LESS HUMAN THAN OTHER NURSES: AN EXAMINATION OF
ATTRIBUTIONS OF HUMANNESS TOWARD AN OLDER ADULT IN LONG-TERM CARE

by

JOANNA DIEKER

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This thesis for the Master of Arts degree by

JoAnna Dieker

has been approved for the

Department of Psychology

by

Elizabeth Daniels, Chair

Thomas Pyszczynski

Judith Martin-Scott

Date 12/6/2017
Dieker, JoAnna (M.A., Psychology)

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Thesis directed by Assistant Professor Elizabeth Daniels

ABSTRACT

The relationship between care recipient and care provider is central to the care recipient’s quality of life, yet relatively little is known about psychological factors that impact this relationship. Existing evidence suggests that infrahumanization of patients may reduce stress related to caring for those who are dying. Extending Terror Management Theory and infrahumanization research, the present research examined the effect of mortality salience and aging salience on perceptions of unique humanness attributed to an older adult relative to other nurses. Nursing majors at a university (n = 96) and adults with a background in nursing (n = 95) were asked to write about their own death, someone they know who has experienced decline and challenges during old age, or dental pain (control). They then rated themselves, other nurses, and an older adult on uniquely human traits, uniquely human emotions, and compassion. Regardless of experimental condition, participants attributed the older adult less uniquely human traits and emotions compared to other nurses. Compared to nursing professionals with more experience, nursing students were more likely to rate the older adult as lower in uniquely human traits (intellectual, rational, shallow), whereas they rated other nurses as higher in uniquely human traits. Findings suggest educational efforts aimed at addressing attitudes toward older adults may be beneficial in nursing education.
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CHAPTER I
INTRODUCTION

Currently, 1.4 million people in the U.S. live in nursing homes, the vast majority of whom are older adults (Center for Disease Control and Prevention [CDC], 2014). Insensitive attitudes and behaviors, such as infrahumanization, can affect the well-being of older adults living in nursing homes, such as long-term care facilities. Infrahumanization is a psychological theory of perception that entails the denial of unique humanness, or qualities that make humans distinct from animals, to outgroups (Leyens, Rodrigues-Perez, Rodriguez-Torres, Gaunt, Paladino, Vaes, & Demoulin, 2000). There is evidence to suggest that nurses may engage in infrahumanization to cope with the stress of caring for dying patients (Vaes & Muratore, 2013). Harmful interpersonal consequences of infrahumanization include decreased intentions to help others (Cuddy, Rock, & Norton, 2007; Vaes, Paladino, & Leyens, 2002) and prejudice and discrimination toward outgroups (Vaes, Paladino, Castelli, Leyens, & Giovanazzi, 2003). Evidence also suggests that individuals denied unique humanness experience negative emotional consequences, such as negative self-awareness, shame, and sadness (Bastian & Haslam, 2011; Zhang, Chan, Xia, Tian, & Zhu, 2017). Therefore, the infrahumanization of older adults by providers of care has implications for the health and well-being of older adults.

Presently, there is a scarcity of literature on the motivational forces underlying infrahumanization, specifically toward older adults. However, Terror Management
Theory (TMT) provides a framework to understand infrahumanization as a mechanism of terror management (Goldenberg, Heflick, Vaes, Motyl, & Greenberg, 2009). The fundamental perspective of TMT suggests that humans depend on self-esteem and a cultural worldview (sets of beliefs and ideas about the world and self) to safeguard against anxiety associated with reminders of death (Pyszczynski, Solomon, & Greenberg, 2015). TMT researchers also propose that negative attitudes, specifically infrahumanization, toward older adults may result from concerns toward one’s own mortality and aging (Martens et al., 2004; Martens et al., 2005). Older adults are not only salient reminders of death, but they also bring to mind the threat of loss of self-esteem associated with their marginalized status in society and remind young people of physical decline associated with old age (Bodner, 2009; Martens et al., 2005). Indeed, researchers have shown that people display aversive and negative reactions to the physical human body and bodily functions, suggesting that the physical decline displayed by older adults may be threatening to young adults (Goldenberg, Kosloff, & Greenberg, 2006).

