test also showed that the mean of the ratings of anthropomorphism was lower in the inclusion condition (M=11.16, SD=1.99, SE= 0.30, n=44) than in the control condition (M=11.88, SD=1.87, SE=0.29, n=41), although again not significantly t(83)=-1.71, p=.09, 95% CI[-1.55,0.12]

Regression analysis covariate results summary.

Controlling for gender, age, and ethnicity in the subsequent analyses revealed no significant results between the control and exclusion conditions. Ethnicity did marginally significantly predict inclusion of animals into an in-group B=-0.059, SE=0.029, t(78)=2.06, p=.043, 95% CI [-0.002,0.12] in the grouping task in the regression analysis model between the Inclusion and Control conditions with Independent Self-Construal as a variable, but it had no significant effect with Interdependent Self-Construal in the same model, nor did it have any significant effect with the Anthropomorphism rating task with either Independent or Interdependent Self-Construal. Controlling for FNE, IDA, and NTB in the subsequent analyses revealed no significant results between the control and exclusion conditions in the grouping task, neither did they revealed any significant results between the control and inclusion conditions in the grouping task. All three significantly predicted ratings of anthropomorphism between the control and exclusion conditions.

Regression Model Tables (Study 2)

Percentage of In-Group Made of Animals. Control vs. Exclusion Comparison Tables.

Table 1. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal.

	Coeff.	SE	t	p
Intercept i_1	0.307	0.039	7.824	<.001
Condition (X) b_1	0.099	0.053	1.873	.065
Independent self-construal (M) b_2	0.001	0.005	0.243	.808
Condition x Independent self-construal (XM) b_3	0.005	0.007	0.756	.452

$R^2 = 0.073, MSE = 0.05$
$F(3, 70) = 1.849, p=.15$

Table 2. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal.

	Coeff.	SE	t	p
Intercept i_1	0.305	0.038	8.076	<.001
Condition (X) b_1	0.095	0.051	1.859	.067
Interdependent self-construal (M) b_2	0.000	0.004	1.859	.067
Condition x Interdependent self-construal (XM) b_3	-0.009	0.006	-1.491	.141

$R^2 = 0.117, MSE = 0.05$
$F(3, 70) = 3.093, p=.03$

Table 3. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Gender.

	Coeff.	SE	t	p
Intercept i_1	0.299	0.090	3.335	.001
Condition (X) b_1	0.098	0.053	1.847	.069
Independent self-construal (M) b_2	0.001	0.005	0.246	.806
Condition x Independent self-construal (XM) b_3	0.005	0.007	0.744	.460
Gender	0.005	0.053	0.090	.929

$R^2 = 0.074, MSE = 0.05$
$F(4, 69) = 1.369, p=.25$

Table 4. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	0.288	0.089	3.228	.002
Condition (X)	b_1	0.095	0.052	1.832	.071
Interdependent self-construal (M)	b_2	-0.000	0.004	-0.023	.982
Condition x Interdependent self-construal (XM)	b_3	-0.008	0.006	-1.453	.151
Gender		0.011	0.052	0.203	.840

$R^2 = 0.118, MSE = 0.05$
$F(4, 69) = 2.298, p=.07$

Table 5 Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	0.318	0.112	2.837	<.001
Condition (X)	b_1	0.099	0.053	1.862	.067
Independent self-construal (M)	b_2	0.001	0.005	0.240	.811
Condition x Independent self-construal (XM)	b_3	0.005	0.007	0.756	.452
Age		-0.001	0.005	-0.105	.917

$R^2 = 0.074, MSE = 0.05$
$F(4, 69) = 1.370, p=.25$

Table 6. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	0.306	0.109	2.818	<.001
Condition (X)	b_1	0.095	0.052	1.846	.069
Interdependent self-construal (M)	b_2	0.053	0.058	0.913	.363
Condition x Interdependent self-construal (XM)	b_3	-0.009	0.006	-1.478	.144
Age		-0.000	0.004	-0.018	.986

$R^2 = 0.117, MSE = 0.05$
$F(4, 69) = 2.287, p=.069$

Table 7. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	0.296	0.089	0.350	<.001
Condition (X)	b_1	0.099	0.053	1.856	.068
Independent self-construal (M)	b_2	0.001	0.005	1.856	.820
Condition x Independent self-construal (XM)	b_3	0.005	0.007	0.760	.450
Ethnicity		0.005	0.037	0.129	.898

$R^2 = 0.074$, $MSE = 0.05$
$F(4, 69) = 1.372$, $p=.25$

Table 8. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	0.319	0.087	3.685	<.001
Condition (X)	b_1	0.095	0.052	1.850	.069
Interdependent self-construal (M)	b_2	0.000	0.004	0.033	.974
Condition x Interdependent self-construal (XM)	b_3	-0.009	0.006	-1.491	.141
Ethnicity		-0.007	0.037	-0.190	.850

$R^2 = 0.118$, $MSE = 0.05$
$F(4, 69) = 2.297$, $p=.07$

Table 9. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for FNE

		Coeff.	SE	t	p
Intercept	i_1	0.306	0.040	7.708	<.001
Condition (X)	b_1	0.101	0.054	1.869	.066
Independent self-construal (M)	b_2	0.001	0.005	0.173	.863
Condition x Independent self-construal (XM)	b_3	0.005	0.007	0.760	.450
FNE		-0.001	0.003	-0.215	.830

$R^2 = 0.074$, $MSE = 0.05$
$F(4, 69) = 1.380$, $p=.25$

Table 10. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for FNE

		Coeff.	SE	t	p
Intercept	i_1	0.305	0.038	8.024	<.001
Condition (X)	b_1	0.097	0.052	1.876	.065
Interdependent self-construal (M)	b_2	0.001	0.005	0.105	.917
Condition x Interdependent self-construal (XM)	b_3	-0.009	0.006	-1.519	.133
FNE		-0.001	0.003	-0.366	.715

$R^2 = 0.119$, $MSE = 0.05$
$F(4, 69) = 2.324$, $p=.07$

Table 11. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for NTB

		Coeff.	SE	t	p
Intercept	i_1	0.300	0.040	7.516	<.001
Condition (X)	b_1	0.109	0.054	2.029	.046
Independent self-construal (M)	b_2	0.000	0.005	-0.003	.998
Condition x Independent self-construal (XM)	b_3	0.005	0.007	0.770	.444
NTB		-0.004	0.004	-0.960	.340

$R^2 = 0.086$, $MSE = 0.05$
$F(4, 69) = 1.616$, $p=.18$

Table 12. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for NTB.

		Coeff.	SE	t	p
Intercept	i_1	0.302	0.038	7.936	<.001
Condition (X)	b_1	0.101	0.052	1.946	.056
Interdependent self-construal (M)	b_2	0.001	0.005	0.185	.854
Condition x Interdependent self-construal (XM)	b_3	-0.009	0.006	-1.494	.140
NTB		-0.003	0.004	-0.732	.467

$R^2 = 0.124$, $MSE = 0.05$
$F(4, 69) = 2.438$, $p=.06$

Table 13. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for IDA

		Coeff.	SE	t	p
Intercept	i_1	0.307	0.039	7.796	<.001
Condition (X)	b_1	0.095	0.054	1.758	.083
Independent self-construal (M)	b_2	0.001	0.005	0.109	.913
Condition x Independent self-construal (XM)	b_3	0.006	0.007	0.819	.416
IDA		0.002	0.003	0.488	.627

$R^2 = 0.077$, $MSE = 0.05$
$F(4, 169) = 1.431$, $p=.23$

Table 14. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	0.307	0.038	8.076	<.001
Condition (X)	b_1	0.088	0.052	1.693	.095
Interdependent self-construal (M)	b_2	-0.001	0.005	-0.156	.877
Condition x Interdependent self-construal (XM)	b_3	-0.008	0.006	-1.355	.180
IDA		0.002	0.003	0.703	.485

$R^2 = 0.123$, $MSE = 0.05$
$F(4, 69) = 2.426$, $p=.06$

Anthropomorphism Ratings of Dog Picture. Control vs. Exclusion Comparison Tables.

Table 15. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	11.317	0.305	37.056	<.001
Condition (X)	b_1	1.3327	0.880	1.5138	.133
Independent self-construal (M)	b_2	0.062	0.036	1.720	.090
Condition x Independent self-construal (XM)	b_3	0.028	0.051	0.542	.590

$R^2 = 0.146$, $MSE = 3.03$
$F(3, 70) = 3.978$, $p=.01$

Table 16. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	11.309	0.307	36.844	<.001
Condition (X)	b_1	0.567	0.416	1.363	.177
Interdependent self-construal (M)	b_2	0.089	0.035	2.504	.015
Condition x Interdependent self-construal (XM)	b_3	-0.160	0.088	-1.821	.071

$R^2 = 0.113$, $MSE = 3.15$
$F(3, 70) = 2.962$, $p=.04$

Table 17. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	10.188	0.683	14.914	<.001
Condition (X)	b_1	0.498	0.406	1.228	.224
Independent self-construal (M)	b_2	0.066	0.036	1.846	.069
Condition x Independent self-construal (XM)	b_3	0.022	0.050	0.437	.664
Gender		0.743	0.403	1.841	.070

$R^2 = 0.186$, $MSE = 2.93$
$F(4, 69) = 3.933$, $p=.006$

Table 18. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	10.402	0.717	14.516	<.001
Condition (X)	b_1	0.534	0.414	1.289	.202
Interdependent self-construal (M)	b_2	0.081	0.036	2.271	.026
Condition x Interdependent self-construal (XM)	b_3	-0.081	0.046	-1.759	.083
Gender		0.587	0.420	1.399	.166

