The Gift of Humanity: Terror Management and Explicit Humanness Perceptions

by

Michael Sharp

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Department of Psychology

University of Alberta

Abstract

Terror management theory (TMT) posits the human concept is one of value because it helps mitigate existential anxiety by denying our strictly animal, thus mortal, nature. Further, TMT argues one's culture, a construct tied to humanness, also assists in death and creatureliness denial. Therefore, TMT appears to be an effective framework to understand why humanity has a tendency to deny the humanness of other cultures and why being denied humanness is detrimental. However, TMT has largely neglected intergroup humanness perceptions. Outside a handful of studies assessing implicit humanness, no TMT studies have examined the relationship between death-related thoughts and explicit humanness perceptions. The current studies aimed to fill this gap. Study 1 found mortality salience (MS) led White Americans to increase humanness perceptions for Americans but also, unexpectedly, for outgroups. This unexpected finding may have been due to a spillover effect as participants rated their ingroup alongside various outgroups. In Study 2, the ingroup and associated groups were removed from the measure and no MS effect was reported on group humanness, suggesting the results of Study 1 may have indeed been due to a spillover effect. Additionally, worldview compatibility (Study 1) and threat perceptions (Study 2) of the rated groups predicted more and less humanness, respectively, showing that evaluations of other cultures are associated with humanness perceptions. In Study 3, I found White Canadians who believed they were victims of dehumanization (vs. not) reported higher levels of death-thought accessibility. Overall, the current studies show a causal relationship between death-related thoughts and explicit humanness perceptions: priming thoughts of death increases the need to be perceived as human whereas denying one their humanity increases death-thought accessibility.

Preface

This thesis is an original work by Michael Sharp. The research projects, of which this thesis is a

part, received research ethics approval from the University of Alberta Research Ethics Board,

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CHAPTER 1

General Introduction

General Introduction

Recorded history is filled with *dehumanization*, where an individual or group denies other human beings their full humanity (Haslam, 2006), and its negative outcomes. In ancient Greece, Aristotle regarded barbarians (i.e., non-Greeks) as subhuman due to the belief they lacked rationality and thus were "slaves by nature" (Smith, 2011, p. 31). Christopher Columbus and other European conquerors considered American natives as members of different monstrous races, which made permissible the countless acts of torture, rape, and murder of the men, women, and children of the Americas (Jahoda, 1999; Stannard, 1993). During World War II, the warring countries engaged in dehumanizing propaganda against their enemies or those who they viewed as a threat (Keen, 1991). The more noted example of dehumanization in this period is the Nazi depictions of Jews as seen in the Nazi propaganda film, *The Eternal Jew* (Deutsche Film Gesellschaft & Hippler, 1940), which has footage of rats roaming the streets with a narrator describing them as destructive, disease spreading, cruel, and sneaky before explicitly likening them to Jews. In the 1990s, during the Rwandan genocide, the Hutus referred to the Tutsi as cockroaches, making it easier to engage in the slaughter of an estimated 800,000 Tutsis (Smith, 2011). From these examples, and the countless others one could have just as easily used, some researchers (e.g., Bandura, 1990; Bar-Tal, 1989; Keen, 1991; Opotow, 1990; Schwartz & Struch, 1989) have focused on what one could argue is an essential effect of dehumanization: the ejection of the dehumanized from the sphere of moral protection. Further, the lack of moral protection for the dehumanized, compared to those perceived human, suggests the human concept contains a sense of value.

Given that dehumanization has been linked to some of the most heinous acts committed by humans toward other humans, theory and research investigating its causes and consequences

is paramount. One theory that may provide such insight is terror management theory (TMT;

Greenberg, Pyszczynski, & Solomon, 1986). From a TMT perspective, the human concept is

valued because it helps mitigate the anxiety inherent in the awareness of our mortality. In this

sense, the human concept is largely symbolic and distinct from—and in some contexts, counter

to—its physical nature. Ernest Becker (1973), the cultural anthropologist credited as the central

inspiration for TMT, referred to humanity's paradoxical nature of being both a symbolic and

physical entity as *individuality-within-finitude*. For Becker, the symbolic aspect of humanity

serves to elevate one above their physical nature and mortal fate. However, what specifically

defines the symbolic human concept is not universal to all humanity but is rather relative to one's

culture. Becker discusses the role of culture in elevating human existence above animality in his

classic work, *The Denial of Death*,

> To say someone is "anal" means that someone is trying extra-hard to protect themselves
>
> against the accidents of life and danger of death, trying to use the symbols of culture as a
>
> sure means of triumph over natural mystery, trying to pass himself off as anything but an
>
> animal. (1973, p. 62)

If Becker is correct, then the human concept serves an existential function, namely

alleviating death-related anxiety. The potential for an existential function of the human concept

generates a number of testable predictions related to humanness perceptions. First, reminders of

mortality should increase the need to affirm one's humanity and the construct that informs one's

understanding of what it means to be human (i.e., their culture). Second, during situations when

the human concept is important (e.g., when the individual experiences existential threat), those

who undermine or possess characteristics inconsistent with one's understanding of what it means

to be human will be disparaged, or perceived as less human. Third, threats to one's humanness or

reminders of their animality will increase existential anxiety. Fortunately for Becker, and his

successors, a series of studies using TMT as a foundation have provided direct and indirect

support for many of these claims, which I will discuss below (one may also see Goldenberg,

Morris, & Boyd, 2018 for a recent review).

        If people are motivated to distance from—and deny—their animal nature as TMT would

suggest and their culture informs their understanding of the human concept, then viewing

outgroups and stigmatized others as less human than oneself might be fueled, at least in part, by

existential threat. This process may explain the considerable overlap between the

dehumanization and TMT literatures, with both the denial of humanness and death reminders

causing similar types of destructive outcomes (e.g., aggression; Bandura, Underwood, &

Fromson, 1975; McGregor et al., 1998). It may even be the case that the harmful outcomes

associated with TMT operate through, or at least in conjunction with, dehumanization processes.

Although past research in TMT has laid the groundwork for this possibility, the relationship

between the blatant dehumanization of others and existential concerns is relatively bare. As such,

the purpose of the current research was to begin the investigation of this possible relationship.

To date, no studies have examined the effect of death-reminders on measures of explicit

dehumanization, therefore in Studies 1 and 2, I reminded participants of death (vs. not) and

measured explicit humanness perceptions of a number of groups, including the ingroup (Study 1)

and different outgroups (Studies 1 and 2). If the human concept afforded to the individual via

their culture serves an existential function, then the dehumanization of the individual's ingroup

should increase existential anxiety. Therefore, in Study 3, I reversed the lens and assessed the

effects of being a target of dehumanization on death-thought accessibility (DTA). Although

previous work has found that worldview threats and creatureliness reminders increase DTA,

none have looked at the consequences of being dehumanized (i.e., metadehumanization; Kteily, Hodson, & Bruneau, 2016) as a source of threat that heightens DTA. Before discussing the current studies, I will provide an overview of TMT and research connecting TMT to the human concept.

Terror Management Theory

Based largely on the writings of Ernest Becker (1971, 1973, 1975), TMT begins with the assumption that an important difference between human beings and other animals is the size and complexity of the brain. Evolutionary pressures, such as the need for intimate cooperation and social organization among primates, eventually led to the development of sophisticated intellectual abilities among modern humans. These abilities include (1) temporal thought, the ability to ponder the past and consider what might happen in the future, (2) symbolic thought, the capacity to reason using arbitrary symbols (e.g., language), and (3) self-reflective thought, the ability to reflect on aspects of one's own existence. These intellectual advances afforded human beings many adaptive advantages, but they also had one additional, important consequence: the capacity to ponder one's existence (i.e., self-awareness), when combined with the ability to think about the future, made human beings aware that they are merely flesh-and-blood animals that will gradually (possibly by the end of reading this dissertation) deteriorate and die.

To make matters worse, our unbound imagination also makes us aware that we may not live as long as we would like nor die in the comfort of our home supported by loved ones. Instead, we can imagine an infinite amount of possibilities where we suddenly and "prematurely" die, some (e.g., a car accident) more likely than others (e.g., a falling piano), but each just as fatal as the next. In essence, death lurks around every corner, out of sight but deep within our minds.

The Dual Component Anxiety-Buffering System

According to TMT, the awareness of our inevitable death arouses a sense of great existential anxiety, or *terror*. If not properly managed, this terror disrupts effective functioning in the world (Yalom, 1980, 2009). Thus, in order to function with relative equanimity, humans used the same sophisticated cognitive abilities that created the problem of the awareness of death in the first place to construct and maintain cultural belief systems (i.e., cultural worldviews) and avenues for achieving self-esteem. Together these two psychological structures form a dual component anxiety-buffering system that shield people from the terror of death. Acquired over the course of socialization, the cultural worldview gives the individual answers to life's big questions: What are the origins of life? What is the purpose or meaning of my life? What is right and wrong? What happens to me after I die? Answers to these, and other fundamental questions, will be informed by the individual's dominant culture, which is shaped by the time period, ecological pressures, economic considerations, and historical and intergenerational relationships with other groups. Through the answers to these big questions, the individual can function in an otherwise larger, chaotic, and insignificant existence. Further, the culture is a symbolic construct and is not subject to the abundant weaknesses plaguing the human body. One cannot stab or shoot a culture, one cannot diagnose a culture with cancer (despite any metaphorical claims), nor will a piano fall on the head of culture. This allows for a culture to exist beyond the human lifespan, given it still has followers, thus allowing the human being to identify with something that will persist beyond their own corporeal existence.

Cultural worldviews also help quell existential anxiety by offering opportunities for self-esteem (see Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004 for a review on the relationship between TMT and self-esteem). Per TMT, self-esteem is earned through living up to the standards and values of one's culture. In effect, the need for self-esteem is the sense that one

is an entity of value within the context of their cultural worldview. In other words, how one pursues self-esteem is determined by the particular standards and values of one's own cultural worldview. For example, in contemporary Canadian culture, one may earn self-esteem by doing extraordinary well in higher education, embracing multiculturalism, or slapping around a rubber disc with a specifically, albeit odd, shaped stick. However, these avenues may be worthless to an Amish individual who dismisses the "English" (the Amish term for the non-Amish) world (Hostetler, 1993).

Through this dual component anxiety-buffering system, which consists of the cultural worldview and self-esteem, people manage the terror of death through the attainment of immortality, either literally or symbolically (Greenberg, Solomon, & Pyszczynski, 1997). Literal immortality is the persistence of the self after physical death and is most associated with the afterlives of the world's religions (e.g., heaven, transmigration, or the soul is transported to another planet). Symbolic immortality is the persistence of one's memory after their physical death and could be obtained through such paths as fame (e.g., a movie star), being accomplished in one's career (e.g., award winning psychologist), having children, or having one's name on a building. Through both avenues to immortality, the self continues beyond the annihilation of the physical body.

The Mortality Salience and Death-Thought Accessibility Hypotheses

Since its introduction, hundreds of studies in over a dozen countries have supported TMT (for the most recent handbook on TMT, see Routledge & Vess, 2018). The effects most commonly associated with TMT (e.g., bolstering worldview adherence and derogating or aggressing against worldview violators) are those found through studies testing the mortality salience (MS) hypothesis (for reviews see Burke, Martens, & Faucher, 2009, and Schimel,

Hayes, & Sharp, 2018). According to the MS hypothesis, if the cultural worldview and self-esteem mitigate death-anxiety, then reminders of death should increase one's adherence to their cultural worldview and pursue self-esteem. In the first empirical study published supporting TMT, MS increased municipal court Judges' bond suggestions for a woman charged with prostitution—a threat to the Judges' worldview regarding law and order—by nine times when compared to those not reminded of death (Rosenblatt et al., 1989). In another early study, Christian participants reminded of death reported more favorable impressions of another Christian student, but lower impressions of a Jewish student (Study 1, Greenberg et al., 1990). Similarly, U.S. participants increased their liking for a pro-U.S. interviewee and decreased their liking for an anti-U.S. interviewee relative to controls, but only when mortality was salient. Greenberg, Schimel, Martens, Pyszczynski, and Solomon (Study 3, 2001) found MS even increased White participants' favorability towards a White racist (White pride advocate and bigoted White employer) over a Black racist, whereas in the control condition the pattern was reversed. More extreme, researchers have also found MS increases aggression against political rivals (McGregor et al., 1998) and support for extreme militant action (Pyszczynski et al., 2006). Overall, research supporting the MS hypothesis consistently shows when one is under existential threat, they will attempt to solidify their cultural worldview and this may lead to detrimental, or even hostile, reactions against the source of the threat.

The death thought accessibility (DTA) hypothesis, the most recent addition to the core hypotheses, states threats to death denying structures (i.e., cultural worldviews and self-esteem) weaken their ability to repress death-related thoughts, making thoughts of death more cognitively accessible (for a review on the DTA hypothesis, see Hayes, Schimel, Arndt, & Faucher, 2010). Studies investigating the DTA hypothesis have found threats to self-esteem and the cultural

worldview increases DTA. In an early study, Schimel et al. (2007) found when Canadian

participants read an anti-Canada webpage, they reported higher levels of DTA than their peers

who read an anti-Australia webpage. In a subsequent study, Schimel et al. found creationists

reported higher DTA after reading an anti-creationist essay relative to evolutionists who read the

same essay or creationists who read a neutral essay. Similar findings have been reported with

Christians reading an article positing the story of Jesus was not unique to Christianity (Webber et

al., 2015) and atheists reading an anti-evolution essay (Hayes et al., 2015).

To summarize, reminders of death have been found to increase defense of the cultural

worldview, which often involves derogation or aggression against worldview violators, and to

pursue self-esteem, the belief that one is a valued member of the cultural worldview. Studies

have also found that threatening these psychological structures temporarily weaken their

effectiveness as death-anxiety buffers, which allows thoughts of death to creep closer to

awareness. One important implication of this work and a TMT analysis of human social behavior

is that the need to manage death anxiety explains why people from different religious groups,

cultures and political ideologies across recorded human history have had such a hard time getting

along with one another (Greenberg, Landau, Kosloff, & Solomon, 2009). As noted earlier in this

dissertation, many cases of intergroup hatred and aggression often involve perceptions of the

opposing group as less human (Bandura, 1990; Bar-Tal, 1989; Keen, 1991; Opotow, 1990;

Schwartz & Struch, 1989, Smith, 2011). If, according to TMT, people are motivated to see

themselves as more than merely flesh-and-blood animals that are doomed to decay and die, then

the need to manage existential terror may play an important role in dehumanization processes

that fuel prejudice and hatred toward others. I now turn to a discussion of TMT and the human

concept.

TMT and the Human Concept

Seeing the threat inherent in humanity's animal nature, Becker (1975, p. 92) wrote, "As soon as man reached new historical forms of power, he turned against the animals with whom he previously identified with a vengeance, we now see, because the animals embodied what man feared most, a nameless and faceless death." Succinctly, by denying one's animal nature, one is denying vulnerability to death. Culture, therefore, serves to create and then separate the abstract, symbolic understanding of humanity from an otherwise exclusively biological object. This concept of humanity imbues human existence with meaning and value, allowing for death denial to occur. In this sense, the relationship between death and culture goes deeper than who we may praise or criticize, or even the effects of receiving personal praise or criticism, and goes straight into the heart of the question, "What does it mean to be human?" Throughout the times and spaces in which humans have existed, we see numerous attempts of culture trying to deny or limit the purely corporeal, animalistic nature of human existence, such as the Chaga people's use of anal plugs to deny they defecate (Becker, 1973), the banishment of women to menstruation huts for Hindu women in Nepal (Bhartiya, 2013), or concealing breastfeeding in North America (Goldenberg & Roberts, 2004). In essence, if we are able to deny we are animals, then we may not have to die like an animal. Further, we see reminders of death influence attributions of humanness differently across different cultures (Vaes, Bain, & Bastian, 2014). Below, I discuss a number of studies outlining how reminders of death influence the human concept, both regarding human-animal distancing and humanness-attributions to others.

Existential Threat and Furthering the Human-Animal Gap

The threat of our animal nature and need to distance ourselves from our creatureliness is evident in Jamie Goldenberg and her colleagues' work on the human body, its role in existential

concerns, and the effect the relationship between these two concepts has on personal and social behavior and attitudes (Goldenberg et al., 2018). Goldenberg et al. (Study 1, 2001) provides direct evidence for the existential threat of the human body in a study finding MS increased disgust reactions to body products and animals. In a later study, Cox, Goldenberg, Pyszczynski, and Weise (2007) reported bodily products associated with humanity's creatureliness, such as feces, vomit, urination, and blood, increased DTA. Goldenberg and colleagues (Study 2, 2001) also provided the initial support for the existential need for human-animal distancing, finding MS increased liking of an essay about human uniqueness over human-animal similarity. The need for human-animal distancing when reminded of mortality has also been linked to beliefs regarding human origins, with MS decreasing support for evolution and increasing support for creationist beliefs (Tracy, Hart, & Martens, 2011).