There is evidence in TMT research to suggest that emphasizing unique humanness over human-animal similarities may serve to alleviate mortality concerns. For example, one experiment found that mortality salience led to a preference for the unique qualities of humans (e.g., an essay describing human free will and ability to make choices) over qualities shared with animals (Goldenberg, Pyszczynski, Greenberg, Solomon, Kluck, & Cornwell, 2001). Reminders of mortality also increase humanization of one’s ingroup over the outgroup (Vaes, Heflick, & Goldenberg, 2010). These findings illustrate the role of attending to unique humanness in abating anxiety toward mortality. In related TMT research, there is evidence that the derogation of others with opposing
worldviews (e.g., an outgroup) may serve to reduce fear related to unconscious thoughts of mortality (McGregor, Lieberman, Solomon, Greenberg, Arndt, Simon, & Pyszczynski, 1998). Taken together, both lines of evidence suggest that both humanizing one’s group and infrahumanizing the outgroup – seeing one’s self and one’s ingroup as more uniquely human while denying outgroups unique humanness – may be motivated by reminders of mortality (Goldenberg et al., 2009; Vaes et al., 2010). Because infrahumanization serves to quell anxiety toward death, older adults, as reminders of personal mortality, may be infrahumanized – or denied aspects of unique humanness.

The aim of the present study was to examine infrahumanization of an older adult and humanization of other nurses as a terror management response to reminders of personal mortality and aging. Compassion toward the older adult was also examined. Furthermore, the present study explored differences in death thought accessibility between reminders of mortality and aging.

Dehumanization and Infrahumanization Perspectives

Dehumanization is when humans perceive other humans as lacking in aspects of humanness, or completely less than human (Haslam & Stratemeyer, 2016). Infrahumanization is a closely related theory of perception in which people ascribe more unique humanness to their ingroup than an outgroup (Haslam, 2006; Leyens et al., 2001). Early studies on dehumanization examined the blatant denial of humanness to others in extreme contexts of violence, such as viewing the enemy or victim of war as completely non-humans (Kelman, 1973). More recently, research has shown that dehumanizing attitudes occur across a variety of contexts and settings (Haslam & Loughnan, 2014). Though less severe than seeing others as non-human, milder forms of dehumanization are
linked to bullying, aggressiveness, and avoidance (Martinez, Piff, Mendoza-Denton, & Hinshaw, 2011; Obermann, 2011). Dehumanizing and infrahumanizing perceptions also are linked to lower likelihood to help others (Cuddy, Rock, & Norton, 2007; Vaes, Paladino, & Leyens, 2002) and less empathy (Vaes, Paladino, & Leyens, 2004). For those denied aspects of humanness, there are negative emotional consequences such as shame, sadness, and guilt (Bastian & Haslam, 2011; Zhang et al., 2017). Overall, this evidence suggests infrahumanizing attitudes have implications for the quality of life of older adults.

Medical care is one context in which dehumanizing attitudes are frequently examined (Haque & Waytz, 2012; Haslam, 2006). Research in this field suggests physicians and nurses may unconsciously or unintentionally deny patients agency, or the capacity to plan, think and act upon their wishes (Haslam, 2006; Grey, 2010). Dehumanization is thought to remain pervasive in medical settings because of the structural and organizational strains of medical care (Timmermans & Almeling, 2009) and the psychological stress experienced by medical care workers (Haque & Waytz, 2012). Regarding the organizational factors leading to dehumanization, medical settings place emphasis on efficient and standardized interactions between patients and providers (Haslam, 2006; Timmermans & Almeling, 2009). The demands requiring a medical provider to attend to high numbers of patients within a short time period may prevent medical providers from fully attending to the humanity of each patient (Timmermans & Almeling, 2009).

A source of psychological stress in medical care is responding to death and suffering (Haque & Waytz, 2012; Schulman-Green, 2003). Physicians and nurses may
cope with stress of exposure to death and suffering through seeing patients as less uniquely human. For instance, one study found that physicians reported dehumanizing patients as a strategy to manage inner discomfort toward death and serious illness (Schulman-Green, 2003). Vaes and Muratore (2013) found attributing unique humanness to an oncology patient was positively related to increased exhaustion, feelings of disillusionment, and low self-efficacy in a sample of health care workers. In contrast, attributions of animal nature to the patient was negatively related to burnout. Other evidence suggests that medical providers also engage in general strategies such as distancing and avoidance of dying patients (Black, 2007; Muliira et al., 2016) and report discomfort toward communication with dying patients (Deffner & Bell, 2005).