$R^2 = 0.137$, $MSE = 3.10$
$F(4, 69) = 2.741$, $p=.04$

Table 19. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construl, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	12.211	0.865	14.116	<.001
Condition (X)	b_1	0.569	0.411	1.386	.170
Independent self-construal (M)	b_2	0.062	0.036	1.702	.093
Condition x Independent self-construal (XM)	b_3	0.032	0.051	0.626	.533
Age		-0.038	0.034	-1.104	.273

$R^2 = 0.161, MSE = 3.02$
$F(4, 69) = 3.298, p=.02$

Table 20. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construl, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	11.913	0.881	13.516	<.001
Condition (X)	b_1	0.577	0.418	1.380	.172
Interdependent self-construal (M)	b_2	0.087	0.036	2.446	.017
Condition x Interdependent self-construal (XM)	b_3	-0.086	0.046	-1.856	.068
Age		-0.026	0.035	-0.732	.467

$R^2 = 0.120, MSE = 3.17$
$F(4, 69) = 2.340, p=.064$

Table 21. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construl, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	11.756	0.687	17.106	<.001
Condition (X)	b_1	0.564	0.413	1.367	.176
Independent self-construal (M)	b_2	0.065	0.037	1.774	.080
Condition x Independent self-construal (XM)	b_3	0.024	0.051	0.468	.642
Ethnicity		-0.205	0.288	-0.713	.479

$R^2 = 0.152, MSE = 3.05$
$F(4, 69) = 3.090, p=.02$

Table 22. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	11.913	0.701	16.996	<.001
Condition (X)	b_1	0.576	0.417	1.383	.171
Interdependent self-construal (M)	b_2	0.093	0.036	2.602	.011
Condition x Interdependent self-construal (XM)	b_3	-0.146	0.047	-2.029	.046
Ethnicity		-0.283	0.295	-0.959	.341

$R^2 = 0.124, MSE = 3.15$
$F(4, 69) = 2.449, p = .05$

Table 23. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	11.390	0.297	38.325	<.001
Condition (X)	b_1	0.389	0.404	0.963	.339
Independent self-construal (M)	b_2	0.086	0.036	2.368	.022
Condition x Independent self-construal (XM)	b_3	0.022	0.049	0.452	.653
FNE		0.056	0.024	2.389	.020

$R^2 = 0.211, MSE = 2.84$
$F(4, 69) = 4.611, p = .002$

Table 24. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	11.309	0.309	36.651	<.001
Condition (X)	b_1	0.545	0.421	1.294	.200
Interdependent self-construal (M)	b_2	0.084	0.037	2.268	.027
Condition x Interdependent self-construal (XM)	b_3	-0.084	0.047	-1.787	.078
FNE		0.013	0.024	0.512	.610

$R^2 = 0.116, MSE = 3.18$
$F(4, 69) = 2.263, p = .07$

Table 25. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construal, controlling for NTB.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	11.459	0.298	38.399	<.001
Condition (*X*)	b_1	0.340	0.404	0.843	.402
Independent self-construal (*M*)	b_2	0.086	0.036	2.382	.020
Condition x Independent self-construal (*XM*)	b_3	0.026	0.049	0.523	.603
NTB		0.080	0.031	2.612	.011

$R^2 = 0.223$, *MSE* = 2.80
$F(4, 69) = 4.937$, *p*=.002

Table 26. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for NTB.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	11.334	0.309	36.661	<.001
Condition (*X*)	b_1	0.512	0.423	1.211	.230
Interdependent self-construal (*M*)	b_2	0.081	0.037	2.225	.029
Condition x Interdependent self-construal (*XM*)	b_3	-0.087	0.046	-1.879	.065
NTB		0.027	0.033	0.829	.410

$R^2 = 0.121$, *MSE* = 3.16
$F(4, 69) = 2.383$, *p*=.06

Table 27. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Independent Self-Construal, controlling for IDA.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	11.362	0.286	39.744	<.001
Condition (*X*)	b_1	0.344	0.390	0.884	.380
Independent self-construal (*M*)	b_2	0.032	0.035	0.927	.357
Condition x Independent self-construal (*XM*)	b_3	0.053	0.048	1.096	.277
IDA		0.077	0.023	1.327	.001

$R^2 = 0.264$, *MSE* = 2.65
$F(4, 69) = 2.648$, *p*<.001

Table 28. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Exclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	11.374	0.290	39.257	<.001
Condition (X)	b_1	0.337	0.399	0.846	.401
Interdependent self-construal (M)	b_2	0.063	0.034	1.844	.070
Condition x Interdependent self-construal (XM)	b_3	-0.065	0.044	-1.484	.143
IDA		0.074	0.024	3.156	.002

$R^2 = 0.225, MSE = 2.79$
$F(4, 69) = 4.996, p=.001$

Percentage of In-Group Made of Animals. Control vs. Inclusion Comparison Tables.

Table 29. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	0.293	0.035	8.314	<.001
Condition (X)	b_1	0.113	0.050	2.253	.027
Independent self-construal (M)	b_2	-0.008	0.004	-1.913	.060
Condition x Independent self-construal (XM)	b_3	0.014	0.006	2.237	.028

$R^2 = 0.118, MSE = 0.05$
$F(3, 77) = 3.431, p=.02$

Table 30. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	0.286	0.034	8.442	<.001
Condition (X)	b_1	0.114	0.048	2.364	.021
Interdependent self-construal (M)	b_2	0.010	0.004	2.683	.009
Condition x Interdependent self-construal (XM)	b_3	-0.019	0.005	-3.552	.001

$R^2 = 0.190, MSE = 0.05$
$F(3, 77) = 6.003, p=.001$

Table 31. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	0.276	0.102	2.711	.008
Condition (X)	b_1	0.122	0.053	2.312	.024
Independent self-construal (M)	b_2	-0.006	0.005	-1.335	.186
Condition x Independent self-construal (XM)	b_3	0.012	0.007	1.843	.069
Gender		0.005	0.055	0.091	.928

$R^2 = 0.113$, $MSE = 0.05$
$F(4, 73) = 2.326$, $p=.06$

Table 32. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	0.256	0.097	2.647	.010
Condition (X)	b_1	0.125	0.050	2.494	.015
Interdependent self-construal (M)	b_2	0.010	0.004	2.395	.019
Condition x Interdependent self-construal (XM)	b_3	-0.018	0.005	-3.324	.001
Gender		0.012	0.053	0.222	.825

$R^2 = 0.194$, $MSE = 0.05$
$F(4, 73) = 4.384$, $p=.003$

Table 33. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	0.367	0.103	3.566	<.001
Condition (X)	b_1	0.121	0.052	2.330	.023
Independent self-construal (M)	b_2	-0.005	0.005	-1.193	.237
Condition x Independent self-construal (XM)	b_3	0.012	0.007	1.813	.074
Age		-0.004	0.004	-0.866	.390

$R^2 = 0.122$, $MSE = 0.05$
$F(4, 73) = 2.534$, $p=.05$

Table 34. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	0.375	0.097	3.864	<.001
Condition (X)	b_1	0.123	0.049	2.494	.015
Interdependent self-construal (M)	b_2	0.010	0.004	2.447	.017
Condition x Interdependent self-construal (XM)	b_3	-0.018	0.005	-3.375	.001
Age		-0.004	0.004	-1.098	.276

$R^2 = 0.206$, $MSE = 0.05$
$F(4, 73) = 4.742$, $p=.002$

Table 35. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	0.149	0.075	1.981	.051
Condition (X)	b_1	0.128	0.051	2.521	.014
Independent self-construal (M)	b_2	-0.005	0.004	-1.213	.229
Condition x Independent self-construal (XM)	b_3	0.012	0.006	1.840	.070
Ethnicity		0.059	0.029	2.057	.043

$R^2 = 0.162$, $MSE = 0.05$
$F(4, 73) = 3.515$, $p=.01$

Table 36. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	0.163	0.072	2.257	.027
Condition (X)	b_1	0.130	0.049	2.654	.010
Interdependent self-construal (M)	b_2	0.009	0.004	2.305	.024
Condition x Interdependent self-construal (XM)	b_3	-0.017	0.005	-3.149	.002
Ethnicity		0.050	0.028	1.801	.076

$R^2 = 0.228$, $MSE = 0.05$
$F(4, 73) = 5.373$, $p=.001$

Table 37. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	0.291	0.036	8.209	<.001
Condition (X)	b_1	0.116	0.051	2.270	.026
Independent self-construal (M)	b_2	-0.008	0.004	-1.934	.057
Condition x Independent self-construal (XM)	b_3	0.014	0.006	2.229	.029
FNE		-0.001	0.003	-0.366	.715

$R^2 = 0.120$, $MSE = 0.05$
$F(4, 73) = 2.578$, $p = .04$

Table 38. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	0.286	0.034	8.355	<.001
Condition (X)	b_1	0.115	0.049	2.337	.022
Interdependent self-construal (M)	b_2	0.010	0.004	2.667	.009
Condition x Interdependent self-construal (XM)	b_3	-0.019	0.005	-3.527	.001
FNE		-0.000	0.003	-0.094	.926

$R^2 = 0.190$, $MSE = 0.05$
$F(4, 73) = 4.446$, $p = .003$

Table 39. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for NTB.

		Coeff.	SE	t	p
Intercept	i_1	0.296	0.035	8.376	<.001
Condition (X)	b_1	0.113	0.050	2.262	.027
Independent self-construal (M)	b_2	-0.008	0.004	-2.066	.042
Condition x Independent self-construal (XM)	b_3	0.013	0.006	2.187	.032
NTB		-0.004	0.004	-1.029	.307

$R^2 = 0.130$, $MSE = 0.05$
$F(4, 73) = 2.840$, $p = .03$

Table 40. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for NTB.