A considerable amount of this work provides insight into dehumanization, namely through the objectification of women (Goldenberg, 2013) and provides the strongest support to date of terror management processes underlying dehumanization. According to Goldenberg and Roberts (2004), women carry most of the burden of humanity's animal nature through the additional bodily processes of menstruation, pregnancy, and breastfeeding and this provides the foundation for cultural prescriptions against women. A number of studies have found when reminded of their mortality, people avoid and negatively evaluate women who are menstruating, breastfeeding, or pregnant. For example, Cox, Goldenberg, Arndt, and Pyszczynski (2007) found reminders of death led to disliking a woman they believed breastfed recently, sitting further away from her, and increased ratings of public breastfeeding as a transgression. In a separate study, Cox et al. found reading an essay highlighting human-animal similarity also led people to be more negative towards a picture of a breastfeeding woman.

Human-animal concerns also influence attitudes towards sex. Goldenberg, Cox, Pyszczynski, Greenberg, and Solomon (2002) found participants who read an essay about human-animal similarity and reflected on the physical (vs. romantic) aspects of sex reported higher levels of DTA. Goldenberg and her colleagues also found human-animal similarity, when accompanied with MS, led to lower attraction to the physical but not the symbolic (i.e., romantic) aspects of sex. Similarly, a study conducted by Landau et al. (2006) found men's attraction to a sexualized woman decreased after a death reminder, presumably because the sexual arousal served as a corporeal reminder for men. However, Morris and Goldenberg (2015) found this effect was eliminated if the sexualized women were literally objectified (merged with a consumer product). By dehumanizing the assumed source of the corporeal threat, usually through objectification (Goldenberg, 2013; Heflick & Goldenberg, 2014), one can preserve the existential buffer inherent in the abstract construction of humanness.

Just as highlighting the creatureliness associated with physical aspects of sex increases DTA, Motyl et al. (2013) found a similar process with aggression. In one study, Motyl et al. had participants read a human-animal similarity or humans are different from animals essay and hit a punching bag or listen to music. Participants in the punching condition reported higher DTA when they read the similarity (vs. different) essay. In a separate study, Motyl et al. (2013) had participants read an essay that highlighted similarities between human and animal aggression, the uniqueness of human aggression, or had them read an unrelated passage before completing a DTA and a support for war measure. Participants who read about the similarities in human and animal aggression reported higher DTA and lower support for war. In sum, our animal nature can be threatening to our human concepts and remind us of our mortality. Thus, when we are

aware of our creatureliness, whether through our sexual arousal or a desire to fight, we may

"[turn] against" this side of ourselves "with a vengeance", as noted by Becker (1975).

Existential Threat and Attributing Humanness to Others

If one's understanding of what it means to be human is shaped by their culture and they

are particularly motivated to embrace that culture (e.g., mortality is salient), then those who fall

outside the cultural boundary or fail to meet the standards of the culture may be denied full

human status. In such instances, it may be necessary to respond to—or against—those who

shatter one's illusions of the symbolic human concept. This may be why research in the

dehumanization and TMT literatures share considerable overlap. This link is clearest when

comparing dehumanization studies to the TMT studies investigating reactions to worldview

violators. As mentioned above, numerous studies have found that MS increases disliking for

outgroup members (e.g., a Jewish student, Greenberg et al., 1990) and dehumanization is

similarly linked to the negative evaluations of an outgroup (e.g., immigrants, Costello & Hodson,

2010). Within the realm of criminal justice, just as MS augmented judges' bond

recommendations for a prostitute (Rosenblatt et al., 1989), a law-breaker that exposes the

animal-related urges of sexuality, descriptions of criminals in animalistic language intensifies the

support for severe legal punishment (e.g., Vasquez, Loughnan, Gootjes-Dreesbach, & Weger,

2014), use of the death penalty (Goff, Eberhardt, Williams, & Jackson, 2008), and torture

(Kteily, Bruneau, Waytz, & Cotterill, 2015). Finally, reminders of death have been found to

increase support for extreme militant force (e.g., use of pre-emptive strikes, nuclear weapons,

and killing thousands of civilians) to stop terrorism (Psyzczynski et al., 2006), and Kteily et al.

(2015) found that dehumanization similarly predicted retaliatory aggressive military actions

(e.g., drone strikes and treating combatants and civilians alike). In other words, the two growing

literatures have found both existential threat and dehumanization processes often lead to similar outcomes in terms of prejudice and hostile action against a threatening outgroup. The similarities between MS and dehumanization outcomes, considered alongside the TMT assertion that humans possess a deeply rooted motive to deny their animal nature, suggests that existential threat, dehumanization, and hostility toward threatening groups are related psychological processes.

Despite the apparent connection between existential concerns and blatant intergroup dehumanization, no studies have yet assessed the relationship between death-related thoughts and blatant dehumanization outside of the context of objectification (e.g., Morris & Goldenberg, 2015). A few studies, however, found evidence for implicit dehumanization within a terror management context. For example, Vaes, Heflick, and Goldenberg (2010) found, when reminded of their mortality, Italian participants attributed more human uniqueness to characteristics associated with their group (e.g., artistic) but not with outgroup characteristics, thereby increasing the humanness-gap between the ingroup and outgroups (Japanese, Study 1; Slavic, Study 2). In another study, Vaes et al. (2010; Study 3) found American participants had lower DTA following an MS manipulation when they attributed more uniquely human characteristics to their ingroup, supporting the notion that the human concept can be a symbolic defense against concerns about death. However, humans are not just defined by features that are unique to humans. Haslam, Bain, Douge, Lee, and Bastian (2005) found support for a second humanness construct, human nature. Within the human nature construct lies emotionality, warmth, and individuality and distinguishes humanity from robots and automata (Haslam, 2006). In a follow-up study using an Australian sample, who emphasize human nature over human uniqueness (Bain, Vaes, Kashima, Haslam, & Guan, 2012), Vaes et al. (2012) found MS increased ingroup

ratings of human nature characteristics, validating cultural differences in how people understand

the human concept. In addition, Piñuela Sánchez and Yela García (2016) found death reminders

led right-wing Spanish university students to minimize Muslim terrorist's capacity for uniquely

human emotions, but not emotions shared between humans and animals, thus engaging in

animalistic dehumanization.

From the perspective of TMT, the intergroup dehumanization that has plagued human

history (as well its present and, likely, its foreseeable future) may be the result of the

perpetrator's need for death denial. If culture and its various elements (e.g., morality, knowledge,

refinement, and civility) separate humans from animals (Haslam, 2006) and in so doing mitigate

existential terror, then those not in the "human ingroup" (Leyens et al., 2001) may be seen as less

human. Thus, under existential threat, one should be more likely to affirm their ingroup's

humanity. Although some studies have supported this tendency via implicit dehumanization

(Vaes et al., 2012, 2010) none have yet examined it using explicit measures of dehumanization.

Further, if the humanness concept buffers individuals from existential threat, then stripping one

of that concept should elicit existential anxiety. The current studies investigated these ideas.

Overview of the Current Studies

From the research outlined above, it would appear the human concept plays an important

role in existential concerns, however, when considering explicit humanness perceptions, this area

is understudied. The goal of this dissertation is to introduce blatant measures and manipulations

of dehumanization into the TMT literature and to further investigate the fundamental role

humanness plays in existential psychology. The current studies aim to close this empirical gap in

two distinctive ways. First, the current studies examine whether MS will increase humanization

of the ingroup and dehumanization of outgroups. To this end, in Studies 1 and 2, humanness

perceptions of various groups were assessed using the Ascent of Man (AoM) scale developed by

Kteily et al. (2015) following a typical MS prime (vs. control). These first two studies also

examined the role of two other predictors of dehumanization measured using the AoM (Kteily et

al., 2015): social dominance orientation (Study 1) and right-wing authoritarianism (Study 2).

Further, because terror management theory and research suggests worldview threat is a source of

intergroup conflict (Greenberg et al., 2009), I examined the role of the perceived relationship

between the outgroup's worldview with the participant's on dehumanization by assessing

worldview compatibility (Study 1) and threat perceptions (Study 2). Finally, rather than limiting

the scope to dehumanization of outgroups, in Study 3 I decided to flip the lens of my

examination and assess whether being the target of dehumanization would heighten DTA.

CHAPTER 2

Study 1

Introduction to Study 1

The aim of Study 1 was to investigate the effects of MS on explicit humanness perceptions. Although some TMT studies have looked at humanness perceptions in relation to existential anxiety, they have focused on implicit humanness perceptions (e.g., uniquely human traits; Vaes et al., 2012, 2010) or the objectification of women (Morris & Goldenberg, 2015). To my knowledge, this is the first study to directly investigate the effects of MS on explicit humanness perceptions. To examine the potential relationship between MS and explicit humanness perceptions, I had White American participants write about their own death or dental pain and then rate the perceived evolutionary status of several geographic groups, some of which are historically dehumanized (e.g., Africans and Native Americans; Goff et al., 2008; Jahoda, 1999), on the AoM scale (Kteily et al., 2015). I predicted MS would increase ingroup humanness but reduce outgroup humanness. Although many geographic outgroups are known to be historically dehumanized, a TMT perspective suggests that groups with alternative worldviews are more likely to be targets of dehumanization. Therefore, I also assessed the worldview compatibility of the outgroup with one's own, and expected it to moderate the MS-Humanness relationship, with less humanness attributed to those with lower worldview compatibility in the MS condition.

I was also interested in testing if social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999), an individual difference in the support for social hierarchies which result in social inequality amongst groups, would moderate the relationship between MS and dehumanization. Within a TMT perspective, because SDO indicates a support for hierarchy, those higher in SDO may be more sensitive to threats to their culture's status under existential anxiety, possibly making them more likely to dehumanize

opposing worldviews. Bassett (2010) found evidence for this relationship in a study showing MS

increased negative attitudes against immigrants, but only for those high in SDO. Additionally,

past research has found SDO to be a predictor of humanness perceptions (e.g., Costello &

Hodson, 2010, 2014; Kteily et al., 2015), with higher SDO attitudes predicting more

dehumanization. If MS makes those high in SDO more sensitive to threats and SDO predicts

dehumanization, then one may expect MS would increase dehumanization in those with high (vs.

low) levels of SDO.

Method

Design

Study 1 is a 2 (Prime: MS vs. Dental pain (DP)) x 2 (Order: Geographic groups first vs.

Athletic groups first) x 8 (Group: American, Canadian, European, Asian, Arab, Native

American, Mexican, and African) mixed-experimental design with prime and order as the

independent variables manipulated between groups, with groups as a within-subject variable and

explicit humanness perceptions as the dependent variable using various geographic groups. I

conducted another set of analyses using a calculated blatant dehumanization score, an aggregate

of ingroup-outgroup differences in humanness, based on a similar measure used by Kteily et al.

(2015) as a dependent variable. I collected the data via the Qualtrics software using Amazon

Mechanical Turk (MTurk) to recruit participants.

Participants

In Study 1, I recruited 193 White American participants through MTurk. However, two

people were excluded due to their responses in an item probing for suspicion, leaving 191

participants (men = 102, women = 89, M_{age} = 39.12, SD_{age} = 19.37) for analysis. Participants

were included in the analysis if they selected European or Euro-North American as their primary

ethnicity or identified as "White" in a textbox. Study 1 focused on White American participants

because it allowed for studying geographically-based outgroup attitudes with a larger singular

group as the ingroup. I posted the study on MTurk as a project investigating the relationship

between personality and attitudes. Participants received $0.25 for their participation.

Materials

SDO (α = .89). To measure SDO, I used the short version of the Social Dominance

Orientation 7 scale (SDO$_{7\text{-short}}$; Ho et al., 2015). The SDO$_{7\text{-short}}$ contains eight items with half of

the items forming a dominance subdimension and the other half establishing the antiegalitarian

subdimension. Further, each subdimension contained half pro- and half con-trait items.

Instructions for the scale were, "Show how much you favor or oppose with each idea below by

selecting the appropriate option on the scale below. You can work quickly; your first feeling is

generally best." Sample items include, "Group equality should not be our primary goal" and

"Some groups of people are simply inferior to other groups." Participants rated each item on a 7-

point scale ranging from 1 (*Strongly Oppose*) to 7 (*Strongly Favor*). For SDO scores, I reverse-

scored the con-traits and averaged all the items into a single composite. Higher scores in SDO

represent higher belief in social dominance. The overall mean score was 3.04 and the standard

deviation was 1.33.

MS manipulation. I manipulated MS by having participants either write about their own

death (MS condition) or about dental pain (DP condition) (see Burke et al., 2010 for a review on

MS manipulations). This method for MS induction is the most common technique for priming

thoughts of death. Labeled the "The Projective Life Attitudes Assessment", the manipulation

tells participants it is a recently developed personality assessment and their responses to

questions about significant aspects of life will be content analyzed to assess certain personality

characteristics. For the MS condition, participants responded to the prompts: "Please briefly

describe the emotions that the thought of your own death arouses in you" and "Please write, as

specifically as you can, what you think will happen to you as you physically die and once you

are physically dead." In the DP condition, participants wrote about similar prompts, replacing

death with dental pain: "Please briefly describe the emotions that the thought of dental pain

arouses in you" and "Please write, as specifically as you can, what you think will happen to you

as you physically experience dental pain and once you have physically experienced dental pain".

I used dental pain as a control because it is an aversive experience but not to the degree of death

and it is the most commonly used control topic of the MS manipulation. Participants gave their

responses in a textbox in the Qualtrics program.

        PANAS X. I used the PANAS X (Watson, Clarke, & Tellegen, 1988) as a delay between

the MS manipulation and humanness measure. Previous work in TMT has shown that reminders

of death elicit symbolic defenses (e.g., worldview defense) after a delay but not immediately

after explicit reminders (Pyszczynski, Greenberg, & Solomon, 1999). The instructions for the

measure were, "This scale consists of a number of words that describe different feelings and

emotions. Read each item and then select the appropriate option that indicates to what extent you

feel this way at the present moment." Participants rated the extent to which they currently felt the

60 different emotions on a 5-point scale ranging from 1 (*Very slightly or not at all*) to 5

(*Extremely*). Ten items assessed positive affect (e.g., inspired and strong; $\alpha = .90$; $M = 2.91$, SD

$= 0.91$) and another ten assessed negative affect (e.g., afraid and distressed; $\alpha = .95$; $M = 1.97$,

$SD = 0.99$).

        Humanness perceptions. I used Kteily et al.'s (2015) AoM scale to measure humanness

perceptions. In this measure, participants used a slider to rate the perceived evolved status of

various groups on a continuum, using an image of the evolutionary transitions from early primate

ancestor to modern human in place of response anchors. Instructions were, "People can vary in

how human-like they seem. Some people seem highly evolved whereas others seem no different

than lower animals. Based on the image below, use the sliders to indicate how evolved you

consider the average member of each group to be". Though not shown to participants, the slider

ranged from 0-100 with lower scores for a group reflecting less humanness, suggesting the group

is closer to nonhuman primates than modern day humans. Participants rated the following

geographic groups: Canadians, Americans (excluded in the outgroup composite), Europeans,

Asians, Arabs, Native Americans, Mexicans, and Africans (all outgroups: $\alpha = .95$; $M = 78.79$,

$SD = 22.25$; all geographic groups: $\alpha = .95$; $M = 79.59$, $SD = 21.50$). I constructed a measure of

outgroup humanness by aggregating all non-American groups into a single composite of average

humanness.

      I also created a relative blatant dehumanization measure by creating a difference score for

each outgroup by subtracting their humanness from the American ingroup (American –

outgroup) and averaging all difference scores into a single score for outgroup dehumanization.

Higher scores represent more dehumanization. Kteily et al. (2015) used the same method in their

validation of the AoM scale. The mean for dehumanization was 6.43 with a standard deviation of

15.17.

      To reduce demand characteristics participants also rated different types of athletes on

humanness with the order of group type counterbalanced ($\alpha = .95$; $M = 75.70$, $SD = 23.70$):

football players, golfers, basketball players, tennis players, baseball players, boxers, and hockey

players.

Worldview compatibility. To assess if worldview compatibility predicts levels of

humanness, participants rated the same groups (i.e., geographic and athletic) they evaluated with

humanness on how compatible each group's worldview is with their own. As with the AoM

scale, participants moved a slider from left (not at all compatible) to right (very compatible).

Instructions were "Use the sliders below to indicate the extent you believe that group's

worldview is compatible with your own", with the slider ranging from 0-100 and participants not

being aware of the numerical score. Whether participants rated the worldview compatibility of

the geographic (all groups; $\alpha = .91$; $M = 65.85$, $SD = 19.73$; outgroups; $\alpha = .91$; $M = 64.14$, $SD =$

20.76) or athletic ($\alpha = .96$) group matched the order of the humanness ratings.

Demographics and additional measures. *Sex.* Participants identified their sex by the

item, "What is your sex?" with the options of male, female, and intersex.