Dehumanizing attitudes may also be a reaction to general stress and emotional exhaustion in a medical setting. Trifiletti and colleagues (2014) found that nursing professionals caring for many different types of patients have greater vulnerability to burnout when they humanize patients (e.g., see patients as having unique needs, preferences, and stories). The relationship between humanizing patients and burnout was especially strong for nurses with high commitment to their patients. Furthermore, Cameron, Harris and Payne (2015) found that participants who anticipated a hypothetical situation with a patient to be emotionally draining were more likely to dehumanize the stigmatized person in need of help (e.g., a drug addict). Overall, this research has found that perceiving less unique humanness in medical patients may be a strategy to cope with the stress and discomfort of providing care to patients who are dying or suffering.

The psychological and structural factors leading to dehumanization appear especially noteworthy in long-term-care settings. In a long-term care facility, oversight,
healthcare and housing is provided to older adults with chronic illness, disability, and functional limitations (Norton, 2000). Nursing aides provide older adults with direct care and assistance with daily activities of living (e.g., bathing, dressing, grooming) and make up the majority of employees (63.9%) in long-term care settings (Centers for Disease Control and Prevention [CDC], 2014; Estabrooks, Squires, Carlton, Cummings, & Norton, 2015). Registered nurses and licensed practical nurses provide oversight to medical needs and make up 12.0% and 22.3% of employees in long term-care, respectively. Research suggests that many long-term care facilities are understaffed and face high turnover rates, contributing to unmet needs of residents and increased stress and burnout for employees (Estabrooks et al., 2015; Donoghue, 2010; Hoben, Linklater, Carleton, Graham, & Estabrooks, 2015; Woodhead, Northrop, & Edelstein, 2016). For instance, in a national survey of nursing facilities, 42.7% of nursing aides surveyed (n = 291,000) reported they do not have adequate time to assist patients in activities of daily living (Center for Disease Control and Prevention [CDC], 2005). Taken together, the research suggests that medical care workers in long-term care face increased burden and stress from staffing issues and little time to address the needs of residents. Because many older adults in long-term care experience debilitating illnesses and poor physical health, medical care workers also encounter stress related to human suffering and mortality. Therefore, further investigation of infrahumanizing attitudes in this context is warranted.

A few existing studies have examined dehumanizing behaviors in long-term care, which were identified as nurses’ failure to acknowledge the residents’ choice and autonomy in activities of care, such as bathing, dressing, and eating (Davies, Ellis, Laker, & Davies, 2000). Another qualitative study observed nurse-patient contact in long-term
care settings found that some nurses engaged in the objectification of patients with dementia (Sormunen, Topo, Eloniemi-Sulkava, Räikkönen, & Sarvimäki, 2007). Specifically, the authors defined the objectification of patients as outpacing, moving too quickly for patients to fully understand directions, moving a patient without prior communication, infantilizing the patient (speaking to the patient as if he or she were a child), and intentionally or accidentally preventing a capable patient from doing what he or she wanted to do (Sormunen et al., 2007). This observational research suggests that dehumanization, through the denial of agency (e.g., the capacity to plan, form rational thought, and act upon one’s wishes), potentially impacts the well-being and quality of life of residents in long-term care facilities.

Dehumanizing attitudes and behaviors may be a coping mechanism for stress and emotional burden experienced by medical professionals. However, the well-being of patients may be compromised when medical providers perceive them as lower in unique humanness. The current study proposed that infrahumanization, a similar psychological construct to dehumanization, may occur in long-term care settings as a response to reminders of death and aging.

**Infrahumanization.** Alongside research examining dehumanization, a considerable amount of research has examined a closely related theory of dehumanization in which uniquely human emotions are denied to outgroups and reserved for ingroups, termed infrahumanization. Through a series of laboratory studies, Leyens and colleagues (2001) formed the distinction between uniquely human emotions (e.g., remorse, anguish, and hope) that are unique to humans and non-uniquely human or “human nature” emotions (e.g., anger, fear, joy) that humans and animals share. Leyens and colleagues
called these shared emotions “non-uniquely human” emotions’ however, in the present study, “animal nature” will be used instead to refer to the basic primary emotions shared between humans and animals. A large program of research has shown that people consistently assign more uniquely human emotions to ingroup members than outgroup members (Leyens et al., 2001; Leyens, Cortes, Demoulin, Dovidio, Fiske, Gaunt, & Vaes, 2003).