		Coeff.	SE	t	p
Intercept	i_1	0.288	0.034	8.447	<.001
Condition (X)	b_1	0.115	0.048	2.374	.020
Interdependent self-construal (M)	b_2	0.011	0.004	2.740	.008
Condition x Interdependent self-construal (XM)	b_3	-0.018	0.005	-3.462	.001
NTB		-0.003	0.004	-0.724	.471

$R^2 = 0.195$, $MSE = 0.05$
$F(4, 73) = 4.605$, $p=.002$

Table 41. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Independent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	0.295	0.036	8.273	<.001
Condition (X)	b_1	0.107	0.052	2.080	.041
Independent self-construal (M)	b_2	-0.009	0.004	-1.950	.055
Condition x Independent self-construal (XM)	b_3	0.015	0.006	2.284	.025
IDA		0.002	0.003	0.512	.610

$R^2 = 0.121$, $MSE = 0.05$
$F(4, 73) = 2.614$, $p=.04$

Table 42. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Percentage of In-Group made of Animals by Interdependent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	0.282	0.047	8.219	.002
Condition (X)	b_1	0.122	0.050	2.459	.016
Interdependent self-construal (M)	b_2	0.011	0.004	2.766	.007
Condition x Interdependent self-construal (XM)	b_3	-0.019	0.005	-3.604	.001
IDA		-0.002	0.003	-0.727	.470

$R^2 = 0.195$, $MSE = 0.05$
$F(4, 73) = 4.606$, $p=.002$

Anthropomorphism Ratings of Dog Picture. Control vs. Inclusion Comparison Tables.

Table 43. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	11.007	0.285	38.586	<.001
Condition (*X*)	b_1	0.867	0.406	2.137	.036
Independent self-construal (*M*)	b_2	0.029	0.032	0.902	.370
Condition x Independent self-construal (*XM*)	b_3	0.061	0.050	1.223	.225

$R^2 = 0.127, MSE = 3.33$
$F(3, 77) = 3.716, p=.02$

Table 44. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	10.966	0.295	37.143	<.001
Condition (*X*)	b_1	0.910	0.420	2.168	.033
Interdependent self-construal (*M*)	b_2	0.042	0.033	1.254	.214
Condition x Interdependent self-construal (*XM*)	b_3	-0.040	0.046	-1.882	.381

$R^2 = 0.072, MSE = 3.54$
$F(3, 77) = 1.983, p=.12$

Table 45. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for Gender.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	10.118	0.800	12.655	<.001
Condition (*X*)	b_1	0.934	0.414	2.259	.027
Independent self-construal (*M*)	b_2	0.036	0.036	0.999	.321
Condition x Independent self-construal (*XM*)	b_3	0.053	0.052	1.024	.309
Gender		0.513	0.434	1.183	.241

$R^2 = 0.145, MSE = 3.27$
$F(4, 73) = 3.102, p=.02$

Table 46. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	10.118	0.824	12.286	<.001
Condition (X)	b_1	0.921	0.427	2.160	.034
Interdependent self-construal (M)	b_2	0.044	0.034	1.295	.199
Condition x Interdependent self-construal (XM)	b_3	-0.044	0.046	-0.950	.345
Gender		0.522	0.448	1.166	.247

$R^2 = 0.089, MSE = 3.49$
$F(4, 73) = 1.781, p=.14$

Table 47. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	11.318	0.821	13.786	<.001
Condition (X)	b_1	0.877	0.414	2.117	.038
Independent self-construal (M)	b_2	0.037	0.036	1.006	.318
Condition x Independent self-construal (XM)	b_3	0.055	0.052	1.050	.297
Age		-0.013	0.032	-0.419	.677

$R^2 = 0.131, MSE = 3.33$
$F(4, 73) = 2.751, p=.03$

Table 48. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for Age.

		Coeff.	SE	t	p
Intercept	i_1	11.093	0.841	13.191	<.001
Condition (X)	b_1	0.864	0.428	2.021	.047
Interdependent self-construal (M)	b_2	0.044	0.034	1.308	.195
Condition x Interdependent self-construal (XM)	b_3	-0.043	0.046	-0.932	.354
Age		-0.003	0.033	-0.105	.917

$R^2 = 0.072, MSE = 3.55$
$F(4, 73) = 1.418, p=.24$

Table 49. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	10.705	0.613	17.472	<.001
Condition (X)	b_1	0.892	0.415	2.151	.035
Independent self-construal (M)	b_2	0.036	0.036	0.993	.324
Condition x Independent self-construal (XM)	b_3	0.055	0.052	1.056	.294
Ethnicity		0.127	0.233	0.546	.587

$R^2 = 0.132, MSE = 3.32$
$F(4, 73) = 2.786, p=.03$

Table 50. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	p
Intercept	i_1	10.855	0.632	17.182	<.001
Condition (X)	b_1	0.873	0.428	2.037	.045
Interdependent self-construal (M)	b_2	0.044	0.034	1.281	.204
Condition x Interdependent self-construal (XM)	b_3	-0.041	0.047	-0.889	.377
Ethnicity		-0.069	0.242	-0.283	.778

$R^2 = 0.073, MSE = 3.55$
$F(4, 73) = 1.436, p=.23$

Table 51. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	11.049	0.282	39.158	<.001
Condition (X)	b_1	0.759	0.405	1.875	.065
Independent self-construal (M)	b_2	0.043	0.033	1.320	.191
Condition x Independent self-construal (XM)	b_3	0.060	0.049	1.219	.227
FNE		0.039	0.022	1.800	.076

$R^2 = 0.162, MSE = 3.24$
$F(4, 76) = 3.678, p=.009$

Table 52. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for FNE.

		Coeff.	SE	t	p
Intercept	i_1	10.987	0.296	37.078	<.001
Condition (X)	b_1	0.852	0.425	2.007	.048
Interdependent self-construal (M)	b_2	0.040	0.033	1.206	.232
Condition x Interdependent self-construal (XM)	b_3	-0.041	0.046	-0.900	.371
FNE		0.021	0.022	0.941	.350

$R^2 = 0.082$, $MSE = 3.55$
$F(4, 76) = 1.707$, $p=.16$

Table 53. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for NTB.

		Coeff.	SE	t	p
Intercept	i_1	10.996	0.288	38.187	<.001
Condition (X)	b_1	0.866	0.408	2.122	.037
Independent self-construal (M)	b_2	0.032	0.033	0.954	.343
Condition x Independent self-construal (XM)	b_3	0.062	0.050	1.234	.221
NTB		0.012	0.031	0.402	.689

$R^2 = 0.128$, $MSE = 3.37$
$F(4, 76) = 2.797$, $p=.03$

Table 54. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for NTB.

		Coeff.	SE	t	p
Intercept	i_1	10.976	0.298	36.852	<.001
Condition (X)	b_1	0.915	0.422	2.167	.033
Interdependent self-construal (M)	b_2	0.043	0.034	1.287	.202
Condition x Interdependent self-construal (XM)	b_3	-0.039	0.046	-0.836	.406
NTB		-0.013	0.032	-0.418	.677

$R^2 = 0.074$, $MSE = 3.58$
$F(4, 76) = 1.515$, $p=.21$

Table 55. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Independent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	11.099	0.277	40.082	<.001
Condition (X)	b_1	0.639	0.400	1.596	.115
Independent self-construal (M)	b_2	-0.007	0.034	-0.193	.847
Condition x Independent self-construal (XM)	b_3	0.093	0.049	1.881	.064
IDA		0.062	0.023	2.651	.010

$R^2 = 0.200$, $MSE = 3.09$
$F(4, 76) = 4.763$, $p=.002$

Table 56. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Inclusion) on Anthropomorphism by Interdependent Self-Construal, controlling for IDA.

		Coeff.	SE	t	p
Intercept	i_1	11.075	0.288	38.458	<.001
Condition (X)	b_1	0.671	0.416	1.614	.111
Interdependent self-construal (M)	b_2	0.025	0.033	0.753	.454
Condition x Interdependent self-construal (XM)	b_3	-0.026	0.045	-0.584	.561
IDA		0.059	0.023	2.589	.012

$R^2 = 0.147$, $MSE = 3.30$
$F(4, 76) = 3.273$, $p=.02$

A.9 Study 3 Scales

i) Thwarted Belonging Scale (adapted from Interpersonal Needs Questionnaire. INQ; Van Orden, Cukrowicz, Witte, & Joiner Jr., 2012).

1-7 point scale where 1= Not at all true for me, and 7= Very true for me

1. Other people care about me (R)
2. I feel like I belong (R)
3. I rarely interact with people who care about me
4. I am fortunate to have many caring and supportive friends (R)
5. I feel disconnected from other people
6. I often feel like an outsider in social gatherings
7. I feel that there are people I can turn to in times of need (R)
8. I am close to other people (R)
9. I have at least one satisfying interaction every day (R)

ii) 2-item Trust Measure

1. I can't depend on people to have my best interests at heart (R)
2. I feel that people can be counted on to help me

A.10 Study 3 Writing Task Instructions

Writing about a real life experience.

The next section of this study is looking at how well people are able to describe a real life event in a short writing exercise. You will be given a randomly generated subject to write about from our list. Please write a paragraph on this topic in the space below.

Inclusion:

Take a moment to **think about a time in which you felt a strong sense of being included or belonging,** be it with a group, friends or with family. Try and recall it as vividly as possible**.** Then, in the space provided, please describe what the occasion was, who was with you, what you did, and how exactly you felt so included or felt a strong sense of belonging. Please write a paragraph using clear detail.

Positive Affect:

Take a moment to **think about a time in which you felt very happy**. Try and recall it as vividly as possible**.** Then, in the space provided, please describe what the occasion was, where you were, what you did, and why exactly you felt so happy. Please write a paragraph using clear detail.

Control:

Take a moment to **think about a time in which you went to the grocery store.** Try and recall it as vividly as possible**.** Then, in the space provided, please describe when your last visit was, where you went, what you bought, and how often you buy groceries. Please write a paragraph using clear detail.