Age. Participants reported their age with the open-ended item, "What is your age?"

Participants gave their response via textbox.

Ethnicity. Ethnic background was collected through the item, "What is your primary

(general) ethnicity?" Participants were given the options of: Aboriginal/First Nations (Native

American), African (including Caribbean of African descent), East Asian (e.g., Chinese,

Vietnamese, Filipino), South Asian (e.g., Pakistani, East Indian, Bangladesh), European (e.g.,

French, German, Italian), Hispanic/Latin-American (e.g., Chilean, Brazilian, Mexican), Middle

Eastern (e.g., Iraqi, Iranian, Egyptian), Euro-North American (including Euro-American), Pacific

Islander, and other. If participants chose other, they were asked to specify. I selected participants

who selected European or European-North American as their ethnic background or entered

"White" or "Caucasian" as other.

Religious affiliation. The item, "To which of the following groups do you belong?" assessed participant's religious affiliation. Options consisted of Christian, Jewish, Muslim, Buddhist, Hindu, Atheist (i.e., I believe there is no God), Agnostic (i.e., I believe that God's existence cannot be known), and other. If participants chose other, I asked them to specify. The sample consisted of 128 (67%) Christians, 28 (14.7%) agnostics, 25 (13.1%) atheists, 1 (0.5%) Jewish, 1 (0.5%) Buddhist, 1 (0.5%) Hindus, and 7 (3.7%) as "other".

Belief in creationism. I measured belief in creationism by averaging the two items: "To what extent do you believe in the Judeo-Christian account of creation (i.e., that God created the universe in 6 days and rested on the 7th)?" and "To what extent is the belief of creationism an important part of your life?" Participants rated these items on a 9-point Likert scale from 1 (*Very little*) to 9 (*Very much*) for the former and 1 (*Not at all important*) to 9 (*Extremely important*) for the latter. Higher scores reflect higher belief in creationism. The mean was 5.03 with a standard deviation of 2.98.

Political affiliation. The item, "What is your political affiliation?" assessed participant's political affiliation. Options for this item were Democrat, Republican, Independent, and other. If participant selected 'other', I asked them to specify. The sample consisted of 65 Republicans (34%), 64 (33.5%) Democrats, 54 (28.3%) Independents, and 8 (4.2%) "other" affiliations.

Attention, suspicion, and quality checks. To determine whether participants were paying attention to the study, I asked four different attention check items throughout the study. Items were phrased as, "This item is seeing if you are paying attention, rate this item [rating]". To detect any suspicion, I asked participants "What do you think the study was investigating?" Quality was also checked with the open-item, "Do you have comments for the researcher?" and two yes/no questions "Do you believe you spent enough time on each question in order to

provide a valid response?" and "Do you believe your data is usable, as in you were able to

answer each question validly, honestly, and accurately?" To assure participants would honestly

answer the items, I informed them they would still be compensated regardless of their response

to these items.

Procedure

Participants enlisted via MTurk by selecting the study from a list of other potential

studies. Instructions prior to the start of the study informed participants of how long the study

may take and the payment for completing the study. After consenting, participants completed the

SDO$_{7\text{-short}}$ scale. In the middle of the scale, participants responded to the first attention-check

item, "This item is seeing if you are paying attention: rate this 'slightly favor'." The survey

program then randomly assigned participants to either the MS or the DP conditions, where they

either wrote about their own death or dental pain, respectively. After the MS manipulation,

participants completed the PANAS X, which served as a delay before the dependent variable.

After completing the PANAS X, participants completed another attention-check item, "This item

is seeing if you are paying attention. Please respond by selecting two" on a 9-point scale.

Qualtrics then directed participants to a new page to rate the humanness of the geographic and

athletic groups, with the order counterbalanced, on the Ascent of Man scale. Following the

humanness ratings, participants completed another attention-check with the item, "This item is

seeing if you are paying attention. Please respond by selecting eight" on a 9-point scale. On a

new page, participants completed the worldview compatibility measure, with the order of groups

matching the sequence used in the dehumanization step. Then participants completed the

demographic items, with the final attention check item, "This item is seeing if you are paying

attention, rate this item seven", on a 9-point scale placed within. Finally, participants answered

the suspicion-check items, debriefed, and asked the quality-check items before re-consenting to

the use of their data.

Results

PANAS

To test if any influence of MS is due to changes in affect, I compared MS and dental pain

conditions on the positive and negative affect subscales of the PANAS. I found no significant

differences between the MS (positive: $M = 2.96$, $SD = 0.99$; negative: $M = 1.99$, $SD = 1.07$) and

dental pain conditions (positive: $M = 2.86$, $SD = 0.82$; negative: $M = 1.96$, $SD = 0.90$) in either

subscale (positive: $t(181.71) = -0.73$, $p = .47$; negative: $t(182.82) = -0.19$, $p = .85$). Thus, MS did

not influence affect, which was eliminated from further analyses.

Geographic-Group Humanness Ratings

To assess the effect of group and MS on humanness ratings, I conducted a mixed-design

analysis, with the groups as the within-subjects variable and MS as the between-subjects factor.

An analysis with order of group type (i.e., athletes rated first or second) yielded no order effects

(all p-values > .20), and was therefore dropped from further analyses. A Mauchly's test for

sphericity found significant differences in the variance across groups, $\chi^2(27) = 324.92$, $p < .001$,

$\varepsilon = 0.60$, thus failing the assumption of sphericity. As the assumption of sphericity failed, I

applied the Greenhouse-Geisser correction, which is the suggested correction if the Greenhouse-

Geisser $\hat{\varepsilon}$ is less than 0.75 (Field, 2013). The corrected within-subject analysis found a

significant main effect for group on humanness ratings, $F(4.20, 789.79) = 17.54$, $p < .001$, $\eta^2 =$

.084. Contrasts found a significant difference when comparing Americans to all outgroups (all

p's < .05; see Table 1 for group means and standard deviations). Consistent with Kteily et al.,

(2015), the largest difference in American-outgroup humanness ratings occurred with Arabs,

with Americans ($M = 85.22$, $SD = 20.77$) rated as more human than Arabs ($M = 73.16$, $SD = 29.11$; $F(1, 188) = 44.01$, $p < .001$, $\eta^2 = .190$).

There was also a significant main effect of MS ($F(1, 188) = 7.53$, $p = .01$, $\eta^2 = .039$) with MS increasing humanness ratings ($M = 83.71$, $SD = 18.43$) relative to dental pain ($M = 75.52$, $SD = 23.54$). This offers mixed support for the main hypothesis: MS did increase ingroup humanness (MS: $M = 89.33$, $SD = 15.51$; DP: $M = 81.16$, $SD = 24.32$) but it also increased outgroup humanness as well (MS: $M = 82.91$, $SD = 19.43$; DP: $M = 74.71$, $SD = 24.14$). The MS x groups interaction did not reach significance ($F(4.20, 789.79) = 0.73$, $p = .58$, $\eta^2 = .004$).

I conducted a moderation analysis with MS and SDO as predictors and the aggregate of outgroup humanness levels as the dependent variable (all groups loaded onto a single factor; see Table 2). The regression model was significant, $F(3, 187) = 11.13$, $p < .001$, $R^2 = .152$. Again, contrary to the first hypothesis' predicted direction, MS predicted increased judgments of the outgroup humanness composite ($\beta = .18$, $t(187) = 2.60$, $p = .01$) rather than decreased judgments. SDO predicted lower perceptions of outgroup humanness, $\beta = -.34$, $t(187) = -4.98$, $p < .001$. The MS x SDO interaction was not significant, $\beta = .05$, $t(187) = 0.67$, $p = .51$.

Relative Dehumanization Score

With the outgroups rated less human than the ingroup (i.e., American), I calculated a relative dehumanization score by averaging all ingroup-outgroup difference scores[1] ($M = 6.42$, $SD = 15.17$; see Table 3). Then, I conducted a moderation analysis with MS as the independent variable, SDO as the moderator, and relative dehumanization as the dependent variable. In this

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[1] All geographic groups humanness loaded on a single factor but when assessing worldview compatibility, Americans, Canadians, and Europeans loaded on a separate factor. Analyses with these two factors and a relative dehumanization score calculated on this factor analysis reported similar effects to the outgroup composite and the original relative dehumanization composite (i.e., Americans – outgroups).

analysis, the model was significant (F(3, 187) = 3.24, p = .02, R^2 = .049) with only SDO as a

significant predictor of blatant dehumanization (β = .22, t(187) = 3.07, $p < .01$). Inconsistent with

my predictions, MS (β = .01, t(187) = 0.07, p = .94) and the MS x SDO interaction were not

significant (β = -.02, t(187) = -0.28, p = .80) in predicting relative dehumanization.

Athletic-Group Humanness Ratings

For the sake of comprehensiveness, I also conducted a mixed-design analysis with the

athletic groups as a within-subjects variable and MS as a between-subjects factor. An analysis

with order of group types (i.e., athletes rated first or second) did not report any order effects (all

p-values > .20) and was eliminated from further analyses. As with the geographic-based groups,

a Mauchly's test for sphericity found significant differences in the variance across athletic

groups, χ^2(20) = 356.92, $p < .001$, ε = 0.55, thus failing the assumption of sphericity. Using the

Greenhouse-Geisser correction, the within-subject analysis found a significant main effect for

group on humanness ratings, F(3.28, 618.95) = 10.74, $p < .001$. Generally, athletes in sports with

less physical contact with other players (e.g., golf and tennis) were rated as more human than

those who participate in full contact sports (e.g., boxing and football) (means and standard

deviations reported in Table 4). However, a factor analysis found all athletic groups loaded onto

a single factor (see Table 5). As with the geographic-groups, there was a significant main effect

of MS (F(1, 189) = 9.40, $p < .01$, η^2 = .047) with MS increasing humanness ratings (M = 80.87,

SD = 20.01) relative to dental pain (M = 70.58, SD = 25.96). The MS x groups interaction did not

reach significance (F(3.28, 618.95) = 0.66, p = .59).

I also conducted a moderation analysis with MS as the independent variable, SDO as the

moderating variable, and athletic-group humanness as the dependent variable. The regression

model was significant, F(3, 187) = 9.57, $p < .001$, R^2 = .133. MS (β = .21, t(187) = 3.07, $p < .01$)

predicted increased humanness of athletic groups, whereas SDO predicted lower levels of

humanness (β = -.28, $t(187)$ = -4.02, $p < .001$). The MS x SDO interaction was not significant, β

= .08, $t(187)$ = 1.22, $p = .22$.

Group Compatibility Ratings

I was also interested in assessing the relationship between the group's humanness and the

worldview compatibility of the group with the participants' own cultural worldview. All

correlations between group humanness and the compatibility of the worldview were positive and

significant. Correlations between geographic group humanness and worldview compatibility

were: Americans ($r = .60, p < .001$), Canadians ($r = .56, p < .001$), Europeans ($r = .56, p < .001$),

Africans ($r = .50, p < .001$), Mexicans ($r = .48, p < .001$), Native Americans ($r = .37, p < .001$),

East Asians ($r = .31, p < .001$), and Arabs ($r = .26, p < .001$). A factor analysis reported

Americans, Canadians, and Europeans loaded on a separate factor than Africans, Arabs, East

Asians, Mexicans, and Native Americans (see Table 6 for factor loadings). For athletes, a similar

pattern of humanness and worldview compatibility appeared, with all correlations being positive

and significant. Correlations between athlete group humanness and worldview compatibility

were: hockey players ($r = .56, p < .001$), baseball players ($r = .54, p < .001$), football players ($r =$

.50$, p < .001$), basketball players ($r = .51, p < .001$), boxers ($r = .49, p < .001$), golfers ($r = .39, p$

$< .001$), and tennis players ($r = .35, p < .001$). All athletic groups loaded on a single factor (see

Table 7 for factor loadings). In sum, the more the target's worldview was compatible with the

participant's, the more human they were perceived to be.

I conducted a moderation analysis with MS as the independent variable, worldview

compatibility (all geographical-based groups) as the moderator, and humanness perceptions (all

geographical-based groups) as the dependent variable. The regression model was significant,

$F(3, 187) = 21.07$, $p < .001$, $R^2 = .253$. MS ($\beta = .16$, $t(187) = 2.53$, $p = .01$) and worldview

compatibility ($\beta = 0.43$, $t(187) = 6.63$, $p < .001$) predicted increased judgments of the

geographic-based group humanness composite. The two main effects were qualified by the MS x

worldview compatibility interaction, $\beta = -0.14$, $t(187) = -2.25$, $p = .03$ (see Figure 1). A simple

slopes analysis showed that MS predicted more humanness when groups were rated low in

worldview compatibility ($\beta = .31$, $t(187) = 3.36$, $p = .001$) but not high in worldview

compatibility ($\beta = 0.02$, $t(187) = 0.17$, $p = .87$), which was contrary to the hypothesis. A similar

moderation analysis with relative dehumanization only reported an effect of worldview

compatibility, which predicted less humanness ($\beta = -0.22$, $t(187) = -3.09$, $p < .01$). MS ($\beta =$

0.01, $t(187) = 0.17$, $p = .87$) and the MS x worldview compatibility interaction ($\beta = 0.02$, $t(187)$

$= 0.32$, $p = .75$) were not significant. The MS x humanness interaction should be interpreted with

caution, however, as humanness appears to have influenced worldview compatibility scores. A

mediation analysis found a significant indirect effect of MS on worldview compatibility through

humanness perceptions for geographic groups, $b = 3.44$, 95% CI[0.91, 6.49] (see Figure 2),

whereas a mediation model switching the mediating and dependent variables (i.e., with

worldview compatibility as the mediator and humanness as the dependent variable) did not

reveal a significant indirect effect, $b = 0.88$, 95% CI[-1.58, 3.98].

      Examining the MS x Worldview compatibility relationship on humanness for athletic

groups returned similar effects. The regression model was significant, $F(3, 187) = 23.20$, $p <$

$.001$, $R^2 = .271$. MS ($\beta = .18$, $t(187) = 2.80$, $p = .01$) and worldview compatibility ($\beta = 0.46$

$t(187) = 7.29$, $p < .001$) predicted increased the perceived humanness of the athletic groups. The

MS x worldview compatibility interaction for athletic groups was marginal, $\beta = -0.12$, $t(187) = -$

1.90, $p = .06$ (see Figure 3). Just as with the geographic-groups, MS increased the humanness of

athletic groups when they were low in worldview compatibility ($\beta = .30$, $t(187) = 3.32$, $p = .001$) but not high in worldview compatibility ($\beta = 0.06$, $t(187) = 0.63$, $p = .53$). Further, the indirect effect of the MS and worldview compatibility relationship for athletic groups was also mediated by humanness, $b = 5.36$, 95% CI[1.82, 9.39] (see Figure 4), and the indirect effect for the mediation model using worldview compatibility as a mediator for the MS and humanness relationship was not significant, $b = 2.02$, 95% CI[-0.92, 5.47].

Discussion

I found minimal support for Study 1's hypotheses. First, I found that American participants did perceive Americans as more human than the other groups. In addition, MS increased ingroup humanness, suggesting the human concept does serve some existential defensive function. However, MS also increased outgroup humanness, so it is unclear whether or not the existential function of humanness is more universal than predicted, by extending to outgroups, or if outgroup humanization is an artifact of the design. Further, the data did not support the prediction that MS would increase a composite relative dehumanization score. At this point, it is also unclear whether MS does not affect explicit relative dehumanization and is reserved more for implicit dehumanization processes (Vaes et al., 2012, 2010) or if MS affects the AoM scale in a different way than it may with other explicit dehumanization measures. I also found no support for an MS x SDO interaction, although SDO did predict more relative dehumanization.

I did not expect to find that MS would increase humanness for outgroups but there may be a few different reasons for this result. One, participants may have increased humanness of outgroups because they increased the humanness of their ingroup as well. In other words, the boost to ingroup humanness may simply have spilled over to the other groups. Another possible

explanation, in line with Goldenberg and colleagues' (2018) work, is death reminders generally increase psychological distancing between humans and animals, such as preferences for an essay espousing human uniqueness (Goldenberg et al., 2001) or decreasing interest in activities associated with animals like war (Motyl et al., 2013) and sex (Goldenberg et al., 2002). Although these studies have found this distancing more in terms of the self, it may also occur with all human groups under certain conditions. A third explanation is MS may have elicited a more universalist perspective. Some previous research has found death reminders, under some circumstances, can elicit more prosocial responses, such as those with liberal worldviews expressing more tolerance after MS relative to a control (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). A fourth explanation is the increased humanness of outgroups may have been due to more socially desirable responding, as in wanting to rate groups more human as a way to not appear as prejudiced as they would otherwise.