Using implicit association tasks, other researchers demonstrated that uniquely human emotions are implicitly connected with humanity, whereas animal nature emotions are not (Demoulin, Leyens, Paladino, Rodriguez-Torres, Rodriguez-Perez, & Dovidio, 2004; Vaes, Paladino, & Leyens, 2006). Viki and colleagues (2006) demonstrated that ingroup faces more readily associated with human-related words, whereas outgroup faces were more quickly linked to animal-related words. Similarly, Boccato, Cortes, Demoulin, and Leyens (2007) demonstrated that white participants primed with ingroup status (e.g., a white face rather than a black face) recognized human faces faster than animal faces. In a second study, an outgroup status prime administered to white participants (i.e., an Arabian face rather than a white face) led to faster recognition of animals such as apes and chimpanzees over human faces (Boccato et al., 2007).

Other researchers have extended infrahumanization research to include the denial of uniquely human traits to outgroups (Haslam, 2006; Haslam, Loughnan, Kashima, & Bain, 2008; Hodson & Costello, 2007). In their analysis of humanness, Haslam and colleagues (2008) argued that infrahumanization involves the denial of cognitive complexity, which is not shared by humans and animals. Haslam (2006) proposed a dual
model of dehumanization, suggesting there are both mechanistic and animalistic forms of dehumanization. In Haslam’s mechanistic dehumanization, humans are perceived as cold, emotionless robots and denied traits of human nature, such as warmth and happiness. The second model, especially relevant to the present study, is animalistic dehumanization in which humans are compared to animals and denied uniquely human traits such as competence, rationality, and morality. Currently, there is no theoretical consensus on whether infrahumanization involves the denial of uniquely human emotions or traits. Accordingly, the present study examines both uniquely human traits and uniquely human emotions to extend infrahumanization research.

Infrahumanization has been shown to predict a variety of behaviors and attitudes. For example, Vaes, Paladino, and Leyens (2004) found that participants were more likely to take the perspective of an ingroup member compared to an outgroup member, who both described their day using uniquely human emotions. Another experimental study showed that using uniquely human emotion words provoked stronger intentions to help from others. Specifically, Vaes, Paladino, and Leyens (2002) asked participants to rate their intentions to engage in prosocial behavior toward the sender of an email, who used either uniquely human or animal nature emotions to describe their day. Emails containing uniquely human emotions, compared to emails with animal nature emotions, provoked stronger intentions to help the sender and a nicer response from participants (Vaes, et al., 2002). Other researchers found that an infrahumanized group compared to a humanized group is more likely to be subject to discrimination (Pereira, Vala, & Leyens, 2009) and lower empathy (Cehajic, Brown, & Gonzalez, 2009). Cuddy and colleagues (2007) found that white Americans denied uniquely human emotions (e.g., anguish, remorse) to
African American victims of Hurricane Katrina, but attributed those same uniquely human emotions to white victims. The same study found that the denial of uniquely human emotions was associated with decreased intentions to help African American victims (Cuddy et al., 2007). The studies highlight the role of unique humanness in eliciting prosocial and empathetic attitudes from others, and the underlying

Despite the extensive research examining infrahumanization, there has yet to be extensive research examining attributions of unique humanness toward an older adult as a member of an outgroup. In the related yet distinct line of research on stereotype content model, older adults are frequently subject to low ratings of competence and high ratings of warmth (Fiske, Cuddy, Glick, & Xu, 2002; Fiske, 2013). Competence (corresponding to human uniqueness) and warmth (corresponding to emotional awareness) are related to the distinction made in infrahumanization research. These related findings suggest that older adults may be denied human uniqueness in the form of traits related to cognitive complexity.

Early evidence that older adults may be denied unique humanness was provided by Loughnan and Haslam (2007) and Boudjemadi, Demoulin, and Bastart (2017). Loughnan and Haslam (2007a) examined implicit associations between different social categories of humans and various aspects of humanness. The pilot study found that older adults activated human nature concepts rather than uniquely human traits, suggesting that older adults may not be implicitly associated with unique humanness. Boudjemadi et al. (2017) found that young people attributed more uniquely human emotions to young people compared to older people (Study 1); and that responses to animal-related words were faster when individuals were primed with pictures of older adult faces (Study 3).
The existing evidence suggests that older adults may be targets of infrahumanization through the denial of unique humanness.