A.11 Study 3 Charity Poster Task & Instructions

Please take a moment to look at a poster for the BC SPCA (British Columbia Society for Prevention of Cruelty to Animals) animal shelter.

YOUR SUPPORT IS NEEDED

PLEASE DONATE TO THE BC SPCA

Please answer the following questions in relation to the poster on a scale of 1-7 (1= Strongly disagree, 7 = Strongly agree):

1. How **inclined** are you to donate to this cause?
2. How **willing** are you to donate to this cause?
3. How **likely** are you to donate to this cause?

A.12 Follow-Up Analyses Study 3

Donation Intentions & Cash Donation Means by Gender.

A series of independent samples t-tests showed a significant difference in donation intentions between males (*M*=13.03, *SD*=15.51) and females (*M*=14.71, *SD*=4.77), *t*(185) = 2.215, *p*= .03, *d*=0.142 . Moreover, the cash donation dependent variable also showed a significant difference with females (*M* =31.68, *SD* = 37.83) donating significantly more than males (*M* =14.94, *SD* =27.07), *t*(185) = 3.511, *p* = .001, *d*= 0.443 .

Demographic and Trait Covariate Correlations & Relationships.

Results of Study 3 revealed relatively few significant or conclusive correlations between the demographic and trait participant variables measured, with one exception for social desirability, which was significantly positively correlated with independent self-construal (*r*(187)=.244, *p*=.001) and significantly negatively correlated with interdependent self-construal (*r*(187)=-.258, *p*<.001). There was found to be a significant relationship between trust for both interdependent self construal (*r*(187)=.298, *p*<.001) and independent self construal (*r*(187)=.221, *p*=.002). There was also found to be a significant relationship between thwarted belonging for both interdependent self construal (*r*(187)=.384, *p*<.001) and independent self construal (*r*(187)=.344, *p*<.001). There may have been a potential relationship between ethnicity and empathy but the small cell count for all other ethnicities other than "Caucasian" prohibited a conclusive X^2 test result.

Role of Positive Affect Manipulation in Donation Intentions

Regression Models Control vs. Affect Model.

In a separate model with independent self-construal, the affect manipulation did not significantly predict donation intentions in terms of a conditional effect, and the affect manipulation did not appear to differ significantly from the control condition. This was despite being accurately recalled by participants. Furthermore the regression model showed no significant interaction between independent self-

construal and the affect manipulation. In a separate model with interdependent self-construal, the affect manipulation also did not significantly predict donation intentions in terms of a conditional effect, and again did not appear to differ significantly from the control condition. The regression model again showed no significant interaction between interdependent self-construal and the affect manipulation. Controlling for the trait measures (Thwarted Belonging, Trust, Social Desirability) revealed no significant or different findings to the above. See detailed analyses in tables following.

Regression Models Inclusion vs. Affect Model.
Again, in a separate model with independent self-construal, the affect manipulation did not significantly predict donation intentions in terms of a conditional effect, and the affect manipulation did not appear to differ significantly from the inclusion condition. Furthermore, the regression model showed no significant interaction between independent self-construal and the affect manipulation. In a separate model with interdependent self-construal the affect, manipulation did not significantly predict donation intentions in terms of a conditional effect, and again did not appear to differ significantly from the inclusion condition. The regression model again showed no significant interaction between interdependent self-construal and the affect manipulation. Controlling for the trait measures (Thwarted Belonging, Trust, Social Desirability) revealed no significant or different findings to the above. See detailed analyses in the tables following.

Regression Model Tables (Study 3)
Donation Intentions. Control vs. Affect Comparison Tables.

Table 1. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Independent Self-Construal.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	14.748	0.627	23.518	<.001
Condition (*X*)	b_1	-1.3327	0.880	-1.5138	.133
Independent self-construal (*M*)	b_2	0.133	0.056	2.397	.018
Condition x Independent self-construal (*XM*)	b_3	-0.041	0.073	-0.555	.580

$R^2 = 0.090$, $MSE = 23.78$
$F(3, 120) = 6.205$, $p=.01$

Table 2. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Interdependent Self-Construal.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	14.309	0.651	21.995	<.001
Condition (*X*)	b_1	-1.095	0.911	-1.203	.232
Interdependent self-construal (*M*)	b_2	0.120	0.056	2.153	.033
Condition x Interdependent self-construal (*XM*)	b_3	-0.160	0.088	-1.821	.071

$R^2 = 0.057$, $MSE = 24.65$
$F(3, 120) = 2.393$, $p=.07$

Table 3. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Gender.

		Coeff.	*SE*	*t*	*p*
Intercept	i_1	16.796	1.482	11.330	<.001
Condition (*X*)	b_1	1.453	0.863	1.684	.095
Independent self-construal (*M*)	b_2	0.091	0.046	1.957	.053
Condition x Independent self-construal (*XM*)	b_3	0.049	0.072	0.686	.494
Gender		-2.175	0.871	-2.498	.014

$R^2 = 0.135$, $MSE = 22.78$
$F(4, 119) = 4.658$, $p=.002$

Table 4. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	16.103	1.555	10.358	<.001
Condition (X)	b_1	1.203	0.901	1.336	.184
Interdependent self-construal (M)	b_2	-0.027	0.067	-0.393	.695
Condition x Interdependent self-construal (XM)	b_3	0.131	0.088	1.489	.139
Gender		-1.841	0.906	-2.032	.044

$R^2 = 0.088$, $MSE = 24.03$
$F(4, 119) = 2.874$, $p=.002$

Table 5. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Thwarted belonging.

		Coeff.	SE	t	p
Intercept	i_1	14.733	0.614	23.993	<.001
Condition (X)	b_1	-1.290	0.862	-1.496	.137
Independent self-construal (M)	b_2	0.091	0.057	1.591	.114
Condition x Independent self-construal (XM)	b_3	-0.025	0.072	-0.344	.731
Thwarted belonging		0.086	0.035	2.486	.014

$R^2 = 0.135$, $MSE = 22.79$
$F(4, 119) = 4.642$, $p=.002$

Table 6. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Thwarted belonging.

		Coeff.	SE	t	p
Intercept	i_1	14.516	0.630	23.038	<.001
Condition (X)	b_1	-1.337	0.881	-1.518	.132
Interdependent self-construal (M)	b_2	0.053	0.058	0.913	.363
Condition x Interdependent self-construal (XM)	b_3	-0.161	0.085	-1.904	.059
Thwarted belonging		0.117	0.036	3.205	.002

$R^2 = 0.131$, $MSE = 22.89$
$F(4, 119) = 4.502$, , $p=.002$

Table 7. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Trust.

		Coeff.	SE	t	p
Intercept	i_1	14.695	0.617	23.806	<.001
Condition (X)	b_1	-1.254	0.867	-1.447	.150
Independent self-construal (M)	b_2	0.100	0.057	1.761	.081
Condition x Independent self-construal (XM)	b_3	-0.022	0.072	-0.297	.767
Trust		0.307	0.137	2.246	.027

$R^2 = 0.127$, $MSE = 23.00$
$F(4, 119) = 4.330$, $p=.003$

Table 8. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Trust.

		Coeff.	SE	t	p
Intercept	i_1	14.404	0.636	22.634	<.001
Condition (X)	b_1	-1.194	0.890	-1.341	.182
Interdependent self-construal (M)	b_2	0.073	0.057	1.276	.204
Condition x Interdependent self-construal (XM)	b_3	-0.146	0.086	-1.699	.092
Trust		0.370	0.142	2.611	.010

$R^2 = 0.108$, $MSE = 23.51$
$F(4, 119) = 3.586$, $p=.01$

Table 9. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	p
Intercept	i_1	14.385	1.166	12.340	<.001
Condition (X)	b_1	-1.343	0.884	-1.519	.131
Independent self-construal (M)	b_2	0.131	0.056	2.323	.022
Condition x Independent self-construal (XM)	b_3	-0.043	0.074	-0.580	.563
Social Desirability		0.095	0.257	0.370	.712

$R^2 = 0.091$, $MSE = 23.95$
$F(4, 119) = 2.982$, $p=.02$

Table 10. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Control vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	p
Intercept	i_1	12.989	1.188	10.934	<.001
Condition (X)	b_1	-1.058	0.908	-1.165	.246
Interdependent self-construal (M)	b_2	0.130	0.056	1.317	.022
Condition x Interdependent self-construal (XM)	b_3	-0.149	0.088	-1.697	.092
Social Desirability		0.342	0.258	1.326	.187

$R^2 = 0.070$, $MSE = 24.50$
$F(4, 119) = 2.246$, $p=.07$

Donation Intentions. Inclusion vs. Affect Comparison Tables.

Table 11. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	13.520	0.684	19.782	<.001
Condition (X)	b_1	-0.105	0.967	-0.108	.914
Independent self-construal (M)	b_2	-0.053	0.063	-0.845	.400
Condition x Independent self-construal (XM)	b_3	0.146	0.082	1.784	.077

$R^2 = 0.031$, $MSE = 29.20$
$F(3, 122) = 1.314$, $p=.27$

Table 12. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	13.498	0.681	19.813	<.001
Condition (X)	b_1	-0.284	0.972	-0.293	.770
Interdependent self-construal (M)	b_2	0.111	0.057	1.935	.055
Condition x Interdependent self-construal (XM)	b_3	-0.151	0.093	-1.615	.109

$R^2 = 0.033$, $MSE = 29.15$
$F(3, 122) = 1.377$, $p=.25$

Table 13. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	16.123	1.660	9.711	<.001
Condition (X)	b_1	-0.068	0.964	-0.070	.944
Independent self-construal (M)	b_2	0.091	0.052	1.753	.082
Condition x Independent self-construal (XM)	b_3	-0.125	0.082	-1.519	.131
Gender		-1.742	0.975	-1.787	.077

$R^2 = 0.056$, $MSE = 28.68$
$F(4, 121) = 1.801$, $p=.13$

Table 14. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	p
Intercept	i_1	15.855	1.667	9.511	<.001
Condition (X)	b_1	0.080	0.971	0.083	.934
Interdependent self-construal (M)	b_2	-0.028	0.074	-0.376	.708
Condition x Interdependent self-construal (XM)	b_3	0.130	0.093	1.391	.167
Gender		-1.684	0.968	-1.739	.085

$R^2 = 0.056$, $MSE = 28.68$
$F(4, 121) = 1.806$, $p=.13$

Table 15. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Thwarted Belonging.