Overall, I found some support for the relationship between worldview compatibility and humanness perceptions, as all correlations between group humanness and worldview compatibility were statistically significant and positive. However, I did not find the predicted moderation effect of worldview compatibility on the MS and humanness relationship, with MS predicting less humanness attributed to those with low worldview compatibility. Instead, in line with MS increasing humanness, I found MS increased humanness for those with low worldview compatibility. This was reported with both geographic- and athletic-based groups. As with the increase in outgroup humanness, this outcome was not expected. However, a mediation analysis found the relationship between MS and worldview compatibility was fully mediated by humanness perceptions, so interpretations of the interaction should be carried out with caution as humanness perceptions appeared to have an influence on worldview compatibility. Additionally,

the increase in humanness for low worldview compatibility in the MS condition may have been

due to rating humanness before worldview compatibility, which may have primed a

superordinate group identity of "human" despite perceived compatibility (Gaertner, Dovidio,

Anastasio, Bachman, & Rust, 1996). Regardless, it appears worldview compatibility may not

play as a significant of a role in dehumanization as expected.

   Despite some interesting findings, and in respect to the non-significance in most analyses,

there were some limitations in Study 1. First, the AoM scale may have been too shocking for

participants, thus making the purpose of the study—that I was investigating outgroup

dehumanization—too transparent. However, with the AoM scale, Kteily and colleagues' (2015)

development of the measure reported strong criterion validity. Also, Study 1 did show similar

differences in perceived humanness, with Arabs rated the lowest and Americans the highest. In

this sense, it appears to have worked similarly to Kteily et al.'s usage of the measure. However,

some issues arose when analyzing the data. One issue was the AoM scale's modal response was

the highest possible value (i.e., a mean of 100%), with 61 (32%) participants reporting this value.

The ceiling effect violates the assumption of normality underlying the ANOVA, however, Field

(2013) argues this no longer becomes an issue with larger sample sizes ($n > 30$) but this defense

may be less likely to apply with such a drastic distribution found in the current study. Similarly,

the modal response for SDO was the minimum value (i.e., a mean of one), with 27 (14%) people

scoring at the floor level. Further, as one may expect at a theoretical level, a considerable number

of participants (19; 10%) reported both the lowest value for SDO and the highest value for

humanness ratings. These responses may be comforting at a societal level but they are

problematic when analyzing the data with analyses assuming normally distributed variables.

Furthermore, the extreme modal responses on these measures suggest that a significant number

of participants may have been responding in a highly socially desirable way, and as such, the

measures and manipulations may not have assessed the intended psychological processes.

    Another potential limitation of the current study is the presence of the ingroup alongside

the outgroups in rating humanness. It is unclear if, or how, rating the ingroup and outgroups in

the same measure affected the ratings of outgroups in relation to MS. In the current study, it is

feasible MS boosted ingroup humanness, which then spilled over to the other groups, or MS

simply increases the explicit humanness of all human social groups. It may be necessary to

measure outgroup humanness independently of ingroup ratings to get a more accurate measure of

the perception of outgroup humanness. Study 2 addresses this issue.

CHAPTER 3

Study 2

Introduction to Study 2

In Study 1, I found MS increased humanness perceptions, contrary to the predicted dehumanization effect. In discussing the unexpected findings, I outlined various possible explanations. First, MS increased ratings of the ingroup which then spilled over to the outgroups, shifting them closer toward a higher evolved status. The second explanation, based on the work of Goldenberg and colleagues (Goldenberg et al., 2018), is MS motivates the need to further distinguish humans from animals. As the AoM scale explicitly incorporates the human-animal continuum, reminders of death may induce participants to increase their literal humanness ratings for any human group. The third explanation was MS increased humanness through activating a more universalist perspective. The last explanation is MS led to more socially desirable responding. Study 2 was designed to assess these possibilities.

To address the potential problems of Study 1, I made a few changes. First, the geographic groups in Study 2 did not include Americans, Europeans, or Canadians but retained East Asians, Mexicans, Arabs, Native Americans, and Africans. As I am using the same sample outlined in Study 1, Americans and Europeans were not listed amongst the geographical groups as the sample is American and I selected those who identified as European or European-North American in the demographic questions. Canadians were also not listed as they may be viewed to have some similarities to Americans and may produce a similar suprahumanization shift. To replace the American, European, and Canadian groups, I added White nationalists and Russians to the measure. I added these two groups to (a) minimize perceptions the scale was assessing perceptions of visible minority groups, and (b) include groups that American participants may view as particularly threatening, especially considering the current political climate of the Trump presidency. I also omitted the athletic groups as it did not appear including them affected how

participant's responded to the geographical groups based on the lack of an order effect. The

exclusion of the ingroup (and the other associated groups) from the scale will address the

potential spillover effect that may underlie Study 1's results. If Study 2 reports a

suprahumanization effect of outgroups, then it is unlikely the results of Study 1 were due to a

spillover effect and may have been due to MS increasing the human-animal divide.

   The second change was adding a measure to assess internal (IMS; Plant & Devine, 1998)

and external motivations (EMS; Plant & Devine. 1998) to respond without prejudice. People

may be motivated to not appear prejudiced because it goes against their values (internal) or they

are worried about how they are viewed by others if they express prejudiced views (external).

Despite these two motivations being rooted in different processes, their outcomes may be

identical (i.e., non-prejudiced responding; Plant & Devine, 1989). Thus, Plant and Devine

developed this scale to distinguish between the two different motivations. I decided to include

the IMS and EMS to test whether Study 1's MS-suprahumanization effect was due to a

heightened need to not appear prejudiced, whether due to internal or external forces. If the

increase in humanness ratings is due to an external motivation (e.g., fear of being labelled racist),

then EMS should moderate the MS-humanness relationship. However, the increase in humanness

perceptions may also be due to a more universalist perspective. If this is the case, then the IMS

should moderate the MS-humanness perceptions relationship, with higher (vs. lower) levels of

IMS predicting a larger increase in humanness.

   A third change I made was to replace the SDO measure for a measure of right-wing

authoritarianism (RWA). RWA is characterized by a deference to authority, support for

traditional values, and defensive reactions against outgroups (Altemeyer, 1988), leading those

high in RWA to place a stronger emphasis on upholding and maintaining their cultural

worldview. A previous study reported MS lead to more negative evaluations of an immigrant but only for those with high RWA beliefs, whereas those scoring lower on RWA had more positive evaluations of the immigrant (Weise, Arciszewski, Verlhiac, Pyszczynski, & Greenberg, 2012). Further, RWA has been shown to predict dehumanization, most notably with the same measure used in Studies 1 and 2 (i.e., the AoM scale; Kteily et al., 2015). Therefore, I decided to include RWA as a potential moderator of MS-humanness perceptions.

The last major change I made from Study 1 to Study 2 was to assess threat perceptions of the social groups instead of worldview compatibility. For MS to lead to blatant dehumanization, it may not be enough for two worldviews to merely be incompatible but instead for the target worldview to be perceived as a threat to one's own. If so, then threat perceptions should moderate the relationship between MS and humanness perception, with MS leading to lower humanness perceptions but only for groups the participants' view as a high-threat.

Method

Design

Study 2 is a 2(Prime: MS vs. Dental pain (DP)) x 7(Group: East Asian, Arab, White nationalists, Native American, Mexican, Russians, and African) mixed-experimental design with the prime as the independent variable manipulated between-subjects, groups as a within-subject variable, and explicit humanness perceptions of the groups as the dependent variable. As with Study 1, I collected the data via the Qualtrics software using MTurk.

Participants

In Study 2, I recruited 108 White American participants through MTurk. However, one person failed three of the four attention checks and was eliminated from analysis. After exclusions, there were 107 participants (men = 46, women = 61, M_{age} = 40.66, SD_{age} = 13.73) left

for analysis. Inclusion criteria was the same as Study 1. I posted the study on MTurk as a project investigating the relationship between personality and attitudes. Participants received $0.25 for their participation.

Materials

RWA (α = .82). I measured RWA through the Very Short Authoritarianism (VSA) scale (Bizumic & Duckitt, 2018). The VSA contains six items such as: "It's great that many young people today are prepared to defy authority" (reverse-coded) and "The facts on crime and the recent public disorders show we have to crack down harder on troublemakers, if we are going preserve law and order." Instructions were similar to SDO in Study 1: "Show how much you agree or disagree with each idea below by selecting the appropriate option on the scale below. You can work quickly; your first feeling is generally best." Participants rated their agreement with each statement on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Scores were aggregated into an overall composite for RWA with higher scores reflecting stronger authoritarian attitudes. The mean was 3.50 with a standard deviation of 1.31.

MS manipulation and PANAS X. I used the same MS manipulation and PANAS X measure from Study 1 in Study 2. For the PANAS X, both positive affect (α = .89) and negative affect (α = .95) reported strong internal reliability.

The Morningness-Eveningness Questionnaire. Previous research has found longer delays between MS and the dependent variable increase effects (Burke et al., 2010). Therefore, to provide a longer delay, I had participants complete an additional filler questionnaire with the Morningness-Eveningness Questionnaire (MEQ; Horne & Östberg, 1976). In the MEQ, participants answered a series of questions about their sleeping and waking patterns.

Humanness perceptions. To assess humanness perceptions, I kept the AoM scale. However, I removed Americans, Europeans, and Canadians from the list of groups participants rated to avoid a potential spillover effect of rating the ingroup (and associated outgroups) with the other groups. Americans and Europeans did not appear on the list because the sample is (a) American, and (b) identify European ancestry. I also eliminated Canadians from the list as it may have some association with the United States, the intended ingroup, and I wanted to eliminate any potential interference. A factor analysis found all groups except for White nationalists loaded onto a single factor (see Tables 9 for factor loadings). I aggregated these groups into a single score of group humanness (α = .97; M = 86.76, SD = 19.41) and analyzed White nationalists separately (M = 67.28, SD = 36.62). I also eliminated the athletic groups from Study 2. The instructions, sliders, and measurements were the same as stated in Study 1.

Threat perceptions. Instead of measuring worldview compatibility in Study 2, I decided to measure threat perceptions of the outgroups. I used the same measure for threat perceptions as I used for worldview compatibility but I revised the instructions and anchors to reflect threat. In this measure, participants moved a slider from left (*Not at all threatening)* to right (*Very threatening*). Instructions were, "Use the sliders below to indicate how much of a threat each group is to the nation (i.e., America)", with the slider ranging from 0-100, as with the humanness scores. Similar to humanness perceptions, all groups except white nationalists loaded onto a single factor (α = .91; see Table 10 for factor loadings; M = 24.96, SD = 24.23) and White nationalists were analyzed separately (M = 56.33, SD = 35.84).

Internal and external motivation to not appear prejudiced. To determine if motivations to not appear prejudice influenced responses, I had participants complete a revised version of the Internal and External Motivation to Respond Without Prejudice scale (Plant &

Devine, 1989). In the original scale, the items referred to Black people but in the current study, I

used "minority groups" as the subject for the items. The IMS (α = .89; M = 5.23, SD = 1.25)

assess internal motivations to not respond with prejudice and contains five items such as, "I am

personally motivated by my beliefs to be nonprejudiced toward minority groups." The EMS (α =

.86; M = 3.79, SD = 1.50) measures external motivations to not respond with prejudice and is

also formed by five items. An example item of the EMS is: "Because of today's PC (politically

correct) standards I try to appear nonprejudiced toward minority groups." Participants responded

to the 10 items on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly*

agree). Items were aggregated into their separate subscales, with higher scores reflecting

stronger motivation for their respective subscale.

       Demographics, attention, suspicion, and quality checks. I assessed sex, age, and

ethnicity with the same items as used in Study 1. To check if participants paid attention, were

suspicious, and provided quality data, I used the same items from Study 1.

Procedure

       The procedure for Study 2 was largely the same as in Study 1. Participants selected the

study from a list via MTurk. After consenting, participants completed the RWA questionnaire

(with the first attention check), MS manipulation, PANAS X, MEQ, and another attention check.

Then, participants rated social groups on the AoM scale followed by threat perceptions.

Following another attention check, participants completed the suspicion probe items,

demographic items, IMS, EMS, the quality-check items before re-consenting to the use of their

data, and then fully debriefed.

<div align="center">**Results**</div>

PANAS

To test if any influence of MS is due to changes in affect, I compared MS and dental pain conditions on the positive and negative affect subscales of the PANAS. I found no significant differences between the MS (positive: $M = 2.93$, $SD = 0.81$; negative: $M = 1.68$, $SD = 0.91$) and dental pain conditions (positive: $M = 2.95$, $SD = 0.83$; negative: $M = 1.64$, $SD = 0.86$) in either subscale (positive: $t(105) = 0.12$, $p = .90$; negative: $t(105) = -0.26$, $p = .80$). Thus, MS did not influence affect and was eliminated from further analyses.

Group Humanness Ratings

I conducted a 2(Prime: MS vs. Dental pain) x 7(Group: East Asians, Arabs, Russians, Mexicans, Africans, White nationalists, and Native Americans). A Mauchly's test for sphericity found significant differences in the variance across groups, $\chi^2(20) = 682.22$, $p < .001$, $\varepsilon = 0.25$, thus failing the assumption of sphericity. Using the Greenhouse-Geisser correction, the corrected within-subject analysis found a main effect for group on humanness ratings, $F(1.49, 154.73) = 21.76$, $p < .001$, $\eta_p^2 = .173$ (see Table 11 for means and standard deviations). Overall, participants rated White nationalists as the least human group and East Asians, Native Americans, Russians, and Mexicans as the most human, with Africans rated in between. Main effects of MS ($F(1, 104) = 1.00$, $p = .32$, $\eta_p^2 = .010$) and the MS x group interaction ($F(1.49, 154.73) = 0.47$, $p = .57$, $\eta_p^2 = .004$), failed to reach significance.

For the correlations (see Table 12 for correlations in Study 2) with the humanness group composite, threat perceptions ($r = -.54$, $p < .001$), RWA ($r = -.41$, $p < .001$), and EMS ($r = -.20$, $p < .001$) predicted less humanness perceptions and IMS predicted more humanness perceptions ($r = .47$, $p < .001$). For White nationalists, threat perceptions ($r = -.44$, $p < .001$) and IMS ($r = -.31$, $p = .001$) predicted less humanness, whereas RWA and EMS were unrelated to White nationalist humanness ($ps > .20$).

RWA. I conducted two moderation analyses with MS as the independent variable and RWA as the moderator with the group humanness levels based on the factor analysis (i.e., excluding White nationalists) as the outcome for one analysis and White nationalists in a separate analysis (see Table 13 for both models). The regression model for the group aggregate was significant, $F(3, 103) = 7.49$, $p < .001$, $R^2 = .179$. RWA predicted lower perceptions of humanness, $\beta = -0.43$, $t(103) = -4.64$, $p < .001$. MS ($\beta = 0.06$, $t(103) = 0.71$, $p = .48$ and the MS x RWA interaction was not significant, $\beta = -0.06$, $t(103) = -0.67$, $p = .50$. For White nationalists, the regression model was significant, $F(3, 102) = 2.79$, $p = .04$ $R^2 = .049$. Both MS ($\beta = .10$, $t(102) = 1.09$, $p = .28$) and RWA ($\beta = .10$, $t(102) = 1.05$, $p = .35$) were non-significant but the MS x RWA interaction did reach significance, $\beta = -.21$, $t(102) = -2.15$, $p = .03$ (see Figure 5). Unpacking the interaction, simple slopes analyses revealed that those with low-RWA viewed White nationalists as more human when primed with MS ($\beta = 0.31$, $t(103) = 2.19$, $p = .03$), whereas MS did not affect those with high-RWA ($\beta = -.10$, $t(102) = -0.76$, $p = .45$).

IMS and EMS. I conducted another series of moderation analyses with MS as the independent variable but alternating IMS and EMS as the moderators with the aggregate group and White nationalists humanness as the dependent variables. A moderation analysis with MS as the independent variable, IMS as the moderator, and the aggregate group humanness levels as the outcome yielded a significant model, $F(3, 103) = 11.55$, $p < .001$, $R^2 = .252$. MS predicted increased judgments of the humanness composite ($\beta = .18$, $t(103) = 2.07$, $p = .04$) rather than decreased judgments. IMS predicted higher humanness perceptions, $\beta = .51$, $t(103) = 5.81$, $p < .001$. The MS x IMS interaction was not significant, $\beta = -.08$, $t(103) = -0.88$, $p = .38$. For White nationalists, the regression model was significant, $F(3, 103) = 3.71$, $p = .01$, $R^2 = .098$. IMS was significant, $\beta = -.30$, $t(103) = -3.16$, $p < .01$, predicting less humanness for White nationalists.

MS (β = -.04, t(103) = 0.40, p = .69) and the MS x IMS interaction (β = -.02, t(103) = 0.17, p = .86) were not significant.