Though the infrahumanization effect is observable in a wide body of research, the motivational forces underlying infrahumanization and dehumanization have yet to be clearly defined (Haslam & Loughnan, 2014). Leyens and colleagues (2000) posed that ethnocentrism, the tendency to believe that one’s cultural group is superior to any other cultural group, is the underlying motive to deny humanness to outgroups. Other researchers suggest that dehumanization and infrahumanization may be a consequence of regulating emotions in response to human suffering and pain (Haque & Waytz, 2012; Vaes & Muratore, 2013). However, scholars in the distinct research program of Terror Management Theory (TMT) have suggested that infrahumanization may be motivated by reminders of mortality (Goldenberg, Heflick, Vaes, Motyl, & Greenberg, 2009).

**Terror Management Theory: Motivation to Deny Humanness to Older Adults**

Terror Management Theory (TMT) proposes that the unceasing human fear of death motivates human behavior (Greenberg, Solomon, & Pyszczynski, 1997). Drawing on the work of cultural anthropologist Ernest Becker (1973), TMT suggests that the knowledge of one’s eventual death coupled with the instinct to survive causes anxiety and terror. A long line of research has produced evidence that humans tend to suppress death thoughts in consciousness and rely on complex psychological structures such as a cultural worldview and self-esteem to alleviate anxiety toward one’s eventual death (Greenberg, Pyszczynski, & Solomon, 1986; Greenberg, Solomon, & Pyszczynski, 1997).
Key experiments within Terror Management Theory have found that humans initially suppress death thoughts from awareness, leading to low levels of death thought accessibility immediately following reminders of personal death (Greenberg, Solomon & Pyszczynski, 1997). Death thought accessibility increases after participants are distracted from thoughts of death (Greenberg, Pyszczynski, Solomon, Simon, Breus, 1994; Study 4. Compared to those with no cognitive burden, individuals with high cognitive burden are less able to engage in suppression and report higher death thought accessibility immediately after writing about personal death (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Study 1). In addition to suppression of death thoughts immediately in consciousness, other research has determined that denying personal vulnerability to death is another proximal defense activated immediately after mortality salience in order to quell anxiety that arises with thinking about personal death (Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000).

Further work examining psychological defenses in response to mortality salience has found that death thoughts outside of awareness may shape human behavior, attitudes, and beliefs. TMT researchers found that adding a delay and distraction after exposure to mortality salience produced attempts to increase self-esteem and maintain belief in one’s cultural worldview, termed as distal defenses, which provides a buffer against terror associated with death (Greenberg, Solomon & Pyszczynski, 1997). TMT theorists first discussed self-esteem as the extent to which one sees his or her ability to live up to cultural standards established by one’s cultural worldview (Greenberg et al., 1986; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). A cultural worldview is thought of as a broad set of ideas and beliefs that define standards for human behavior.
and allows for symbolic immortality if such standards are achieved (Pyszczynski et al., 2004; Pyszczynski, Solomon, & Greenberg, 2015). An essential component of the theory posits that individuals tend to defend their cultural worldview and display behavior that is culturally acceptable, which contributes to a personal sense of value determined by others, or a sense of self-esteem (Greenberg et al., 1986; Pyszczynski et al., 2015). Thus, one of the fundamental perspectives of TMT is that reliance on self-esteem and a cultural worldview are related psychological buffers that serve to abate anxiety toward mortality by providing a sense of meaning, or an enduring symbolic life after death (Pyszczynski et al., 2015).

The mortality salience hypothesis frequently tested in TMT experiments posits that reminders of personal death cause one to cling to beliefs and ideas about the world and derogate others who do not share the same beliefs (Greenberg et al., 1990; Pyszczynski et al., 2015). For example, mortality salience leads to harsher attitudes toward people who violate cultural norms and causes people to derogate others with dissimilar values (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989; Greenberg et al., 1990). Additional experiments employing a mortality salience prime have found that participants react with increased aggression toward others who derogate their worldview (Greenberg, Solomon, & Pyszczynski, 1997; McGregor, Lieberman, Solomon, Greenberg, Arndt, Simon, & Pyszczynski, 1998).