		Coeff.	SE	t	p
Intercept	i_1	13.510	0.674	20.048	<.001
Condition (X)	b_1	-0.070	0.954	-0.073	.942
Independent self-construal (M)	b_2	-0.083	0.064	-1.302	.196
Condition x Independent self-construal (XM)	b_3	0.151	0.081	1.871	.064
Thwarted belonging		0.079	0.038	2.119	.036

$R^2 = 0.066$, $MSE = 28.38$
$F(4, 121) = 2.137$, $p=.08$

Table 16. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Thwarted Belonging.

		Coeff.	SE	t	p
Intercept	i_1	13.533	0.672	20.152	<.001
Condition (X)	b_1	-0.344	0.958	-0.359	.721
Interdependent self-construal (M)	b_2	0.087	0.057	1.519	.131
Condition x Interdependent self-construal (XM)	b_3	-0.175	0.093	-1.888	.061
Thwarted belonging		0.082	0.038	2.151	.007

$R^2 = 0.068$, $MSE = 28.31$
$F(4, 121) = 2.220$, $p=.07$

Table 17. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Trust

		Coeff.	SE	t	p
Intercept	i_1	13.449	0.668	20.144	<.001
Condition (X)	b_1	-0.002	0.945	-0.003	.998
Independent self-construal (M)	b_2	-0.065	0.062	-1.059	.292
Condition x Independent self-construal (XM)	b_3	0.140	0.080	1.752	.082
Trust		0.384	0.145	2.656	.009

$R^2 = 0.085$, $MSE = 27.81$
$F(4, 121) = 2.798$, $p=.03$

Table 18. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Trust.

		Coeff.	SE	t	p
Intercept	i_1	13.451	0.665	20.237	<.001
Condition (X)	b_1	-0.242	0.948	-0.255	.799
Interdependent self-construal (M)	b_2	0.089	0.056	1.581	.117
Condition x Interdependent self-construal (XM)	b_3	-0.164	0.091	-1.800	.074
Trust		0.394	0.146	2.694	.008

$R^2 = 0.088$, $MSE = 27.73$
$F(4, 121) = 2.900$, $p=.03$

Table 19. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	p
Intercept	i_1	15.721	1.216	12.933	<.001
Condition (X)	b_1	0.127	0.959	0.132	.895
Independent self-construal (M)	b_2	-0.035	0.063	-0.554	.581
Condition x Independent self-construal (XM)	b_3	0.158	0.081	1.956	.053
Social desirability		-0.620	0.285	-2.175	.032

$R^2 = 0.068$, $MSE = 28.33$
$F(4, 121) = 2.198$, $p=.07$

Table 20. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	p
Intercept	i_1	15.036	1.230	12.221	<.001
Condition (X)	b_1	-0.199	0.969	-0.205	.838
Interdependent self-construal (M)	b_2	0.092	0.058	1.579	.117
Condition x Interdependent self-construal (XM)	b_3	-0.158	0.093	-1.699	.092
Social desirability		-0.433	0.289	-1.498	.137

$R^2 = 0.050$, $MSE = 28.86$
$F(4, 121) = 1.604$, $p=.18$

Donation Intentions. Inclusion vs. Control (No Affect) Comparison Tables.

Table 21. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control) on Donation Intentions by Independent Self-Construal.

		Coeff.	SE	t	p
Intercept	i_1	14.748	0.660	22.345	<.001
Condition (X)	b_1	-1.228	0.926	-1.327	.187
Independent self-construal (M)	b_2	0.134	0.059	2.277	.025
Condition x Independent self-construal (XM)	b_3	-0.187	0.084	-2.230	.028

$R^2 = 0.057$, $MSE = 26.34$
$F(3, 120) = 2.413$, $p=.07$

Table 22. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal.

		Coeff.	SE	t	P
Intercept	i_1	14.309	0.665	21.506	<.001
Condition (X)	b_1	-0.811	0.924	-0.878	.382
Interdependent self-construal (M)	b_2	0.120	0.057	2.105	.037
Condition x Interdependent self-construal (XM)	b_3	-0.009	0.078	-0.115	.909

$$R^2 = 0.077, MSE = 25.79$$
$$F(3, 120) = 3.318, p=.02$$

Table 23. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	P
Intercept	i_1	17.068	1.658	10.294	<.001
Condition (X)	b_1	-1.450	0.932	-1.556	.122
Independent self-construal (M)	b_2	0.138	0.058	2.358	.020
Condition x Independent self-construal (XM)	b_3	-0.175	0.084	-2.088	.039
Gender		-1.441	0.946	-1.524	.130

$$R^2 = 0.075, MSE = 26.05$$
$$F(4, 119) = 2.410, p=.05$$

Table 24. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Gender.

		Coeff.	SE	t	P
Intercept	i_1	16.005	1.663	9.626	<.001
Condition (X)	b_1	-0.998	0.938	-1.064	.290
Interdependent self-construal (M)	b_2	0.111	0.057	1.936	.055
Condition x Interdependent self-construal (XM)	b_3	-0.006	0.078	-0.070	.945
Gender		-1.042	0.937	-1.113	.268

$$R^2 = 0.086, MSE = 25.74$$
$$F(4, 119) = 2.803, p=.03$$

Donation Intentions. Inclusion vs. Control + Affect Comparison Tables.

Table 25. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	P
Intercept	i_1	16.797	1.287	13.051	<.001
Condition (X)	b_1	-0.769	0.797	-0.965	.336
Independent self-construal (M)	b_2	0.112	0.038	2.969	.003
Condition x Independent self-construal (XM)	b_3	-0.146	0.071	-2.060	.041
Gender		-1.723	0.760	-2.267	.025

$R^2 = 0.075$, $MSE = 25.89$
$F(4, 182) = 3.700$, $p=.006$

Table 26. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Gender.

		Coeff.	SE	t	P
Intercept	i_1	16.491	1.289	12.791	<.001
Condition (X)	b_1	-0.634	0.802	-0.790	.431
Interdependent self-construal (M)	b_2	0.064	0.044	1.458	.147
Condition x Interdependent self-construal (XM)	b_3	0.039	0.070	0.560	.576
Gender		-1.629	0.761	-2.140	.034

$R^2 = 0.058$, $MSE = 26.38$
$F(4, 182) = 2.804$, $p=.03$

Table 27. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	P
Intercept	i_1	13.449	0.668	20.144	<.001
Condition (X)	b_1	-0.659	0.802	-0.821	.413
Independent self-construal (M)	b_2	0.105	0.038	2.759	.006
Condition x Independent self-construal (XM)	b_3	-0.158	0.071	-2.229	.027
Ethnicity		-0.216	0.164	-1.321	.188

$R^2 = 0.058$, $MSE = 26.37$
$F(4, 182) = 2.809$, $p=.03$

Table 28. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Ethnicity.

		Coeff.	SE	t	P
Intercept	i_1	14.539	0.587	24.787	<.001
Condition (X)	b_1	-0.561	0.803	-0.699	.486
Interdependent self-construal (M)	b_2	0.075	0.044	1.710	.089
Condition x Interdependent self-construal (XM)	b_3	0.031	0.070	0.444	.656
Ethnicity		-0.286	0.165	-1.735	.084

$R^2 = 0.050$, $MSE = 26.60$
$F(4, 182) = 2.398$, $p=.05$

Table 29. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Age.

		Coeff.	SE	t	P
Intercept	i_1	14.418	1.176	12.265	<.001
Condition (X)	b_1	-0.572	0.804	-0.711	.478
Independent self-construal (M)	b_2	0.112	0.038	2.919	.004
Condition x Independent self-construal (XM)	b_3	-0.164	0.071	-2.307	.022
Age		-0.119	0.369	-0.321	.749

$R^2 = 0.050$, $MSE = 26.61$
$F(4, 182) = 2.377$, $p=.05$

Table 30. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Age.

		Coeff.	SE	t	P
Intercept	i_1	13.661	1.181	11.569	<.001
Condition (X)	b_1	-0.403	0.808	-0.498	.619
Interdependent self-construal (M)	b_2	0.067	0.044	1.507	.133
Condition x Interdependent self-construal (XM)	b_3	0.045	0.071	0.640	.523
Age		0.087	0.372	0.234	.815

$R^2 = 0.035$, $MSE = 27.03$
$F(4, 182) = 1.633$, $p=.17$

Table 31. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Thwarted Belonging.

		Coeff.	SE	t	P
Intercept	i_1	14.079	0.451	31.193	<.001
Condition (X)	b_1	-0.572	0.777	-0.736	.463
Independent self-construal (M)	b_2	0.071	0.039	1.833	.069
Condition x Independent self-construal (XM)	b_3	-0.162	0.069	-2.356	.020
Thwarted belonging		0.103	0.030	3.438	.001

$R^2 = 0.107$, $MSE = 25.00$
$F(4, 182) = 5.457$, $p=.0004$

Table 32. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Thwarted Belonging.