A similar set of moderation models, but replacing IMS with EMS, did not return a significant regression model with the aggregate group composite, F(3, 103) = 1.51, p = .22, R^2 = .042. There was no MS effect, β = 0.05, t(103) = 0.54, p = .59. EMS predicted lower humanness perceptions, β = -.19, t(103) = -1.98, p = .05. The MS x EMS interaction was not significant, β = 0.01, t(103) = 0.14, p = .89. For White nationalists, the regression model failed to reach significance, F(3, 103) = 0.42, p = .74, R^2 = .012. MS (β = 0.10, t(103) = 1.00, p = .32), EMS (β = -0.04, t(103) = -0.35, p = .73), and the MS x EMS interaction (β = 0.02, t(103) = 0.21, p = .83) were not significant.

Threat Perceptions

For threat perceptions, I conducted a 2(Prime: MS vs. Dental pain) x 7(Group: East Asians, Arabs, Russians, Mexicans, Africans, White nationalists, and Native Americans) mixed-model ANOVA. A Mauchly's test for sphericity found significant differences in the variance across groups, χ^2(20) = 289.65, p < .001, ε = 0.50, thus failing the assumption of sphericity. Using the Greenhouse-Geisser correction, the corrected within-subject analysis found a main effect for group on humanness ratings, F(2.97, 288.06) = 38.05, p < .001, η_p^2 = .282 (see Table 14 for means and standard deviations). Overall, participants rated White nationalists as the most threatening groups and East Asians and Native Americans as the least threatening, with the other groups rated in-between. MS (F(1, 97) = 3.60, p = .06, η_p^2 = .036) was marginal and predicted lower levels of threat (MS: M = 22.09, SD = 20.05; DP: M = 28.67, SD = 28.56) and the MS x group interaction (F(2.97, 288.06) = 0.46, p = .71, η_p^2 = .005), failed to reach significance.

For the group composite, threat perceptions was positively related to RWA ($r = .48$, $p < .001$)

and EMS ($r = .20$, $p = .04$) but negatively related to IMS ($r = -.43$ $p < .001$). For threat

perceptions of White nationalists, RWA ($r = -.32$, $p = .001$) predicted lower threat and IMS ($r = .23$, $p = .02$) was positively correlated with threat.

Humanness and Threat Perceptions

　　　　To examine whether threat perceptions would influence whether someone would

dehumanize another group if they are under MS, I conducted two moderation analyses with MS

as the independent variable, threat perceptions as the moderating variable, and humanness as the

dependent variable with the group aggregate and White nationalist humanness analyzed

separately. For the group aggregate, the regression model was significant, $F(3, 99) = 15.88$, $p < .001$, $R^2 = .325$ (see Table 15). MS was not a significant predictor ($\beta = 0.01$, $t(99) = 0.11$, $p = .91$) but threat significantly predicted less humanness perceptions, $\beta = -0.61$, $t(99) = -6.82$, $p < .001$. Importantly, the MS x threat interaction was significant, $\beta = -0.20$, $t(99) = -2.24$, $p = .03$

(see Figure 6). Simple slopes revealed MS had a marginal positive effect for low-threat groups ($\beta = 0.20$, $t(99) = 1.69$, $p = .09$) but a non-significant negative effect for high-threat groups $\beta = -0.18$, $t(99) = -1.51$, $p = .13$). However, a separate analysis with the same variables but with IMS

as covariate found IMS was a significant covariate, $\beta = -0.33$, $t(98) = 3.60$, $p < .001$ (see Table

16 for the group factor composite and White nationalists). As with the previous model, the MS x

threat interaction was significant, $\beta = -0.20$, $t(98) = -2.42$, $p = .02$. Unlike the previous model,

with IMS as a covariate MS increases humanness for low-threat groups ($\beta = 0.30$, $t(98) = 2.60$, $p = .01$), but still does not affect humanness for high-threat groups ($\beta = -0.09$, $t(98) = -0.78$, $p = .44$) (see Figure 7). EMS was not a significant covariate, $\beta = -0.10$, $t(98) = -1.19$, $p = .24$.

For White nationalists, the regression model was marginal, $F(3, 102) = 2.34$, $p = .08$, $R^2 = .064$. Similar to the group composite, MS was not significant ($\beta = 0.10$, $t(102) = 1.04$, $p = .30$) but threat significantly predicted humanness perceptions, $\beta = 0.20$, $t(102) = 2.02$, $p < .05$. Unlike the group composite, the MS x threat interaction was not significant, $\beta = -0.13$, $t(102) = -1.35$, $p = .18$. Similar to the group aggregate, IMS was a significant covariate, $\beta = -0.21$, $t(100) = -2.35$, $p = .02$, but only threat perception was a significant predictor, $\beta = -0.40$, $t(100) = -4.45$, $p < .001$. Again, EMS was not a significant covariate, $\beta = 0.01$, $t(100) = 0.11$, $p = .91$.

Correlations between humanness and threat perceptions for each group consistently showed the more threatening a group was rated, the less human they were perceived. The correlations between humanness and threat perceptions for each group were: East Asians ($r = -.50$, $p < .001$), Arabs ($r = -.47$, $p < .001$), Russians ($r = -.24$, $p = .01$), Mexicans ($r = -.54$, $p < .001$), Africans ($r = -.55$, $p < .001$), White nationalists ($r = -.44$, $p < .001$), and Native Americans ($r = -.47$, $p < .001$).

Discussion

Study 2 was designed to address the unexpected MS effect of increased outgroup humanness in Study 1. Various explanations were tested. If the MS effect was maintained in Study 2 without the inclusion of the ingroup, this would have suggested either a human-animal distancing effect for any human social group, a more universalist perspective, or social desirable responding. However, there was no evidence of MS affecting humanness perceptions with the ingroup omitted from the measure. This suggests the findings in Study 1 were due to a spillover effect from the ingroup to the outgroups. Although this is not entirely consistent with the model of dehumanization laid out above, it does provide evidence that the ingroup offers the individual a sense of humanness that becomes exaggerated when reminded of death and other groups are

unaffected. Additionally, RWA, IMS, and EMS, did not moderate the relationship between MS and humanness perceptions for the group composite.

The lack of an MS effect on the AoM scale did not appear to be due to a problem with the measure's validity, although there were some issues with the scale which I will discuss below. As with Study 1 and previous studies using the scale, there was differentiation amongst groups on humanness, such as participants rating East Asians and Native Americans as more human than White nationalists. Further, I found various individual differences predicted humanness perceptions in the way one would expect if it measured what it intended to assess. For example, RWA has been found to predict lower humanness perceptions (e.g., Kteily et al., 2015) and one would expect someone with an internal motivation to not respond with prejudice to rate various geographic-based groups as more human than those without this disposition. Additionally, it does not appear the measure was completed in a manner that would disguise someone's prejudice as EMS predict lower levels of humanness perceptions instead of higher scores.

In Study 1, I found consistent positive correlations between worldview compatibility and humanness perceptions. However, for dehumanization to occur, it may be more important for a sense of threat to be present rather than a merely sense of incompatibility between worldviews. Therefore, I used a threat perception measure in Study 2 and found consistent negative correlations between threat and humanness perceptions. More importantly, I found threat perceptions moderated the MS-humanness relationship. Specifically, MS marginally increased humanness for the outgroups perceived as low-threat but decreased (non-significantly) humanness for groups perceived as high-threat. However, with IMS as a covariate, the marginal increase of MS on humanness became significant for low-threat groups whereas the influence of MS on high-threat groups remained non-significant. This suggests the increased humanness of

low-threat groups was not based merely on an internal motivation to not appear prejudiced but,

perhaps, more solely due to the role of threat in humanness perceptions. Although MS on its own

did not technically have a significant effect on high-threat groups, the differences between low-

and high-threat groups due to MS (vs. DP) was significant and in opposite directions. At the

least, MS may lead one to humanize outgroups more, as long as they are low-threat, but no such

motivation exists for high-threat groups. Outgroups who threaten ones worldview may start and

remain dehumanized when the human concept is important (e.g., under existential anxiety). This

may mean humanness, as an explicit concept, may be more readily attributed during situations of

existential threat but not necessarily more likely to be denied.

Similar to Study 1, there are some limitations of Study 2, mostly centering on the AoM

scale. Once again, the modal response on the AoM scale was full humanness (i.e., the maximum

value) for all groups with 33 participants (30.8%) responding this way. When excluding White

nationalists, the number jumps to 54 participants (50.5%). With the modal response being the

maximum value, one may question the validity of the measure and, with the measure assessing a

socially devalued attitude (i.e., dehumanizing outgroups; Wilde, Martin, & Goff, 2014), one

might claim such results reflect some sort of socially desirable response bias. However, as

discussed above, this does not appear to be the case with how various individual differences

predict AoM scores. As with Study 1, the responses on the AoM undermine some of the

assumptions of ANOVA and any results should be interpreted with caution. With the problems

of the AoM scale and its modal responses, researchers should be hesitant to use the measure in

future studies with a general population, a position I will discuss at more length in the general

discussion.

Another limitation of Study 2 was the lack of variety in social groups. All but one of the groups were geographically-based, with the exception being White nationalists. The current study reduced the number of the categories of social groups to simplify design. It was necessary to simplify the current study in order to address the unexpected findings of Study 1 but it is possible that ratings of geographic-groups may differ in central tendency and variation than other social categories, largely due to social norms against racial prejudice. For example, people may feel more free to dehumanize those that their society scorns (e.g., drug addicts and sex offenders) or ones not generally under the social protection of anti-racism norms. If this is the case, then people may not only feel more permitted to dehumanize them but may also be more motivated to dehumanize such groups under MS.

Study 2 was designed to explain the unexpected findings in Study 1. As MS, on its own, did not increase humanness of the outgroups, it is likely the suprahumanization effect of Study 1 was due to a spillover effect from including the ingroup in the dehumanization measure. By excluding the ingroup in the AoM scale and the lack of MS effects, Study 2 offers a possible explanation. When experiencing existential threat (i.e., MS), the individual will increase the humanness of their ingroup. Although this has been found before with implicit measures of humanness perceptions (Vaes et al., 2012, 2010), it has yet to be found with an explicit measure prior to the current studies. This suggests the human concept provided by one's culture may serve as a buffer against existential anxiety, whereas dehumanizing other groups may not provide a similar defense. Another way to test the possibility of the human concept as an existential buffer is to expose individuals to information that others view them as less human and assess their level of existential threat, which was the purpose of Study 3.

CHAPTER 4

Study 3

Introduction to Study 3

In Studies 1 and 2, death reminders influenced humanness perceptions of outgroups, though in differing ways. In Study 1, MS increased humanness perceptions of the ingroup and outgroups, rating them as more evolved on an evolutionary scale than the control condition, but this effect did not translate into a relative dehumanization difference score. In Study 2, excluding the ingroup resulted in no MS effects on humanness attributions. I argued the difference in outgroup humanness between the two studies was due to a spillover effect in Study 1, which had participants rate the ingroup amongst outgroups whereas Study 2 only had outgroups. In Study 3, I was interested in reversing the lens of Studies 1 and 2, where instead of investigating the effect of death-related thoughts on humanness perceptions (i.e., the MS hypothesis), I examined the effect of humanness perceptions on death-related thoughts (i.e., the DTA hypothesis) through a metadehumanization manipulation.

Studies of *metadehumanization*, the perception that one is a target of dehumanization from another group or individual (Kteily et al., 2016), further illustrate the value attached to the human concept. Kteily et al. (2016) found when participants perceived they were targets of dehumanization from another group, they would engage in reciprocal outgroup dehumanization, which then predicted several obstacles to intergroup harmony. For example, in one study, Kteily et al. found American dehumanization of Arabs mediated the relationship between American metadehumanization and support for aggressive policies against Arabs, such as torture and drone strikes (Study 2). A similar study with a Hungarian sample found the same model could be used to explain the relationship between metadehumanization from the Roma and support for discriminating against the Roma people (Study 3). The relationship between metadehumanization and these outcomes persisted when controlling for metaprejudice, the

perception one is a target of prejudiced beliefs. The fact Kteily and colleagues (2016) found the relationship between humanness perceptions and support for intergroup aggression while controlling for metaprejudice suggests the unique value in the human concept and reciprocal dehumanization is not simply a defense of not being liked by others but rather a defense against not being seen as truly human. Closing the circle on intergroup reciprocal humanness perceptions, a subsequent study found metahumanization, the inverse of metadehumanization, positively predicted American reciprocal humanness perceptions of Muslims in correlational (Study 6) and experimental (Study 7) studies.

Although past TMT studies have found worldview threats increase DTA, none have examined this process in relation to metadehumanization, which Kteily et al. (2015) has found to be distinct from metaprejudice. Additionally, previous work has found reminding people of their creatureliness increases DTA (Goldenberg et al., 2001), but reminding humans they are 'also' animals may be understood differently than being only animals, or at least less human than they believe. In this sense, extending the DTA hypothesis to metadehumanization can bridge worldview threat and creatureliness DTA effects together.

Therefore, in Study 3, I had Canadian participants review a series of completed research materials, purportedly filled in by members of a Middle Eastern studies group. The responses in the fake materials implied Western cultures were less evolved, and therefore less human, than other geographic/ethnic groups (vs. control: Westerners are just as human) or just as evolved (equally human). After reviewing the materials, participants completed a DTA measure. I predicted those who reviewed materials that dehumanized Western cultures will report higher levels of DTA than those in the control condition.

Method

Design

Study 3 used a two-condition experimental design with metadehumanization (vs. equally human) as the independent variable and DTA, measured using a word fragment completion task, as the dependent variable.

Participants

For Study 3, 75 participants were recruited through the University of Alberta's Department of Psychology's research participant pool. In order to take part in the study, participants had to (a) identify as European or Euro-North American, and (b) identify as native English speaker in a mass testing session in the beginning of the term. The decision to recruit only European and Euro-North American participants was necessary because the metadehumanization manipulation was accomplished by leading participants to believe that members of their ingroup (Westerners) were being dehumanized (vs. not dehumanized) by members of an outgroup (i.e., students from the Middle Eastern Studies Program) that had participated in a separate study. The decision to only recruit participants that were native English speakers was necessary because the effectiveness of the DTA measure (a word fragment completion task) assumes familiarity with words in the English language. In total, I excluded nine participants because they suspected the study materials were fake, one who guessed the hypothesis, one who changed their responses in the word fragment task, and one was excluded for not following instructions, leaving a total of 63 participants (men = 19, women = 42, missing = 2; M_{age} = 18.81, SD_{age} = 1.93).

Materials

Fake "previous study" materials. The researcher gave participants a binder of materials presumably completed by students in the Middle Eastern Studies Program. I used the Middle

Eastern Studies Program to be consistent with Kteily et al. (2016) who used Arabs as a target group in the initial metadehumanization study. The binders consisted of 25 sets of (a) the consent form with the name and signature section ripped off, (b) ratings of different food items or food categories, and (c) the humanness rating of various groups. The consent form looked like the consent form signed by the participants but worded in a way to support the cover story. The food survey had participants rate various food items or food categories (e.g., salty, poultry, and fruit) on a 7-point Likert scale ranging from 1 (*I really dislike this type of food*) to 7 (*I love this type of food*), which I used to reduce suspicion.

The humanness ratings measure was based on the AoM scale (Kteily et al., 2015) used in Studies 1 and 2. However, the image used with the scale in the previous studies was changed to "Animal → Human". In addition, because the forms were on paper, the faux-participants rated perceived humanness with a mark on a line reflecting the continuum of "Animal → Human" instead of using an electronic slider position on the continuum. Groups on the humanness measure consisted of: Africans (Kenyans, Ugandans, Nigerians, etc.), East Asians (Chinese, Japanese, Koreans, etc.), Middle Easterners (Turks, Arabs, Palestinians, etc.), Westerners (Canadians, Americans, Europeans, etc), Latin Americans (Mexicans, Brazilians, Argentinians, etc.), and First Nations (Cree, Anishinaabe, Blackfoot, etc.). In the control condition, all groups had the same average length of mark-placement, denoting all groups were viewed as equally human when considering all the faux-participants. In the metadehumanization condition, all groups had the same average length of mark-placement with the exception of Westerners, who had mark-placements that were, on average, 20mm shorter than all other groups.

DTA. I measured DTA using a word-fragment completion task often used in TMT studies (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994; Hayes et al., 2010). In this

task, participants quickly complete 20 different word fragments with the first word that comes to mind. Six of the fragments can be completed with a death-related (buried, dead, grave, kill, skull, and coffin) or neutral (e.g., burned, dear, grape, kiss, skill, coffee) word. I calculated DTA scores by summing the number of death-related words used in the word-fragment completion task. The more fragments completed with a death-related word, the more I inferred death-thoughts were accessible.

Estimate materials. Participants gave their estimates of the faux-participants ratings of the food items and categories and humanness ratings of the various social groups. The measures for both sets of estimates looked similar to the ones reviewed, using the same measurement types (i.e., Likert scale for foods and lines for social groups), however, I revised the instructions for the measures to reflect what the actual participant was supposed to do. Participants gave their estimates of the mathematical average of the 25 faux-participants responses on both measures by circling the number or the space between the two numbers for the food items and categories and by drawing a line on the "Animal → Human" continuum. Estimates were measured in millimeters.