Other researchers have examined the direct link between self-esteem and death anxiety. Initially, TMT researchers found that manipulating high levels of trait self-esteem (through positive feedback on one’s personality) both served to lessen anxiety toward salient death images (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992;
Study 1) and led to reduced efforts to deny one’s vulnerability to death (Greenberg et al., 1993; Study 1). An additional study performed by Greenberg and colleagues (1993; Study 2) demonstrated that individuals with lower trait self-esteem were more likely to endorse cognitive distortions denying their vulnerability to death at an early age, whereas individuals with higher trait levels of self-esteem were less likely to endorse the same cognitive distortions. In further support that self-esteem helps to aide against anxiety caused by reminders of personal death, another experimental study found that people strive to display their best personal attributes to increase or enhance self-esteem under mortality salience (Peters, Greenberg, Williams, & Schneider, 2005). In summary, a significant body of research has produced evidence in support of both a cultural worldview and self-esteem as symbolic defenses from discomfort related to subconscious thoughts of death (Greenberg et al., 1997; Pyszczynski et al., 2015).

More recently, researchers have applied the TMT framework to understand people’s discomfort and ambivalence toward the physical aspects of the human body (Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999; Goldenberg, 2006). Becker (1973) first discussed the dilemma faced by all humans: though humans have complex cognitive faculties distinct from other mammals, humans frequently face reminders of the similarities between humans and animals. Because humans rely on an identity characterized by self-esteem and a cultural worldview that provide a uniquely human immortality, the physicality of the human body is thought to be threatening because it is a reminder of the vulnerable nature of the human life (Goldenberg, 2006).

Goldenberg and her colleagues have conducted a line of research suggesting that both denying human-animal similarities and emphasizing the uniqueness of humans may
be a strategy to cope with mortality concerns (Goldenberg, Pyszczynski, Greenberg, & Solomon, 2000). Goldenberg and colleagues (2001) found that mortality salience (vs. control) led to an increased preference for an essay describing humans as uniquely different from animals over an essay describing the similarities between humans and animals. Other TMT researchers have examined responses to a variety of other activities that are shared by animals and humans, such as sex, breastfeeding and pregnancy. For example, mortality salience lessened the appeal of the physical, but not the romantic, aspects of sex when participants were primed with an essay describing the similarities between humans and animals (Goldenberg, Cox, Pyszczynski, Greenberg, & Solomon, 2002). Mortality salience also increased negative reactions toward a woman described as breast-feeding, but did not increase negative reactions toward a woman described as engaging in bottle-feeding, which is generally seen as a uniquely human activity (Cox, Goldenberg, Arndt, & Pyszczynski, 2007). In another study, participants primed with human-animal similarities reported negative attitudes toward a pregnant woman, whereas participants primed with unique humanness did not react as negatively to the same pregnant woman (Goldenberg, Goplen, Cox, & Arndt, 2007). These studies point to the terror management function of selectively attending to unique humanness to reduce the terror associated with our vulnerability to death.

Selectively attributing unique humanness to one’s cultural group also may serve a terror management function, given the role of a cultural worldview in alleviating anxiety about mortality. For example, belief that the self and one’s cultural group are uniquely human (humanization of the ingroup) may serve to buffer subconscious thoughts of death (Goldenberg et al., 2009). To demonstrate this, Vaes, Heflick, and Goldenberg (2010)
showed that a mortality salience prime led participants to attribute more humanness to their group (Study 1). A second study confirmed that priming humanness of the ingroup reduced accessibility of death thoughts in consciousness (Vaes et al., 2010; Study 2). Alongside humanizing the ingroup, thoughts of death may also lead to infrahumanization of outgroup members. Existing TMT research has shown the human tendency to derogate members of a cultural outgroup after mortality salience (McGregor et al., 1998) and to see the self as increasingly unique and different from outgroup members after mortality salience (Martens et al., 2004; Study 3). Infrahumanization may be a subtle form of derogating others or distancing from others in response to mortality salience, because it involves seeing outgroups as lower in unique humanness and therefore dissimilar to the ingroup. Thus, infrahumanization may serve to suppress death anxiety through two mechanisms: 1) seeing one’s self and cultural group as higher in unique humanness, maintaining a sense of a symbolic identity and self-esteem and 2) distancing from members of outgroups who threaten one’s cultural worldview by seeing them as lower in human uniqueness. However, little existing research has examined infrahumanization as a response to reminders of mortality. Also, little existing research has examined older adults as targets of infrahumanization. Older adults may be denied aspects of unique humanness because they are a salient reminder of mortality as well as the vulnerable nature of the human body.