		Coeff.	SE	t	P
Intercept	i_1	13.988	0.454	30.783	<.001
Condition (X)	b_1	-0.447	0.783	-0.571	.569
Interdependent self-construal (M)	b_2	0.009	0.046	0.193	.847
Condition x Interdependent self-construal (XM)	b_3	0.073	0.069	1.049	.296
Thwarted belonging		0.102	0.031	3.292	.001

$R^2 = 0.089$, $MSE = 25.52$
$F(4, 182) = 4.423$, $p=.002$

Table 33. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Independent Self-Construal, controlling for Trust.

		Coeff.	SE	t	P
Intercept	i_1	14.055	0.454	30.975	<.001
Condition (X)	b_1	-0.603	0.781	-0.772	.441
Independent self-construal (M)	b_2	0.084	0.038	2.204	.029
Condition x Independent self-construal (XM)	b_3	-0.149	0.070	-2.140	.034
Trust		0.364	0.116	3.127	.002

$R^2 = 0.098$, $MSE = 25.27$
$F(4, 182) = 4.921$, $p=.001$

Table 34. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Trust.

		Coeff.	SE	t	P
Intercept	i_1	13.944	0.456	30.614	<.001
Condition (X)	b_1	-0.490	0.786	-0.624	.533
Interdependent self-construal (M)	b_2	0.026	0.045	0.568	.571
Condition x Interdependent self-construal (XM)	b_3	0.065	0.069	0.938	.349
Trust		0.371	0.120	3.091	.002

$R^2 = 0.083$, $MSE = 25.69$
$F(4, 182) = 4.093$, $p=.003$

Table 35. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Independent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	P
Intercept	i_1	15.917	0.957	16.629	<.001
Condition (X)	b_1	-0.704	0.794	-0.886	.377
Independent self-construal (M)	b_2	0.130	0.039	3.358	.001
Condition x Independent self-construal (XM)	b_3	-0.169	0.070	-2.402	.017
Social desirability		-0.477	0.217	-2.198	.029

$R^2 = 0.074$, $MSE = 25.94$
$F(4, 182) = 3.620$, $p=.007$

Table 36. Results from a Regression Analysis Examining the Moderation of the Effect of Condition (Inclusion vs. Control + Affect) on Donation Intentions by Interdependent Self-Construal, controlling for Social Desirability.

		Coeff.	SE	t	P
Intercept	i_1	14.710	0.969	15.182	<.001
Condition (X)	b_1	-0.475	0.806	-0.589	.556
Interdependent self-construal (M)	b_2	0.058	0.045	1.282	.202
Condition x Interdependent self-construal (XM)	b_3	0.044	0.070	0.627	.531
Social desirability		-0.207	0.222	-0.936	.350

$R^2 = 0.039$, $MSE = 26.91$
$F(4, 182) = 1.845$, $p=.12$

A.13 Study 4 Need Fulfillment Scale (Zadro, Williams, & Richardson, 2004)

(SE: Self Esteem; C: Control/Autonomy; B: Belonging; M: Meaningful Existence; R: Reverse Coded.)

Please answer the following questions, using a scale of 1-7, where 1 is not at all true, and 7 is very true.

1. I feel good about myself (SE)
2. I feel somewhat inadequate (SE) (R)
3. I feel others fail to perceive me as worthy and likable (SE) (R)
4. I am able to do things as well as most other people (SE)
5. People in my life care about me (B)
6. I feel poorly accepted (B) (R)
7. I feel like I have a connection with others (B)
8. I feel like an outsider (B) (R)
9. I feel in control of my life (C)
10. I feel I am able to live my life as I want (C)
11. I feel somewhat frustrated with my life (C) (R)
12. I feel like I am free to decide for myself how to live my life (C)
13. I feel my existence is meaningless (ME) (R)
14. I feel like my actions have an important effect on my life (ME)
15. Often in life I feel non-existent (ME) (R)
16. My life is meaningful and worthwhile (ME)

A.14 Study 4 Poster Frame

YOUR SUPPORT IS NEEDED

PLEASE DONATE TO THE BC SPCA

Dissimilar Condition Text:
While you look at this poster please consider how different animals are to human beings. For example humans are truly unique when it comes to learning and cognitive abilities. Humans experience complex emotional states, and have needs and motivations that cannot be matched by those of animals. We are able to inhibit our instincts and use sophisticated reasoning in a way that animals are not able to. Humans have language and are able to build complex societies, something animals cannot do either. Animals are really very different to human beings.

Similar Condition Text:
While you look at this poster please consider how similar animals are to human beings. For example animals, like humans, are able to learn to use tools and possess the mental capacity to make complex choices. Animals have feelings, may experience physical and emotional pain and, like us, have needs and motivations that go beyond mere survival. Many animals also understand abstract concepts such as cause and effect relationships, are able to communicate clearly with each other, and live in close knit social groups, as we do. Animals are really very similar to human beings.

A. 15 Study 4 Follow-Up Analyses

Pet Ownership: Donation Intentions and other Dependent Variable Means Tests

In terms of donation intentions, actual cash donation, connection to cause, similarity to cause and empathy for cause, independent samples t-tests showed that pet owners expressed significantly higher ratings than did non-owners. See details below.

Pet owners (n=230; M=14.47, SD=5.42) indicated significantly higher donation intentions than non owners (n=150; M=11.83, SD=5.75), t(378)=4.529, p<.001, d=0.48, SE=.583, 95% CI [1.49, 3.78], as well as higher connection to cause ratings (pet owners M=4.90, SD=1.83; non owners M=4.00, SD=1.96) , t(378)=4.573, p<.001, d=0.48, SE=.198, 95% CI [0.52,1.29], higher similarity to cause ratings (pet owners M=4.48, SD=1.96; non owners M=3.64, SD=1.87) , t(378)=4.163, p<.001, d=0.44, SE=.202, 95% CI [0.45,1.24], and higher empathy to cause ratings (pet owners M=5.79, SD=1.50; non owners M=5.18, SD=1.75) , t(283)=3.489, p=.001, d=0.38, SE=.198, 95% CI [0.52,1.29]. They also made higher actual cash donations (pet owners M=16.47, SD=19.01; non owners M=10.20, SD=16.72), t(344)=3.376, p=.001, d=0.35, SE=1.857 95% CI [2.62,9.92]. I therefore carried out regression models controlling for pet ownership.

Role of Inclusion Manipulation (vs. Control), Poster Frame and Interdependent Self-Construal in Donation Intentions

Following the procedures previously outlined, I regressed donation intentions on the dummy (control vs. inclusion) and moderator variables.

Summary of Results

In a regression model (model 3; Hayes, 2018) with interdependent self-construal, the inclusion manipulation did not significantly predict donation intentions in terms of a conditional effect—neither did interdependent self-construal, nor the poster frame. There was no significant three-way interaction between interdependent self-

construal, poster frame and the inclusion manipulation, which was as predicted. Of interest, however, was the significant two-way interaction between interdependent self-construal and poster frame. As predicted, whether donation intentions were greater depended on the poster frame, as well as participant's interdependent self-construal.

Regression Model of Donation Intentions

I submitted the donation intentions measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was not significant R^2=.052, p=.006, F(7, 372)= 2.893. I found no conditional effect of the inclusion condition B=0.092, SE=0.827, t(380)=.111, p=.91, 95% CI [-1.53, 1.72], nor for interdependent self-construal measure on its own B=-0.009, SE=0.050, t(380)=-0.017, p=.99, 95% CI [-0.10, 0.10], or for poster type on its own B=-0.619, SE=0.796, t(380)=-0.777, p=.44, 95% CI [-2.19, 0.95]. There was no significant interaction between inclusion and interdependent self-construal B=0.071, SE=0.070, t(380)=1.010, p=.31, 95% CI [-0.07, 0.21]. There was no significant interaction between inclusion and poster type B=0.220, SE=1.154, t(380)=0.191, p=.85, 95% CI [-2.05, 2.49]. There was a significant interaction between poster type and interdependent self-construal B=0.172, SE=0.072, t(380)=2.385, p=.02, 95% CI [0.03, 0.31], but no significant three-way interaction between poster type, inclusion, and interdependent self-construal B=-0.124, SE=0.099, t(380)=-1.256, p=.21, 95% CI [-0.32, 0. 07].

Role of Inclusion Manipulation (vs. Control), Poster Frame and Independent Self-Construal in Donation Intentions

Controlling for Pet Ownership

This time controlling for *pet ownership* I once more submitted the donation intentions measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant R^2=.056, p=.006, F(8, 371)= 2.765. I found no conditional effect of the inclusion condition B=-0.093, SE=0.829, t(380)=-0.112, p=.91 95% CI [-1.72, 1.54], nor for poster type on its own B=-0.474, SE=0.796, t(380)=-0.596, p=.55, 95% CI [-2.04, 1.09]. There was also no significant conditional

effect of the independent self-construal measure on its own *B*=-0.074, *SE*=0.053, *t*(380)=-1.388, *p*=.17, 95% CI [-0.18, 0.03]. There was a significant interaction between inclusion and independent self-construal *B*=0.190, *SE*=0.077, *t*(380)=2.482, *p*=.01, 95% CI [0.04, 0.34]. There was no significant interaction between inclusion and poster type *B*=0.136, *SE*=1.154, *t*(380)=0.118, *p*=.91, 95% CI [-2.13, 2.40]. There was a significant interaction between poster type and independent self-construal *B*=0.171, *SE*=0.076, *t*(380)=2.239, *p*=.03, 95% CI [0.02, 0.32], and most importantly again a significant three-way interaction between poster type, inclusion, and independent self-construal *B*=-.285, *SE*=.112, *t*(380)=-2.545, *p*=.01, 95% CI [-0.50, -0.07]. There was also a significant conditional effect found for pet ownership *B*=0.776, *SE*=0.247, *t*(380)=3.144, *p*=002, 95% CI [0.29, 1.26].