In addition to providing estimates, participants also rated their agreement on five items about making the estimates. Items were: "I found it difficult to come up with a guess for all the items"; "I have confidence that my estimates are close to the actual average for each item"; "My estimates were based on how I would answer each item and not how the participants completed the questionnaires"; "I tried my best to think of an estimate that was only based on information in the finished questionnaires for each item and used those estimates as my guess for each item"; and "I think the estimates I provided would also be a good guess for everyone in that program

and not just those who completed the surveys." Participants rated each item on a 7-point Likert

ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

        Suspicion Probe. Participants also completed 3 open-ended questions meant to probe for

suspicion. Items included: "Did you notice any patterns when reviewing the materials?", "Did

you have any prior knowledge about the materials before you reviewed them? If so, what?", and

"What do you think was the purpose of making the estimates?". In addition, participants engaged

in a verbal suspicion probe.

Procedure

        Participants completed a mass testing procedure in the beginning of the academic term.

Within the mass testing session, participants completed items for assessing sex, age, nationality,

and native language. Participants had to complete each of these measures (and in the accordance

to that outlined above) to be eligible for the study.

        Upon entering the lab, the researcher told participants they will be taking part in a study

about forming estimations. After the participant signed the consent form, the researcher

randomly assigned participants to the control or metadehumanization condition. In both

conditions, the researcher gave the participant a binder containing 25 sets of two completed

surveys (food preference and humanness) and participants were asked to review the surveys until

they were able to provide an estimation of the mathematical average for each item in the surveys.

Participants in the control condition reviewed materials with all social groups having equal

averages of humanness, though with scores varying within the same faux-observation.

Participants in the metadehumanization condition reviewed materials with all social groups

having equal averages of humanness apart from Westerners, whose marks were on average

20mm shorter than in the control condition. The researcher told participants the data was collected from students in the Middle Eastern Studies program obtained in a previous study.

After reviewing the binders, the researcher told the participant they would complete a distraction task to interfere with the participant's use of any temporary memory strategies. To provide this distraction, the research told the participant they would complete a linguistic task where they simply had to complete a series of word fragments by placing letters in the blanks to make words. However, unbeknownst to the participant, the purpose of this word fragment completion task was to measure levels of DTA.

After completing the DTA measure, participants gave their estimates, answered the questions about developing their estimates, responded to suspicion questions, and were then fully debriefed as to the nature of the study. In the debriefing, the experimenter put particular emphasis on the fact that the study materials were fake and completed by the research team.

Results

Participant estimations for Western humanness reflected the manipulation, with those in the metadehumanization condition ($M = 100.76$, $SD = 20.32$) reporting lower humanness values than those in the control condition ($M = 128.59$, $SD = 10.70$), $t(61) = -6.84$, $p < .001$, 95%CI [-35.98, -19.69]. To test if metadehumanization increases DTA, I conducted an independent-samples t-test with the metadehumanization (vs. control) variable as the independent variable and DTA as the dependent variable. Results were consistent with the hypothesis with metadehumanization ($M = 2.13$, $SD = 0.92$) increasing levels of DTA compared to the control condition ($M = 1.66$, $SD = 0.87$), $t(61) = 2.10$, $p = .04$, 95%CI [0.02, 0.92].

Discussion

Study 3 provides additional evidence for the existential nature underlying the human

concept. Based on the DTA hypothesis, Study 3 found White Canadians reported higher levels of

DTA when they believed they were targets of dehumanization by an outgroup (those in the

Middle Eastern studies program). Whereas other studies have found worldview threats (e.g.,

Schimel et al., 2007) and reminders of humanity's animal nature (e.g., Goldenberg et al., 2001)

increase DTA, no studies up to this point have looked at the effects of metadehumanization on

TMT processes. Although it may be tempting to understand metadehumanization simply as

another worldview threat in this context, or even a reminder of one's animal nature, I argue

Study 3's finding is more consequential than these interpretations. In their studies on

metadehumanization, Kteily et al. (2015) found a unique effect of metadehumanization on

reciprocal dehumanization and support for aggressive policies against those who dehumanized

them, which held when controlling for metaprejudice (a worldview threat). In other words, the

metadehumanization effect was not simply due to negative evaluations but rather the unique

threat inherent in the denial of one's humanity. Although Kteily et al. did not assess DTA, it is

possible the reported reciprocal dehumanization and increased support for aggressive policies

was due to an increase in DTA, a possibility needing further research.

One of the limitations of the current study was nine participants (12% of recruited

participants) believed the materials were fake. Although it is necessary to exclude participants if

they do not believe in the cover story to maintain the internal validity of the study as a whole,

such a high percentage suggests the study paradigm may not be compelling enough. Of those

believing the materials were fake, five (56%) said it was the lack of variability in responses, such

as the consistent difference in Western ratings relative to the rest, prompting suspicion. By

creating more variability in Western responses compared to the other groups, future versions of

this study may reduce suspicion. Two other participants expressed suspicion due to ethical

concerns, one stating they believed that viewing responses from another study violated

confidentiality and the other stating that an ethics board would not approve a study which had

participants rate various ethnic groups.

CHAPTER 5

General Discussion

General Discussion

In this dissertation, I used a TMT framework to test if people value the human concept because it helps manage the existential terror inherent in knowing one is a fragile and temporary object in the world. Past studies, such as those reviewed earlier, have shown people are more likely to distance themselves from reminders of their animal nature (e.g., Goldenberg et al., 2001) and enhance their group's ratings on the humanness construct their culture emphasizes (Vaes et al., 2012, 2010). However, no studies to this point have looked at the relationship between terror management processes and explicit humanness perceptions, including blatant dehumanization, outside the context of sexual objectification (Morris & Goldenberg, 2015). This is a noteworthy gap in the literature as there is considerable overlap between MS and dehumanization findings, such as increases in derogation, prejudice, support for annihilation, and aggression (Bain et al., 2014; Routledge & Vess, 2018; Smith, 2011). The current studies were intended to start this investigation and provide a basis for future research.

Through the three current studies, I found evidence supporting the idea that one's culture offers a sense of humanness that serves as an existential buffer. In Study 1, MS increased explicit perceptions of humanness for the ingroup and various outgroups with the latter finding being inconsistent with the hypothesis. Results from Study 2, which I designed to examine the unanticipated outgroup suprahumanization effect, suggests that the results for the outgroup in Study 1 was due to a spillover effect as there was no MS effect on humanness perceptions when the ingroup was excluded from the measure. Together, these two studies provide support for the claim that humanness via one's culture serves an existential purpose and one will view their group as more explicitly human in response to death reminders, a tendency only reported before via implicit humanness perceptions (e.g., Vaes et al., 2012; 2010). I obtained further evidence for

the existential role of the human concept in Study 3, where denying the participant's ingroup its full humanity increased DTA. Thus, Studies 1 and 3, with the clarifications reported in Study 2, show direct evidence of a relationship between death-related thoughts and explicit humanness perceptions. More specifically, reminders of death increased ingroup humanness (Study 1) and ingroup dehumanization increased death-related thoughts (Study 3).

The increase of ingroup humanness after MS is line with other forms of worldview defense in TMT. As discussed above, death reminders increase worldview defense and this may take several forms. One may increase positive evaluations for group members (Greenberg et al., 1991) or praise an individual who upheld their cultural values (Rosenblatt et al., 1989). One could also engage in worldview defense by augmenting their identification with their worldview. In line with this strategy, Castano, Yzerbyt, Paladino, and Sacchi (2002) found reminders of death increase ingroup identification and entitativity, the sense a group is a real entity, and these perceptions mediate the relationship between MS and ingroup bias. Considered alongside theory and research showing the ingroup is associated with one's understanding of who is human (e.g., infrahumanization theory; Leyens et al., 2001), if MS increases ingroup identification, then it would make sense for MS to also increase perceived ingroup humanness. Or, in the context of the current studies, MS should motivate the individual to view their ingroup as more evolved— and, thus more human—than it would for other groups. However, if assessing explicit humanness of the ingroup and outgroups in the same measure, then the increase in humanness for the ingroup may simply shift others along with the ingroup. Although shifted towards more human, these outgroups are still perceived to be different than the ingroup, and thus still relatively less human.

An additional insight into the humanness concept are the relationships between humanness perceptions with worldview compatibility from Study 1. From a TMT perspective, if the cultural worldview instills one with a conceptualization of what it means to be human, then those with a different worldview should be seen as less human. Although correlational, the positive relationships between worldview compatibility and humanness reported in Study 1 is consistent with this claim. However, it appears worldview compatibility is only part of the story. A moderation analysis of MS and worldview compatibility found MS increased humanness for those with low worldview compatibility, inconsistent with the idea of worldview compatibility as a determinant for humanness. Although the current studies do not explicitly address why this effect occurs, it may have been due to the order the measurements were administered (humanness first) and the tendency for those in the MS condition to rate the various groups as more human. However, based on the mediation analysis, it does appear participants considered how human they rated each group to determine the compatibility of their worldviews. To date, there does not appear to be any research examining the relationship between ratings of worldview compatibility and humanness perceptions within an existential context and the current research provides a foundation to pursue this relationship with future research.

The relationship between threat and humanness perceptions, however, is not specific to Study 2 and has been outlined before (Hodson, MacInnis, & Costello, 2014). To the extent a group is threatening to one's culture, thus undermining the veracity or existence of the worldview, they should be seen as less human. Study 2's negative correlations are in line with this relationship. Further, I found a significant MS x threat interaction with MS marginally increasing humanness for low-threat groups. However, controlling for IMS, the MS effect for

low-threat groups became significant. In essence, our perceptions of who is human is predicted by the extent they validate or threaten our worldviews.

Limitations of the AoM Scale

As informative as the current studies are to understanding the terror management-humanness relationship, there were some limitations that merit attention. First, several participants had a tendency to rate all groups as fully human through the AoM scale, making it the modal response for Studies 1 and 2. Although this may offer a moment to rejoice at a social justice level, it is problematic when testing hypotheses that assume distributions without a ceiling effect and may increase the likelihood of making a Type I error (Austin & Bruner, 2003). The tendency towards ceiling effects using the AoM scale should lead researchers to be cautious in using this measure. Instead, researchers may want to use a dehumanization measure that can capture more variability. The lack of variability in the AoM responses for Studies 1 and 2 may have been due to participant's interpretation of the scale. Although the instructions for the AoM scale starts by discussing how some groups may "seem no different than lower animals", participants are then asked how evolved they consider each member to be. Participants may have interpreted the instructions focusing on the latter part with a literal understanding (i.e., how much of an animal are these groups) rather than the former, metaphorical meaning (i.e., how like an animal are these groups). The potential differences in framing the question, however, possesses another crucial question that dehumanization researchers need to consider: What exactly is being measured? I will address this question in more depth below.

For the ceiling effects, it may be the case any blatant measure of dehumanization will elicit similar responses, either due to participants not holding explicit dehumanizing beliefs or not wanting to appear to hold such attitudes. Regarding the AoM, results from Studies 1 and 2

are more in line with the former tendency than the latter as predictors of humanness reflect more genuine beliefs than social desirability. First, SDO (Study 1) and RWA (Study 2), both of which have been implicated in the dehumanization process, predicted lower humanness perceptions of outgroups. Second, levels of an internal need to not appear prejudice predicted higher levels of outgroup humanness perceptions. Third, if participants were responding with more socially desired responses than their own, then the external need to not appear prejudiced would predict higher levels of outgroup humanness but this was the opposite of what was found. Finally, the rankings of humanness perceptions of the various groups closely align with previous research, such as Arabs being rated as the least human group in Study 1 (Kteily et al., 2015). Thus, it appears the AoM, despite its faults, is capturing what it is intended to measure.

Although the AoM does appear to be valid, at least through criterion validity, there may be some inherent issues with the measure that make it less than desirable to use in future research, at least as a general measure of dehumanization. One issue is the shock value inherent on directly asking participants to rate how evolved any social group is, especially those often target by dehumanizing rhetoric or depictions (e.g., Africans; Goff et al., 2008). In the suspicion comments for Study 2, one participant stated, "The statement about people seeming subhuman was shocking[2]." The shock value that may come from the AoM might lead participants to answer differently to the measure by inhibiting more automatic responses and eliciting more thought out responding that may not reflect real-life attitudes.

Another aspect of the AoM that may be problematic in some studies is the evolutionary nature of the measure. Having participants rate others on an evolutionary scale may be

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[2] I assume the participant was referring to the instructions of the AoM scale in their comment as nowhere else discussed people being less than human during the study.

problematic for samples who do not accept evolution (e.g., fundamentalist Christian

participants). This could be more problematic when collecting data in the United States, which

has a high percentage of people who believe humans did not evolve (31%) or evolved through

the guidance of a higher power (27%) (Funk, 2018). If this were the case in the current studies, I

would expect to see higher levels of creationism predicting more humanness but in Study 1 the

correlation was actually negative though non-significant (r = -.10, p = .17). However, this may

be due to the current sample or design. Religious samples may respond more in line with

creationist assumptions (e.g., all humans are children of God) and designs where creationist

beliefs might be primed may affect results. Overall, like any measure, one needs to consider how

participants may react, interpret, and relate to the measure and if these experiences are in line

with the assumptions laid out in the theory and hypotheses the researcher is testing.

     Another limitation of the current studies is the consistent use of the AoM instead of using

different measures or manipulations, given the complications with the measure just discussed. By

not using (possibly) conceptually similar but operationally different measures of

dehumanization, one could argue any effects and their interpretations might be limited to or

biased by the specific measure I used rather than the construct it intended to assess. There is

merit in such criticisms and it is worth considering such critiques when evaluating the current

studies and interpretations above. In fact, below I argue the human concept being measured in

the AoM may differ from other blatant dehumanization measures used in dehumanization studies

(e.g., Bastian & Haslam, 2013). Bastian and Haslam's measure of dehumanization explicitly asks

participants to rate how much like an animal a criminal from a story is, and to rate the target on

items that are tied to human uniqueness, such as how "emotional… responsive and warm" (p. 3)

the target appeared. However, regarding the current studies, the continued use of the AoM in the

current studies is justifiable as it provides a cleaner series of studies to interpret rather than

multiple studies using different measures of humanness perceptions. As Study 1 reported an

unexpected finding (i.e., outgroup suprahumanization), it was necessary to use the same type of

measure to investigate why that effect may have occurred. Thus, in Study 2, I used the same

measure and only changed some of the groups included. After finding the MS effect only

occurred with the ingroup included, I then wanted to further test the existential function of the

human concept and, therefore, I used the same way participants bolstered their humanness in the

earlier studies as a way to deny it in Study 3. The explicit nature of the AoM may have actually

been an advantage in eliciting metadehumanization. If I were to use a different explicit

dehumanization measure and manipulation in each study, then comparing and interpreting the

results of the hypothetical studies may have been less coherent as the nature of the AoM—as

discussed above—may have led to a unique style of responding compared to other explicit

dehumanization measures.

Thoughts on the Current State of Dehumanization Research

Considering the nature of the AoM scale alongside other dehumanization measures

prompts a critical question dehumanization researcher need to answer: When studying

dehumanization, what exactly is the object of study? Specifically, how are researchers defining

what it means to be human in order to judge if dehumanization occurs and does their

conceptualization of "human" match the measure used? For example, the AoM reflects a more

literal form of dehumanization, asking participants to rate how evolved or "human" each group is

or, put differently, how much of animal are these people? If asked how much of an animal a

human social group is, a participant may make more literal judgements and respond with, "They

are not animals, they are still people." However, other measures of dehumanization may tap into

more metaphorical understandings, which may allow for more varied responses. For example, Zebel et al. (2008) had participants rate the degree to which animalistic words (e.g., beast, pet, and animal) related to a Dutch ingroup or Muslim outgroup, which may be interpreted as how much like an animal are these people? One could be similar to an animal but still human.

The literal and metaphorical differences in dehumanization could be understood as the difference between human beings and being human (Evans, 2016). 'Human beings' refer to a category, such as a member of the biological human species. 'Being human', in contrast, insinuates a concept, an abstract idea that is better understood descriptively, as a set of characteristics related to the understandings of what it means to be human. From this perspective, when a person acts immorally or is judged immoral, they may be viewed as not 'being human' but still a human being. This allows for a more dynamic process in which some groups, especially those differentiated via some physical characteristics (e.g., ethnicity/race; Jahoda, 1999), might be more routinely dehumanized whereas others (e.g., women) may be dehumanized in some contexts (e.g., focusing on their body) but not others (e.g., focusing on them as a person; Heflick & Goldenberg, 2009). The human being-being human, or literal-metaphorical, distinction might be a critical consideration for dehumanization research, may be affected by different processes, and could result in different findings (e.g., tendencies toward ceiling effects vs. a more normalized distribution).