**Older adults as an existential threat.** Negative attitudes, beliefs, and reactions toward older adults are thought be a result of mortality concerns. Correlational research has found that negative attitudes toward older adults were associated with fear of death (Depaola, Griffin, & Young, 2003). Similarly, Martens and colleagues (2004)
demonstrated that older adults are a reminder of death (Study 1), and after mortality salience individuals view older adults’ personalities as different from their own and report negative attitudes toward older adults (Study 2). Furthermore, older adults serve as a reminder of the physical decline and vulnerability of the human body, which is thought to be threatening to those who are young (Martens et al., 2005). Past findings in similar TMT research has shown that after exposure to mortality salience and a delay period, individuals attempt to distance themselves from people with serious illness but not people with minor injuries (Pyszczynski et al., 1995), people with terminal illness (Smith & Kasser, 2014), and people with physical disabilities (Hirschberger, Florian, & Mikulincer, 2005). Similar to those with serious illnesses, older adults are a reminder of the vulnerable nature of the human body, because of the decline in physical appearance and increased susceptibility to chronic disease and illness (Bodner, 2009; Martens et al., 2005). Additional evidence suggests that people respond with increased discomfort and negative attitudes in response to individuals with dementia, a disease that is specifically associated with old age. For example, researchers found that younger adults who viewed pictures of older adults with dementia exhibited increased ageist attitudes toward older adults and increased death thought accessibility compared to individuals who viewed pictures of healthy and cognitively intact older adults (O’Connor & McFadden, 2012). These findings suggest that older adults with illness or disease compared to healthy older adults may be viewed increasingly negatively by younger adults.

Older adults may also serve as a reminder of the loss of self-esteem and value in society that accompanies old age (Martens et al., 2005). Given the importance of self-esteem and attaining cultural standards of one’s society in defending against reminders of
mortality, the loss of these defenses may cause discomfort in younger adults. Given that Western culture places value on physical beauty, those who do not meet standards of beauty, such as older adults, often face adverse consequences to self-esteem (Singh & Singh, 2011). Specifically, the threat of insignificance and loss of physical beauty associated with older age may produce aversive reactions in one who is young. Older adults who no longer contribute to society through employment may also face threats to their self-esteem, because they are no longer complying with Western cultural standards (Butler, 1995). Taken together, these perspectives suggest older adults threaten two terror management defense mechanisms: 1) self-esteem through one’s appearance and value in society and 2) living up to the standards of a cultural worldview.

Existing studies in TMT have traditionally used a mortality salience prime (e.g., asking someone to write about thoughts and emotions related to their personal death) to activate thoughts of death. However, more research is needed on the effect of aging reminders on death thought accessibility in consciousness. The present study also investigated death thought accessibility in response to reminders of aging (i.e., asking individuals to write about someone they know who has experienced decline and challenges with aging) compared to a traditional mortality salience prime. The aging salience prime is expected to activate thoughts surrounding physical decline, illness, and loss of physical appearance and functioning.

Compassion

Compassion is a complex emotional state involving motivation to alleviate the suffering of others and a core component of nursing care (Goetz, Keltner, & Simon-Thomas, 2010). The theoretical concept of compassion is thought to involve the closely
related emotions of pity, sympathy, and empathetic concern (Burnell, 2009; Goetz et al., 2010), whereas a lack of compassion is related to diminished helping behavior (Cameron & Payne, 2011). In a study examining patient attitudes toward providers, patients related their experience of compassion as adequate communication from care providers and taking time to know and engage with patients (Bramley & Matiti, 2014). The genuine and caring experience of compassion has implications for communication and care actions displayed by nurses. For example, conveying compassion involves nonverbal displays of facial expression, body language, touch, and distinct vocal qualities (Goetz et al., 2010; Simon-Thomas, Keltner, Sauter, Sinicropi-Yao, & Abramson, 2009).

Compassionate care is essential to nursing practice (McCaffrey & McConnell, 2015; Von Dietze, & Orb, 2000), yet little research has examined psychological factors influencing compassion in nurses. From a Terror Management perspective, feelings of compassion toward others in need may diminish when personal death is made salient (Hirschberger, Florian, & Mikulincer, 2005) For example, individuals reported less compassion towards people with physical disabilities after exposure to mortality salience, including reduced intentions to help disabled individuals in need (Hirschberger, Ein-Dor, & Almakias, 2008; Hirschberger, Florian, & Mikulincer, 2005). This effect is also seen when individuals respond to others who are emotionally threatening (Cameron et al., 2015). However, no research has examined the effect of mortality salience on compassionate responses to older adults in need of care.