The three-way interaction showed that (as before without pet ownership) in the control condition individuals with high independent self-construal indicated significantly higher donation intentions with the "Animals are Similar" to us text, than they did with the "Animals are Different" to us text. However, in the inclusion condition, independent self-construal made no difference to donation intentions with the "Animals are Similar" to us text, while with the "Animals are Different" to us text ratings were highest for individuals with high independent self-construal. A test of higher order unconditional interaction produced an ΔR^2 of .0165, $F(1,371)$=6.477, *p*= .01 as a result of the three-way interaction. A test of the conditional interaction (Inclusion X independent self-construal) at values of Poster Style revealed that the effect on donation intentions was significant only in the "Animals are Different" poster ($\theta_{XW \rightarrow Y \mid Z= DIFF}$ =0.1903, *p*=.01) and not in the "Animals are Similar" poster condition ($\theta_{XW \rightarrow Y \mid Z= SIM}$ =-0.094, *p*=.25).

Role of Inclusion Manipulation (vs. Control), Poster Frame and Independent Self-Construal in Actual Cash Donation
Controlling for Pet Ownership

This time, controlling for pet ownership, I submitted the actual cash donation measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was not significant R^2=.023, p =.37, F(8, 370)= 1.089. I found no conditional effect of the inclusion condition B=2.509, SE=2.734, t(379)=0.918, p=.36, 95% CI [-2.87, 7.89], nor for independent self-construal measure on its own B=-0.151, SE=0.175, t(379)=-0.863, p=.39 95% CI [-0.50, 0.19], was approaching significant for poster type on its own B=4.713, SE=2.613, t(379)=1.803, p=.07, 95% CI [-0.43, 9.85]. There was no significant interaction between inclusion and independent self-construal B=0.148, SE=0.252, t(379)=0.589, p=.56 95% CI [-0.35, 0.64]. There was an approaching significant conditional effect found for pet ownership B=1.398, SE=0.812, t(380)=1.721, p=.09, 95% CI [-0.20, 3.00]. There was no significant interaction between inclusion and poster type B=-6.015, SE=3.796, t(379)=-1.585, p=.11 95% CI [-13.48, 1.45]. Moreover there was no significant interaction between poster type and independent self-construal B=0.329, SE=0.250, t(379)=1.315, p=.19, 95% CI [-0.16, 0.82], and no significant three-way interaction between poster type, inclusion, and independent self-construal B=-0.365, SE=0.367, t(379)=-0.993, p=.32, 95% CI [-1.09, 0.36]. A test of higher order unconditional interaction produced a non significant ΔR^2 of .003 F(1,370) = 0.985, p= .32 as a result of the three-way interaction.

Role of Inclusion Manipulation (vs. Control), Poster Frame and Independent Self-Construal in Donation Intentions

Controlling for Unmet Belonging

This time controlling for *unmet belonging* I once more submitted the donation intentions measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was significant R^2 = .042, p =.05, F (8, 371)= 2.007. I found no conditional effect of the inclusion condition B=-0.002, SE=0.835, t(380)=-0.003, p=.998, 95% CI [-1.64, 1.64] nor for poster type on its own B=-0.485, SE=0.804, t(380)=-0.603, p=.55, 95% CI [-2.07, 1.10]. There was a significant conditional effect of the independent self-construal measure on its own B=-0.108, SE=0.055, t(380)=-

1.976, p=.05, 95% CI [-0.22, -0.001]. There was a significant interaction between inclusion and independent self-construal B=0.206, SE=0.077, t(380)=2.681, p=.01, 95% CI [0.06, 0.37]. There was no significant interaction between inclusion and poster type B=0.195, SE=1.166, t(380)=0.1675, p=.87, 95% CI [-2.10, 2.49]. There was a significant interaction between poster type and independent self-construal B=0.176, SE=0.077, t(380)=2.297, p=.02, 95% CI [0.03, 0.33], and most importantly again, a significant three-way interaction between poster type, inclusion, and independent self-construal B=-0.291, SE=0.113, t(380)=-2.578, p=.01, 95% CI [-0.51, -0.07]. There was also a significant conditional effect found for unmet belonging B=0.110, SE=0.055, t(380)=2.002, p=05, 95% CI [0.002, 0.22].

The three-way interaction showed that (as before without unmet belonging) in the control condition, individuals with high independent self-construal indicated significantly higher donation intentions with the "Animals are Similar" to us text than they did with the "Animals are Different" to us text. However, in the inclusion condition, independent self-construal made no difference to donation intentions with the "Animals are Similar" to us text, while with the "Animals are Different" to us text ratings were highest for individuals with high independent self-construal. See appendix Figure X for visual. A test of higher order unconditional interaction produced an ΔR^2 of .0172 F(1,371)=6.646, p=.01 as a result of the three-way interaction.

Role of Inclusion Manipulation (vs. Control), Poster Frame, and Independent Self-Construal in Actual Cash Donation

Controlling for Unmet Belonging

This time controlling for *unmet belonging,* I once more submitted actual cash donation measure to the MMR analysis (Model 3, Hayes 2018). The regression model in total was not significant R^2=.019, p=.53, F(8, 370)= 0.889. I found no conditional effect of the inclusion condition B=2.695, SE=2.736, t(379)=0.985, p=.325, 95% CI [-2.68, 8.08], nor for poster type on its own B=4.676, SE=2.625,

t(379)=1.781, *p*=.08, 95% CI [-0.49, 9.84]. There was no significant conditional effect of the independent self-construal measure on its own *B*=-0.215, *SE*=0.178, *t*(379)=-1.205, *p*=.23, 95% CI [-0.57, 0.14]. There was no significant interaction between inclusion and independent self-construal *B*=0.176, *SE*=0.252, *t*(379)=0.701, *p*=.48, 95% CI [-0.32, 0.67]. There was no significant interaction between inclusion and poster type *B*=-5.920, *SE*=3.814, *t*(379)=-1.553, *p*=.12, 95% CI [-13.42, 1.58]. There was no significant interaction between poster type and independent self-construal *B*=0.338, *SE*=0.251, *t*(379)=1.349, *p*=.18, 95% CI [-0.16, 0.83], and no significant three-way interaction between poster type, inclusion, and independent self-construal *B*=-0.373, *SE*=0.369, *t*(379)=-1.011, *p*=.31, 95% CI [-1.10, 0.35]. There was no significant conditional effect found for unmet belonging *B*=0.212, *SE*=0.180, *t*(379)=1.178, *p*=24, 95% CI [-0.14, 0.57]. A test of higher order unconditional interaction produced a non significant Δ*R²* of .003, *F*(1,370)=1.022, *p*=.31 as a result of the three-way interaction.

Role of Similarity to Cause, and Empathy for Cause as Mediators on Donation Intentions and Actual Cash Donation as a factor of the Inclusion Manipulation (vs. Control), Poster Frame, and Independent Self-Construal.

Similarity to Cause

My previous MMR analyses established that both the manipulation (inclusion vs. control) X independent self-construal interaction as well as the three-way manipulation (inclusion vs. control) X independent self-construal X poster type interaction were associated with similarity to the cause, as well as with donation intentions and with actual cash donation. A regression test that placed similarity to cause in as a covariate confirmed that the mediator (similarity to the cause) was related to both donation intentions *B*=2.0846, *t*(380)=19.8448, *p*<.001 and actual cash donation *B*=2.6182, *t*(379)=5.5347, *p*<.001. To test the potential mediation effect I followed the bootstrapping method (with 5000 iterations) advocated by Preacher, Rucker & Hayes (2007). This procedure tests the null hypothesis that the

indirect path from the interaction term to the dependent variable via the mediator does not significantly differ from zero. If zero is not contained within the confidence intervals (CI) computed by the bootstrapping procedure, then one may conclude that the indirect effect is indeed significantly different from zero at p<.05.

b) Similarity to Cause on Donation Intentions

A first stage moderated moderated mediation model (Model 11, Hayes 2018) delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -2.188, Boot *SE*=0.0877, Bootstrap 95% CI = -0.3807 to -0.0344. Probing the interaction we may see that the indirect effect of inclusion on donation intentions through similarity to cause (mediator) is positive for those individuals with high independent self-construal (10.67) in the "Animals are Different" poster type (point estimate: 2.3285, 95% CI from 0.5179 to 4.1534), but not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" poster type (point estimate: -0.5968, 95% CI from -2.3237 to 1.2417). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" poster type (point estimate: -0.3588, 95% CI from -1.7629 to 1.1811), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" poster type (point estimate: 1.3104, 95% CI from -0.555 to 3.0171).

c) Similarity to Cause on Actual Cash Donation

A first stage moderated moderated mediation model delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -2.781, Boot *SE*=0.1195, Bootstrap 95% CI = -0.525 to -0.0501. Probing the interaction, we may see that the indirect effect of inclusion on cash donation through similarity to cause (mediator) is positive for those individuals with high independent self-construal (10.67) in the "Animals are Different" poster type (point estimate: 2.8757, 95% CI from 0.5837 to 5.6839), but not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" poster type (point estimate: -0.7570, 95% CI from -3.1364 to 1.4579). Nor

was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" poster type (point estimate: -0.5441, 95% CI from -2.352 to 1.4563), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" poster type (point estimate: 1.6623, 95% CI from -0.7135 to 3.9091).