The complexity of defining what it means to be human, and how to measure that construct, goes beyond discussing the differences between the 'human being' and 'being human'. At a more foundational level is how do people define what it means to be human? At first glance, this question may seem a bit nonsensical. In a modern sense, one may assume to define "human" as a biological construct, through concepts such as physical structures, genetics, DNA, and

evolution. In fact, this is the understanding that dehumanization researchers appear to accept as the human groups participants rate in dehumanization studies are homo sapiens but belong to different groups (e.g., ethnicities, religions, politics, or SES) or exhibit varying levels of some characteristic humans value in other humans (e.g., morality). When participants deny homo sapiens human characteristics, researchers assume dehumanization has occurred. However, this is problematic as biological definitions of humanity do not appear to be sufficient for everyone.

Evans (2016) outlines four different anthropologies, a term used to denote how one defines humanity rather than in reference to the academic discipline, people may use when considering what it means to be human: biological, theological, philosophical, and socially conferred. The biological anthropology is the one previously outlined, defining humanity in terms of biological considerations such as genetics and heritage. The theological anthropology is rooted in Judeo-Christian theology and defines humanity in relation to God and the concept of Imago Dei, the belief humans were created in God's image. The philosophical anthropology defines humans through the possession or lack of specific characteristics (e.g., reason or creativity). Finally, the socially conferred anthropology defines humanity more through social relationships, where humanness is based on whether other people relate to or sees the other target as human. Importantly, Evans reports a tendency for individuals to hold some combination of the anthropologies above, noting they are not mutually exclusive in practice, though they appear to be so logically. However, people will hold stronger beliefs in one anthropology over others. For example, Evans found philosophy students embraced more of a philosophical anthropology than biological but did not deny biological considerations when considering one's human status.

When considering the different anthropologies, some critical issues in dehumanization research start to fester. First, as mentioned above, dehumanization researchers generally appear

to accept a biological anthropology. However, they may measure or conceptualize dehumanization in their studies by using a non-biological anthropology (e.g., Haslam, 2006; Leyens et al., 2001). Since the early 2000's, dehumanization researchers have started to use implicit measures of humanness, largely focusing on characteristics (e.g., emotions and traits) that are related to being human (e.g., uniquely human emotions; Leyens et al., 2001) but not understood as a biological determinant. In this example, by measuring humanness via human-related characteristics, researchers are measuring a philosophical anthropology about a group they define through a biological anthropology. The disagreement between the researcher's anthropology and the anthropology of the measure may undermine the validity of the measure's use as it is not accurately reflecting what the researcher is attempting to make claims about. This may have been an issue in the current studies. From a TMT perspective, and rooted in Becker's (1973) individuality-within-finitude, the human is both a symbolic and a physical entity. The symbolic half of the human is what transcends the being above nature as a way to mitigate death-anxiety. Therefore, MS may affect a construct that measures the symbolic humanness of the outgroup more so than one assessing the physical aspect of humanness, such as the AoM scale. This may be why MS leads to implicit dehumanization, denying outgroups humanness via characteristics (e.g., Vaes et al., 2010), but not the explicit dehumanization in the current study.

Another problem might be present in the disconnect between the measure's anthropology and the participant's own understanding of what it means to be human. In the current studies, it is likely at least some of the participants do not accept (only) a biological anthropology and define humanity more in terms of a theological perspective, such as being created in God's image, or a philosophical anthropology. If a participant who accepts a theological anthropology were to complete the AoM scale, their responses may not actually represent what the researcher

intended it to measure (i.e., how human is the target?) and rating groups on evolutionary status

may be essentially meaningless to the participant, especially if they do not accept the theory of

evolution. The potential differences in anthropologies between researchers, participants, and the

measures are problematic for developing frameworks that can be used to understand when

dehumanization will occur and who it will be used against if these differences are neglected.

However, at this point, it does not appear to be a discussion being held within the

dehumanization literature.

Future Research

The added complexity of considering the differing anthropologies, and how they may

relate to the various aspects of the research process, should not be viewed as an obstacle for

dehumanization research. On the contrary, by differentiating how people understand the human

concept, dehumanization researchers can provide stronger theories for when dehumanization will

occur and who may be the perpetrators or targets of dehumanization in varying circumstances.

From a TMT perspective, one's anthropology would be an aspect of the cultural worldview,

which may respond to existential threat and produce varying effects on dehumanization and its

outcomes. For example, those with a biological anthropology may increase humanness on the

AoM scale for groups following a death reminder even if the groups rated are typically

dehumanized (e.g., drug addicts and sex offenders)—if there was room to increase humanness

given ceiling effects in Studies 1 and 2. At the least, they should be less likely to dehumanize any

biological human group on a literal dehumanization measure such as the AoM. However, for

those with a philosophical anthropology, MS may lead to dehumanizing various groups via the

denial of human-related characteristics, especially those who violate their standards of being

human, such as behaving immorally. Further, those who embrace a philosophical anthropology

may also be more likely to anthropomorphize non-humans if they exhibit some human-related

characteristics (e.g., the smart and loyal family dog being seen as a true family member) and

support animal rights if the particular animal exhibits humanlike behaviors (e.g., a painting

elephant).

Future research should also address the potential differences in how participants respond

to literal or metaphorical measures of dehumanization. Although the debate of whether to use

implicit or explicit measures persists in the literature (Kteily et al., 2015; Wilde et al., 2015),

there does not seem to be any discussion about using metaphorical or literal assessments. As

discussed above, literal measures may result in non-normally distributed data and this may be

less likely with metaphorical measures. Expanding on the current studies, future research should

manipulate MS and measure dehumanization via metaphorical measures, such as how animalistic

a groups seems, how much a group reminds them of different animals, and what types of

language (i.e., animalistic vs. not) best describes the group and its behavior. The studies should

also consider the worldview compatibility and level of threat associated with the targeted group,

such as using contentious political groups during an election.

.   Study 3 provides an additional area for future research: the existential implications of

metadehumanization. In Study 3, I found metadehumanization increases DTA. However, it is not

clear at this point exactly why this effect occurred or how this may affect subsequent responses,

such as reciprocal dehumanization or retaliatory aggression (Kteily et al., 2016). It is possible

metadehumanization increases DTA through the same processes of other worldview threats

previously studied (e.g., anti-Canadian worldview threats; Schimel et al., 2007). However, Kteily

et al., (2016) found metadehumanization's role in defensive responses remained after controlling

for metaprejudice, suggesting the human concept plays a unique role in intergroup perceptions

and relations. Future research should investigate whether Study 3 was the result of a simple worldview threat or if stripping one of their humanity has a distinctive effect on existential processes. This may be done by replicating previous DTA studies (e.g., anti-Canadian worldview), assess metadehumanization and DTA, and conduct a mediation analysis with threat as the independent variable, metadehumanization as the mediator, and DTA as the dependent variable. Then, subsequent studies could assess whether the outcomes of metadehumanization are due to existential threat.

Conclusion

In this dissertation, I conducted three studies assessing the existential functions of the human concept by introducing blatant humanness perceptions to the TMT literature. Until this point, the use of blatant dehumanization was understudied in TMT studies, with the exception as a manipulation in a study assessing sexual objectification (Morris & Goldenberg, 2015). Overall, I found evidence supporting the claim that one's culture provides the individual a sense of humanness that helps defend against existential anxiety. More specifically, in Study 1, I found reminders of death increased humanness for the ingroup and outgroup and results from Study 2 suggests outgroup humanization was due to a spillover effect from the ingroup. I found additional support for the existential functions of humanness via one's culture in Study 3, which reported increased DTA amongst participants who believed an outgroup dehumanized their culture. However, the scale used to measure explicit humanness perceptions in Studies 1 and 2 was problematic. Specifically, the AoM scale suffered from consistent ceiling effects, with a considerable amount of participants awarding full humanness to all groups. However, it does not appear the ceiling effect was due to socially desirable responses and reflected the participants' attitudes, at least at the explicit level. Regardless, the lack of variability in the measure violated

various assumptions underlying ANOVA and, thus, require caution in their interpretations. That said, the three current studies still provide additional support for the idea that the human concept provides an existential function (i.e., to defend against death-related anxiety) and is consistent with previous theory and research.

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Table 1

Means and Standard Deviations of Humanness as a Function of MS x Geographic Group for

Study 1.

Group	Mortality Salience (n = 94)		Dental Pain (n =96)		Total (N = 191)	
	M	SD	M	SD	M	SD
Americans_a	89.72	15.10	81.16	24.32	85.39	20.69
Canadians_bd	86.13	18.68	76.89	27.79	81.46	24.11
Europeans_bc	86.18	20.05	80.13	24.39	83.12	22.49
East Asians_bd	85.90	18.40	76.53	26.09	81.17	23.04
Arabs_e	76.17	29.12	70.52	28.98	73.32	29.11
Native Americans_bcd	85.05	21.70	76.61	26.73	80.79	24.67
Mexicans_ef	81.69	24.20	71.47	29.06	76.53	27.18
Africans_ef	80.65	24.48	70.82	29.69	75.68	27.61
Total	82.91	19.43	74.71	24.14	78.79	22.25
Dehumanization	6.42	13.89	6.45	16.42	6.43	15.17

Note. Means that do not share subscript differ at $p < .05$.

Table 2

Factor Loadings for Geographic Group Humanness Perceptions for Study 1.

Item	Factor 1
Europeans	.89
Mexicans	.89
East Asians	.88
Native Americans	.86
Canadians	.83
Arabs	.81
Africans	.81
Americans	.79

Note. Only factor loadings above .30 are shown

Table 3

Moderation Analysis of Geographic Group Humanness and Relative Dehumanization as a

Function of MS x SDO for Study 1.

	B [LBCI, UBCI]	*SE b*	β	t	p
Outgroup humanness					
Constant	78.81 [75.89, 81.80]	1.50		52.69	< .001
MS	7.77 [1.87, 13.67]	2.99	.18	2.60	.01
SDO	-5.62 [-7.85, -3.39]	1.13	-.34	-4.98	< .001
MSxSDO	1.51 [-2.96, 5.97]	2.26	.05	0.67	.51
Relative dehumanization					
Constant	6.44 [4.25, 8.51]	1.08		5.96	< .001
MS	0.16 [-4.10, 4.42]	2.16	.01	0.07	.94
SDO	2.51 [0.90, 4.12]	0.82	.22	3.07	< .01
MSxSDO	-0.46 [-3.68, 2.77]	1.63	-.02	-0.28	.80

Note. Outgroup humanness: R^2 = .152 , p < .001. Relative dehumanization: R^2 = .049, p = .02.
LBCI = Lower bound confidence interval for *b*. UBCI = Upper bound confidence interval for *b*.

Table 4

Means and Standard Deviations of Athletic Group Humanness as a Function of MS x Group for

Study 1.

	Mortality Salience (n = 95)		Dental Pain (n =96)		Total (N = 191)	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Football players$_a$	77.81	25.26	67.86	30.21	72.81	28.23
Golfers$_{bcd}$	84.01	20.89	73.48	26.81	78.72	24.56
Basketball players$_{bc}$	80.76	24.32	70.88	28.44	75.79	26.86
Tennis players$_{bd}$	85.34	19.48	72.35	28.86	78.81	25.43
Baseball players$_{bd}$	83.53	21.80	73.32	26.26	78.40	24.62
Boxers$_a$	74.54	27.62	66.91	30.55	70.70	29.30
Hockey players$_{ac}$	80.11	24.63	69.26	29.84	74.65	27.84
Total	80.87	20.01	70.58	25.96	75.70	23.70

Note. Means that do not share subscript differ at $p < .05$.

Table 5

Factor Loadings for Athletic Humanness Perceptions for Study 1.

Item	Factor 1
Baseball players	.92
Basketball players	.92
Football players	.91
Hockey players	.90
Boxers	.86
Tennis players	.81
Golfers	.74

Note. Only factor loadings above .30 are shown

Table 6

Factor Loadings for Geographic Group Worldview Compatibility for Study 1.

Item	Factor 1	Factor 2
Africans	.81	
Mexicans	.81	.42
Arabs	.75	
East Asians	.69	.50
Native Americans	.67	.35
Europeans	.30	.87
Canadians	.32	.76
Americans		.61

Note. Only factor loadings above .30 are shown

Table 7

Factor Loadings for Athletic Worldview Compatibility for Study 1.

Item	Factor 1
Baseball players	.89
Basketball players	.88
Football players	.88
Hockey players	.88
Boxers	.87
Tennis players	.87
Golfers	.82

Note. Only factor loadings above .30 are shown

Table 8

Moderation Analysis of Outgroup Geographic Group Humanness and Relative Dehumanization

as a Function of MS x Worldview Compatibility for Study 1.

	b [LBCI, UBCI]	SE b	β	t	p
Constant (outgroup)	78.93 [76.15, 81.70]	1.41		56.15	< .001
MS	7.10 [1.55, 12.64]	2.81	.16	2.52	.01
WvC	0.48 [0.34, 0.62]	0.07	.43	6.63	< .001
MSxWvC	-0.33 [-0.61, -0.04]	0.15	-.14	-2.25	.03
Constant (dehumanization)	6.41 [4.28, 8.54]	1.08		5.92	< .001
MS	0.37 [-3.89, 4.63]	2.16	.01	0.17	.87
WvC	-0.17 [-0.28, -0.06]	0.06	-.22	-3.09	< .01
MSxWvC	0.04 [-0.19, 0.26]	0.11	.02	0.32	.75

Note. Geographic-group humanness: $R^2 = .253$, $p < 001$. Relative dehumanization: $R^2 = .051$, $p = .02$. LBCI = Lower bound confidence interval for b. UBCI = Upper bound confidence interval for b. WvC = Worldview compatibility.

Table 9

Factor Loadings for Humanness Perceptions for Study 2.

Item	Factor 1
Russians	.95
Africans	.95
East Asians	.95
Mexicans	.94
Arabs	.89
Native Americans	.87

Note. Only factor loadings above .30 are shown

Table 10

Factor Loadings for Threat Perceptions for Study 2.

Item	Factor 1
Mexicans	.95
Africans	.91
East Asians	.78
Arabs	.75
Native Americans	.74
Russians	.57

Note. Only factor loadings above .40 are shown

Table 11

Means and Standard Deviations Group Humanness a Function of MS x Group for Study 2.

Group	Mortality Salience (n =59)		Dental Pain (n = 47)		Total (n = 107)	
	M	*SD*	*M*	*SD*	*M*	*SD*
East Asians$_a$	88.20	20.31	87.83	19.47	88.04	19.85
Arabs$_b$	85.10	22.29	81.72	24.06	83.60	23.04
Russians$_{ac}$	88.90	19.25	84.62	20.88	87.00	20.01
Mexicans$_{ac}$	87.71	21.01	85.96	22.05	86.93	21.39
African$_{bc}$	87.20	21.49	83.00	23.53	85.34	22.41
White nationalists$_d$	70.61	34.31	63.11	39.30	67.28	36.62
Native Americans$_a$	90.29	16.60	87.09	18.79	88.87	17.59
Total (group composite)	87.90	18.96	85.35	20.07	86.76	24.23

Note. Means that do not share subscript differ at *p* < .05.

Table 12

Correlation Table for Study 2.

Variable	1.	2.	3.	4.	5.	6.
1. Humanness - Group	-					
2. Threat– Group	-.54***	-				
3. Humanness – White nationalists	.11	.11	-			
4. Threat- White nationalists	.20*	.03	-.44***	-		
5. RWA	-.41***	.48***	.15	-.32**	-	
6. IMS	.47***	-.43***	-.31**	.23*	-.35***	-
7. EMS	-.20*	.20*	-.05	.07	.14	.02

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. RWA = Right-wing authoritarianism. IMS = Internal Motivation to not Appear Prejudice Scale. EMS = External Motivation to not Appear Prejudice Scale.

Table 13

Moderation Analysis for Humanness Perceptions a Function of MS x RWA for Study 2.

	b [LBCI, UBCI]	SE b	β	t	p
Constant (Group)	86.81 [83.38, 90.24]	1.73		50.24	< .001
MS	2.46 [-4.42, 9.34]	3.47	.06	0.71	.48
RWA	-6.41 [-9.15, -3.67]	1.38	-.43	-4.64	< .001
MSxRWA	-1.80 [-7.11, 3.51]	2.68	-.06	-0.67	.50
Constant (White nationalists)	67.22 [60.34, 74.10]	3.47		19.38	< .001
MS	7.60 [-6.25, 21.45]	6.98	.10	1.09	.28
RWA	2.88 [-2.54, 8.30]	2.77	.10	1.05	.35
MSxRWA	-11.53 [-22.16, -0.90]	5.36	-.21	-2.15	.03

Note. Group: $R^2 = .179$, $p < .001$. White nationalists: Note. $R^2 = .076$, $p = .04$. LBCI = Lower bound confidence interval for b. UBCI = Upper bound confidence interval for b.

Table 14

Means and Standard Deviations of Threat Perceptions as a Function of MS x Group for Study 2.