Empathy for Cause

My previous MMR analyses established that both the manipulation (inclusion vs. control) X independent self-construal interaction as well as the three-way manipulation (inclusion vs. control) X independent self-construal X poster type interaction were associated with empathy for the cause, as well as with donation intentions and with actual cash donation. A regression test that placed empathy for cause in as a covariate confirmed that the mediator (empathy for the cause) was related to both donation intentions B=2.4737, t(380)=19.1678, p<.001 and actual cash donation B=3.3220, t(379)=5.8583, p<.001. To test the potential mediation effect, I followed the bootstrapping method (with 5000 iterations) advocated by Preacher, Rucker, & Hayes (2007). This procedure tests the null hypothesis that the indirect path from the interaction term to the dependent variable via the mediator does not significantly differ from zero. If zero is not contained within the confidence intervals (CI) computed by the bootstrapping procedure, then one may conclude that the indirect effect is indeed significantly different from zero at p<.05.

   a) *Empathy to Cause on Donation Intentions*
A first stage moderated moderated mediation model (Model 11, Hayes 2018) delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -0.2007, Boot *SE*=0.0925, Bootstrap 95% CI = -0.3765 to -0.0121. However, in this case, probing the interaction, it may be seen that the indirect effect of inclusion on donation intentions through similarity to cause (mediator) is not different from zero for those individuals with high independent self-construal (10.67) in the "Animals are Different" poster type (point estimate: 1.288, 95% CI from -0.4923 to 3.027) , and not different from zero for

individuals with high independent self-construal (10.67) in the "Animals are Similar" poster type (point estimate: -0.3885, 95% CI from -2.0266 to 1.3211). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" poster type (point estimate: -1.5096, 95% CI from -3.116 to 0.1088), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" poster type (point estimate: 1.0293, 95% CI from -0.9973 to 2.8658). However, the indices of conditional moderated mediation by independent self-construal find that again the slope that was statistically different from zero was in the "Animals are Different" poster type, Index = 0.1332, Boot *SE*=0.0583, Bootstrap 95% CI = 0.0189 to 0.2486, and not in the "Animals are Similar" Poster type, Index = -0.0675, Boot *SE*=0.0697, Bootstrap 95% CI = -0.1979 to 0.0819 .

b) *Empathy to Cause on Actual Cash Donation*

A first stage moderated moderated mediation model delivered an index test of moderated moderated mediation with a slope that was statistically different from zero, Index = -0.2662, Boot *SE*=0.1244, Bootstrap 95% CI = -0.5065 to -0.0151. However, again we see that probing the interaction delivers an indirect effect of inclusion on donation intentions through similarity to cause (mediator) that is not different from zero for those individuals with high independent self-construal (10.67) in the "Animals are Different" poster type (point estimate: 1.688, 95% CI from -0.6284 to 4.161, and not different from zero for individuals with high independent self-construal (10.67) in the "Animals are Similar" poster type (point estimate: -0.5149, 95% CI from -2.7774 to 1.7502). Nor was it different from zero for individuals with low independent self-construal (-10.33) in the "Animals are Different" poster type (point estimate: -2.0222, 95% CI from -4.1011 to 0.1526), nor for individuals with low independent self-construal (-10.33) in the "Animals are Similar" Poster type (point estimate: 1.3641, 95% CI from -1.2952 to 3.8265). However the indices of conditional moderated mediation by independent self-construal find that again the slope that was statistically different from zero was in the "Animals are Different" poster type, Index = 0.1767, Boot *SE*=0.0785, Bootstrap

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95% CI = 0.0237 to 0.3304 and not in the "Animals are Similar" poster type, Index = -0.0895, Boot *SE*=0.0935, Bootstrap 95% CI = -0.2685 to 0.0967.

A.16 Study 5 Poster Manipulation

The **holiday season** is a time to **celebrate** for most of us. It's a chance to **take some time off** work, **to relax** and enjoy hobbies, as well as other recreational **activities**.

Enjoy this opportunity to **do the things** you **want to do** and take time out! Many animals however are delivered to the BC SPCA over this holiday period.

During the **Festive Season** therefore also spare a thought for animals in need and consider a donation to the BC SPCA.

(Neutral Condition)

The **holiday season** is a special time we **share with friends, family and loved ones**. It gives us a chance to think about how much we are **cherished** and **valued** by those around us.

Enjoy this opportunity to celebrate your **sense of belongingness** and to rejoice over the positive connections you have with those people that are nearest and dearest to you!

During the **Festive Season** however also spare a thought for animals in need and consider a donation to the BC SPCA.

(Inclusion Condition)

A.17 Power Analysis Outputs for all studies.

Study 1 Power Analysis

Options: exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
         Correlation ρ H1   =   0.30
         α err prob   =   0.05
         Total sample size   =   85
         Correlation ρ H0   =   0
Output: Lower critical r   =   −0.2132929
         Upper critical r   =   0.2132929
         Power (1−β err prob)   =   0.8050743

Study 2 Power Analyses

Exact - Linear multiple regression: Random model

Options: Exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
         H1 ρ²   =   0.1265263
         H0 ρ²   =   0
         α err prob   =   0.05
         Total sample size   =   81
         Number of predictors   =   3
Output: Lower critical R²   =   0.002780683
         Upper critical R²   =   0.1136440
         Power (1−β err prob)   =   0.7053022

t tests - Means: Difference between two independent means
(two groups)

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
         Effect size d   =   0.65
         α err prob   =   0.05
         Sample size group 1   =   40
         Sample size group 2   =   40
Output: Noncentrality parameter δ   =   2.9068884
         Critical t   =   1.9908471
         Df   =   78
         Power (1−β err prob)   =   0.8188419

Exact - Correlation: Bivariate normal model

Options: exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
                Correlation ρ H1   =   0.26
                α err prob   =   0.05
                Total sample size   =   118
                Correlation ρ H0   =   0
Output: Lower critical r   =   −0.1808637
                Upper critical r   =   0.1808637
                Power (1−β err prob)   =   0.8175816

Study 3 Power Analyses

F tests - Linear multiple regression: Fixed model, R²
increase

Analysis: A priori: Compute required sample size
Input: Effect size f²   =
    0.09411765
                α err prob   =   0.05
                Power (1−β err prob)   =   0.8
                Number of tested predictors =   2
                Total number of predictors   =   3
Output: Noncentrality parameter λ   =   9.9764709
                Critical F   =   3.0854650
                Numerator df   =   2
                Denominator df   =   102
                Total sample size   =   106
                Actual power   =   0.8022392

Exact - Correlation: Bivariate normal model

Options: exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
                Correlation ρ H1   =   0.21
                α err prob   =   0.05
                Total sample size   =   187
                Correlation ρ H0   =   0
Output: Lower critical r   =   −0.1435461
                Upper critical r   =   0.1435461
                Power (1−β err prob)   =   0.8262812

t tests - Means: Difference between two independent means (two groups)

Analysis:	Post hoc: Compute achieved power		
Input:	Tail(s)	=	Two
	Effect size d	=	0.42
	α err prob	=	0.05
	Sample size group 1	=	87
	Sample size group 2	=	100
Output:	Noncentrality parameter δ	=	2.8647591
	Critical t	=	1.9728699
	Df	=	185
	Power (1–β err prob)	=	0.8132392

t tests - Means: Difference between two independent means (two groups)

Analysis:	Post hoc: Compute achieved power		
Input:	Tail(s)	=	Two
	Effect size d	=	0.45
	α err prob	=	0.05
	Sample size group 1	=	60
	Sample size group 2	=	120
Output:	Noncentrality parameter δ	=	2.8460499
	Critical t	=	1.9733809
	Df	=	178
	Power (1–β err prob)	=	0.8080414

Study 4 Power Analyses

F tests - Linear multiple regression: Fixed model, R^2 increase

Analysis:	A priori: Compute required sample size		
Input:	Effect size f^2	=	0.09411765
	α err prob	=	0.05
	Power (1–β err prob)	=	0.8
	Number of tested predictors	=	3
	Total number of predictors	=	4
Output:	Noncentrality parameter λ	=	11.2941180
	Critical F	=	2.6834991
	Numerator df	=	3
	Denominator df	=	115
	Total sample size	=	120
	Actual power	=	0.8005508

Exact - Correlation: Bivariate normal model

Options: exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
                Correlation ρ H1   =   0.15
                α err prob   =   0.05
                Total sample size   =   380
                Correlation ρ H0   =   0
Output: Lower critical r   =   −0.1006202
                Upper critical r   =   0.1006202
                Power (1–β err prob)   =   0.8361125

t tests - Means: Difference between two independent means
(two groups)

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
                Effect size d   =   0.29
                α err prob   =   0.05
                Sample size group 1   =   191
                Sample size group 2   =   186
Output: Noncentrality parameter δ   =   2.8151431
                Critical t   =   1.9663102
                Df   =   375
                Power (1–β err prob)   =   0.8017715

Study 5 Power Analyses

Exact - Correlation: Bivariate normal model

Options: exact distribution

Analysis: Post hoc: Compute achieved power
Input: Tail(s)   =   Two
                Correlation ρ H1   =   .28
                α err prob   =   0.05
                Total sample size   =   101
                Correlation ρ H0   =   0
Output: Lower critical r   =   −0.1955704
                Upper critical r   =   0.1955704
                Power (1–β err prob)   =   0.8166022

t tests - Means: Difference between two independent means (two groups)

Analysis:	Post hoc: Compute achieved power		
Input:	Tail(s)	=	Two
	Effect size d	=	.57
	α err prob	=	0.05
	Sample size group 1	=	51
	Sample size group 2	=	50
Output:	Noncentrality parameter δ	=	2.8640742
	Critical t	=	1.9842170
	Df	=	99
	Power (1–β err prob)	=	0.8095462

F tests - Linear multiple regression: Fixed model, R² increase

Analysis:	Post hoc: Compute achieved power		
Input:	Effect size f²	=	.12
	α err prob	=	0.05
	Total sample size	=	101
	Number of tested predictors	=	3
	Total number of predictors	=	3
Output:	Noncentrality parameter λ	=	12.1200000
	Critical F	=	2.6983975
	Numerator df	=	3
	Denominator df	=	97
	Power (1–β err prob)	=	0.8278645