Group	Mortality Salience (n =57)		Dental Pain (n = 42)		Total (n = 99)	
	M	SD	M	SD	M	SD
East Asians[a]	13.67	19.50	21.26	19.50	16.89	24.04
Arabs[b]	33.35	32.60	40.26	34.92	36.28	33.61
Russians[b]	32.63	30.08	41.57	31.00	36.42	30.64
Mexicans[c]	19.82	25.01	31.07	34.81	24.60	29.93
Africans[ad]	15.14	22.22	27.19	34.35	20.25	28.49
White nationalists[e]	55.32	34.54	57.71	37.90	56.33	35.84
Native Americans[a]	12.49	22.63	20.60	31.13	15.93	26.72
Total (group composite)	22.09	20.05	28.67	28.56	24.96	24.23

Note. Means that do not share subscript differ at p < .05.

Table 15

Moderation Analysis for Humanness Perceptions a Function of MS x Threat for Study 2.

	b [LBCI, UBCI]	$SE\ b$	β	t	p
Constant (Group)	85.74 [82.51, 88.97]	1.63		52.68	< .001
MS	0.37 [-6.14, 6.87]	3.28	.01	0.11	.91
Threat	-0.49 [-0.64, -0.35]	0.07	-.61	-6.82	< .001
MSxThreat	-0.31 [-0.58, -0.04]	0.14	-.20	-2.24	.03
Constant (White nationalists)	86.17 [82.47, 89.86]	1.87		46.21	< .001
MS	3.91 [-3.55, 11.36]	3.76	.10	1.04	.30
Threat	0.11 [0.00, 0.21]	0.05	.20	2.02	< .05
MSxThreat	-0.14 [-0.35, 0.07]	0.11	-.13	-1.35	.18

Note. Group: R^2 = .325, p < .001. White Nationalists: R^2 = .064, p = .08. LBCI = Lower bound confidence interval for b. UBCI = Upper bound confidence interval for b.

Table 16

Moderation Analysis for Humanness Perceptions a Function of MS x Threat with IMS as a

Covariate for Study 2.

	b [LBCI, UBCI]	$SE\ b$	β	t	p
Constant (Group)	58.93 [43.85, 74.02]	7.60		7.75	< .001
IMS	5.14 [2.31, 7.97]	1.43	.33	3.60	.001
MS	4.11 [-2.38, 10.59]	3.28	.10	1.23	.21
Threat	-0.37 [-0.52, -0.22]	0.08	-.46	-4.85	< .001
MSxThreat	-0.32 [-0.58, -0.06]	0.13	-.20	-2.42	.02
Constant (White nationalists)	99.23 [70.91, 127.55]	14.28		6.95	< .001
IMS	-6.27 [-11.55, -0.98]	2.66	-.21	-2.35	.02
MS	2.94 [-9.98, 15.86]	6.51	.04	0.45	.65
Threat	-0.41 [-0.59, -0.23]	0.09	-.40	-4.45	< .001
MSxThreat	-0.16 [-0.52, 0.19]	0.18	-.08	-0.90	.37

Note. Group: R^2 = .404, p < .001. White Nationalists: R^2 = .250, p < .001. LBCI = Lower bound confidence interval for b. UBCI = Upper bound confidence interval for b. IMS = Internal Motivation to not Appear Prejudice Scale.
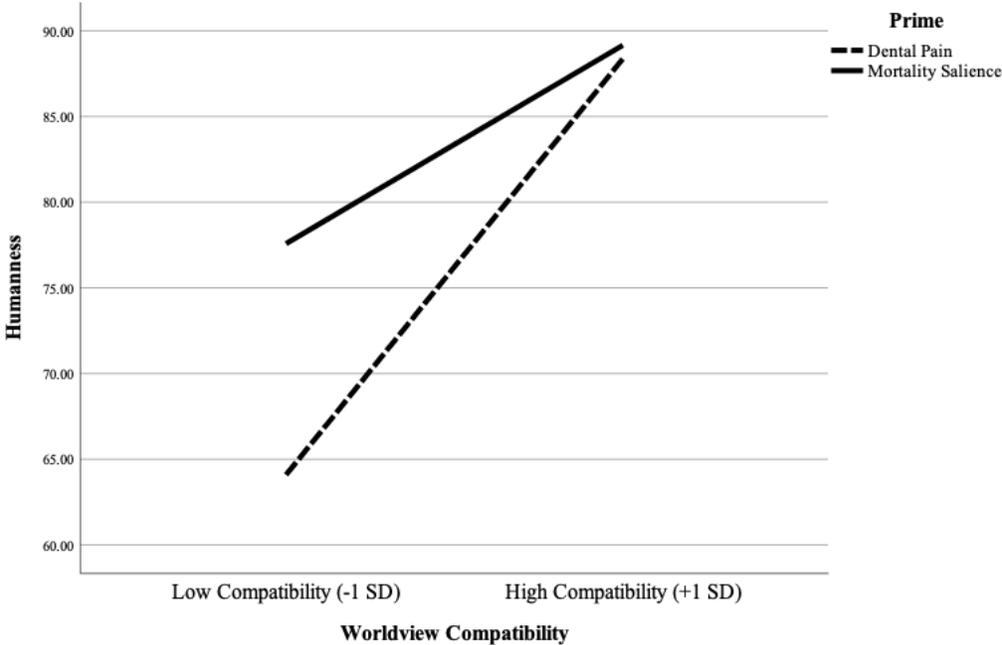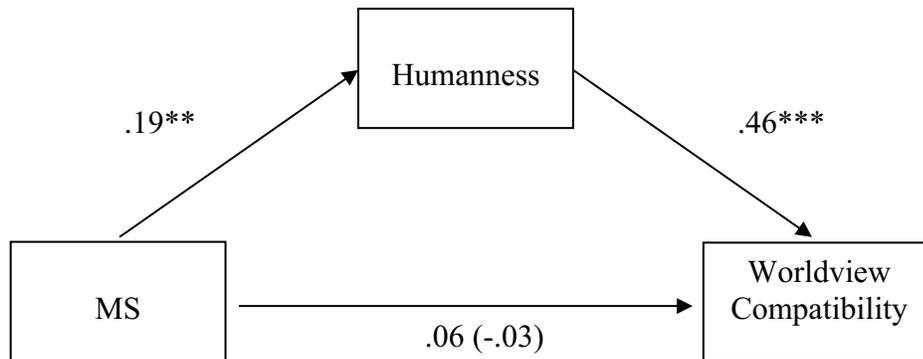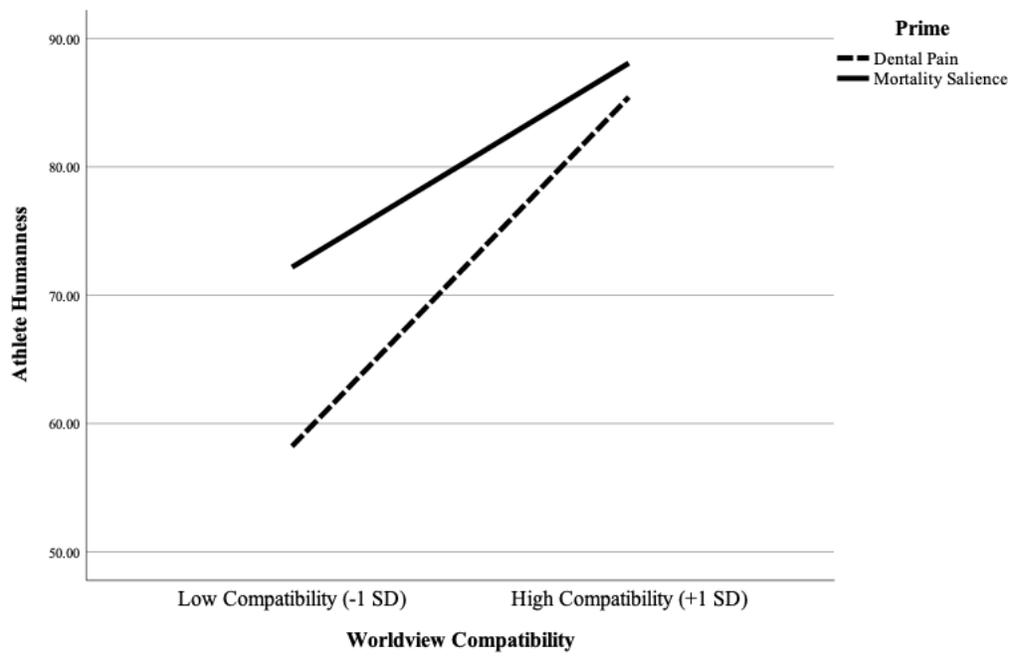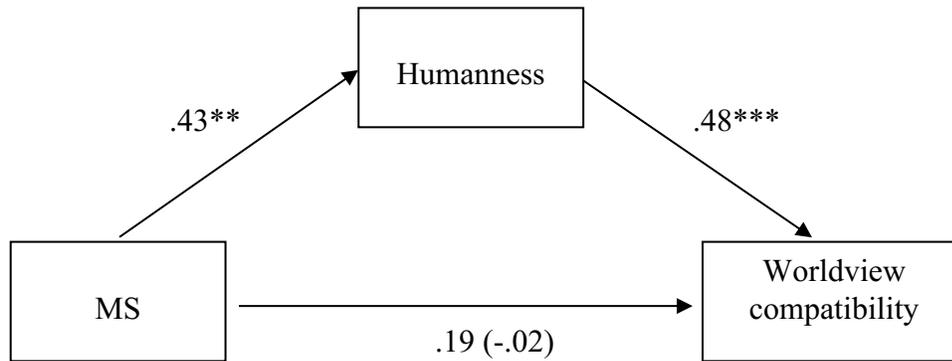
Figure 1. Geographic group humanness as a function of prime and worldview compatibility for

Study 1.

Figure 2. Standardization regression coefficients for the relationship between MS and worldview compatibility as mediated by humanness for geographic groups for Study 1.The standardized regression coefficient between MS and worldview compatibility, controlling for humanness, is in parentheses. * $p < .05$ ** $p < .01$, *** $p < .001$

*Figure 3.* Athletic group humanness as a function of prime and worldview compatibility for

Study 1.

Figure 4. Standardization regression coefficients for the relationship between MS and worldview compatibility as mediated by humanness perceptions for athletic groups for Study 1.The standardized regression coefficient between MS and worldview compatibility, controlling for humanness perceptions, is in parentheses. * *p* < .05 ** *p* < .01, *** *p* < .001
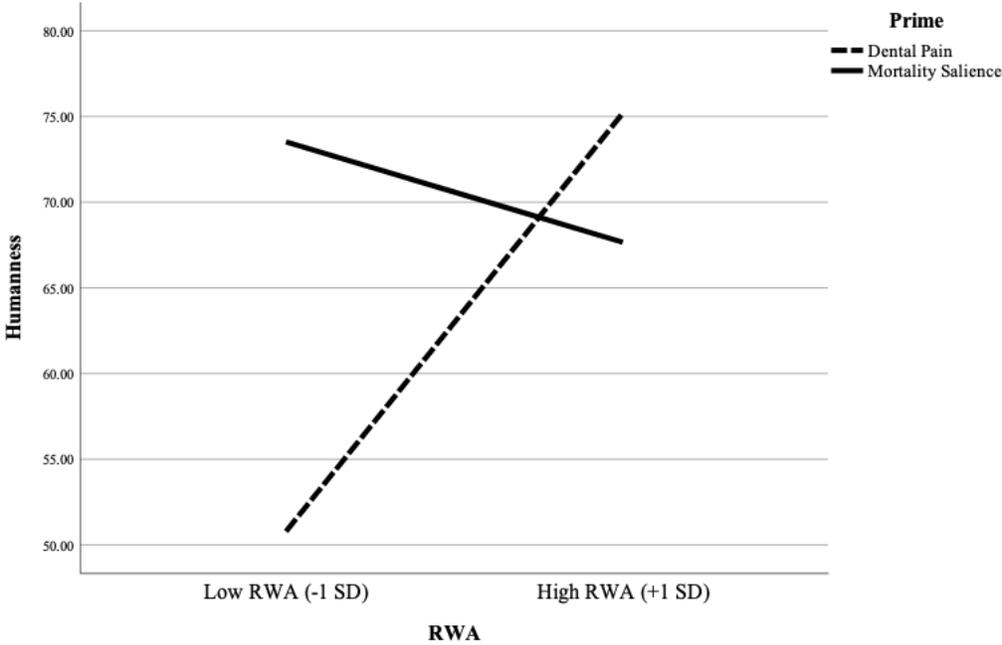
Figure 5. White nationalist humanness as a function of prime and RWA for Study 2.
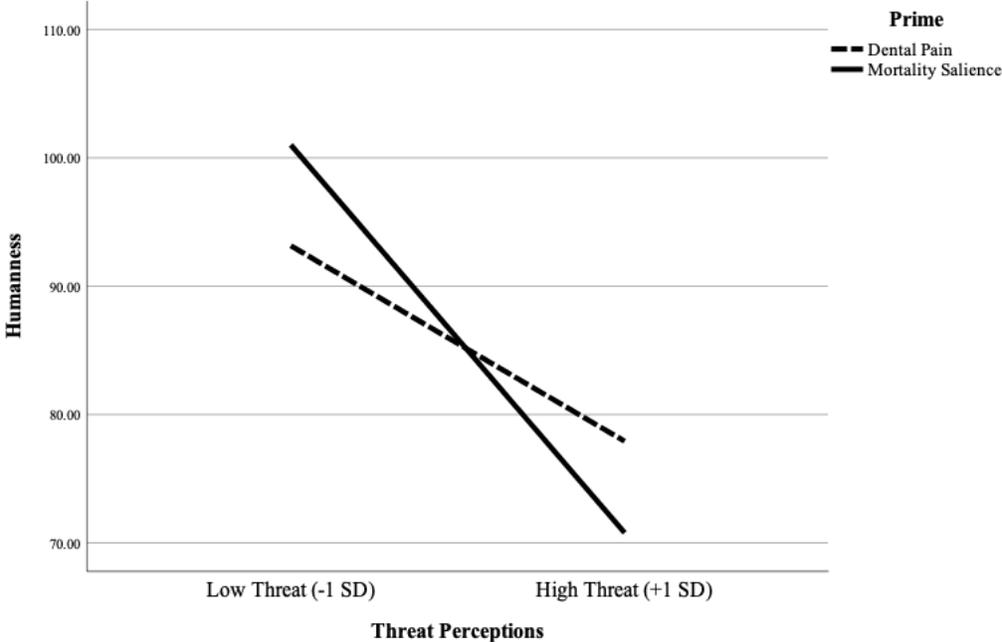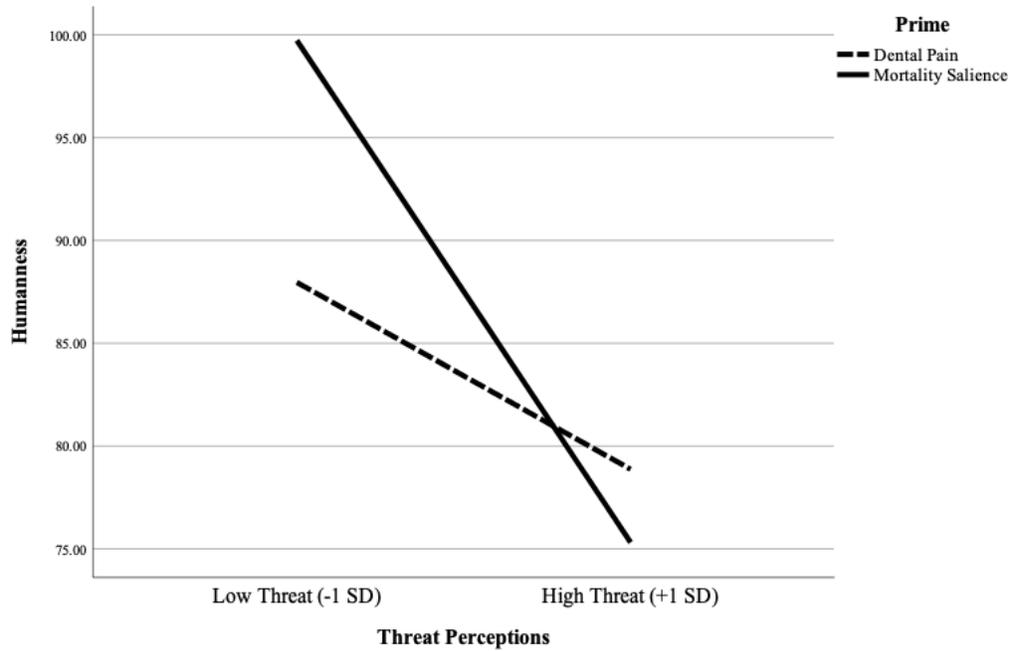
Figure 6. Group factor humanness as a function of prime and threat perceptions for Study 2.

Figure 7. Group factor humanness as a function of prime and threat perceptions with IMS as a

covariate for Study 2.