Further, older adults may be unique in that they evoke feelings of pity, empathy, and sympathy from others even after reminders of death. Specifically, O’Connor and McFadden (2012) found that individuals exposed to mortality salience still reported pity,
sympathy, and empathy toward older adults with dementia despite rating them as low in competence and high in warmth. These findings are consistent with paternalistic prejudice, which consists of prosocial yet condescending behavior toward older adults (Fiske et al., 2002). Furthermore, compassion toward an older adult is an explicit measure of caring for vulnerable people, which may be biased by social desirability (Krumpal, 2013). Because society places expectations on caring for older adults, some may report compassion toward an older adult despite feelings of discomfort. Given the importance of compassionate care for the well-being of older adults in long-term care settings (Bramley & Matiti, 2014), the present study also examined the influence of mortality salience and aging salience on attitudes of compassion towards an older adult.

The Present Study

The aim of the present study was to examine the effect of mortality salience and aging salience on nurses’ and nursing students’ attributions of unique humanness to an older adult relative to their ingroup, defined as other nurses. An exploratory analysis of differences in unique humanness attributed to the self and to an older adult was also performed. Additionally, the present study examined the effect of mortality salience and aging salience on nurses’ and nursing students’ compassion toward an older adult. A secondary purpose of the present study was to examine differences in the amount of death thought accessibility in response to a mortality salience prime compared to an aging salience prime, which to date has not been examined in the TMT literature.

An experimental design was used which included three conditions: mortality salience (MS); aging salience (AS); and control. The following hypotheses were tested: 1) individuals in the MS and AS conditions compared to the control condition will
attribute less uniquely human traits to an older adult, and attribute more uniquely human traits to other nurses; 2) Individuals in the MS and AS conditions compared to the control condition will attribute less uniquely human emotions to an older adult, and attribute more uniquely human emotions to other nurses; 3) Individuals in both the AS and MS conditions will report lower compassion toward an older adult compared to the control condition and; 4) Individuals in both the AS and MS conditions will report higher amounts of DTA than individuals in the control condition. Because aging is thought to be a direct reminder of death (Martens et al., 2005), no differences were expected a priori between the AS and MS experimental groups. However, possible differences between these two conditions were examined as an exploratory investigation.
CHAPTER II

METHOD

Participants

Participants were 96 pre-nursing and nursing students enrolled at a medium sized university in the western region of the United States between the ages of 18-57 ($M = 25.51, SD = 8.21$) and 95 individuals between the ages of 19-65 ($M = 34.62, SD = 10.54$) with an occupational background in nursing recruited through the online crowdsourcing website MTurk Prime. The total sample consisted of 191 individuals. University participants were primarily female (86.2%) and Caucasian (76.8%), followed by multiracial (14.6%), Latino/a (5.2%), Asian (2.1%), and other (3.1%). On average, participants at the university had 2.19 years of licensed or registered nursing experience ($SD = 2.96$), 3.04 years of Certified Nursing Assistant (CNA) or medical assistant experience ($SD = 3.10$), and reported an average percentage of nursing experience involving contact with older adults as 55.10% ($SD = 32.70$).

The MTurk Prime sample were also primarily female (84.2%) and Caucasian (76.8%), followed by multiracial (10.5%), African American (7.6%), Asian American (3.2%), Latino/a (1.1%) and Native American (1.1%). On average, MTurk Prime participants had 9.78 years of licensed or registered nursing experience ($SD = 7.99$), 6.13 years of experience as a CNA/medical assistant experience ($SD = 6.41$), and reported an average percentage of nursing experience involving contact with older adults as 63.44% ($SD = 30.58$).
Participants were asked to complete the survey on a full-sized computer or tablet to ensure they could see the visual material in the survey. Initially, a total of 171 nursing students attempted the survey. Of these, 25 were asked to exit the survey because they were not taking the survey on a full-size computer or tablet; 21 dropped out of the survey before completing it; 27 did not meet the eligibility criteria of being a pre-nursing or nursing major; and 2 were excluded because they did not complete the study within 2 hours, leaving a sample of 96 nursing students. On MTurk Prime, the study was only available to MTurk workers who described themselves as having an occupational background in nursing. Initially, 110 participants entered the study and 14 dropped out without completing the study and 1 failed to follow directions, leaving a MTurk Prime sample of 95.

Differences in amount of nursing experience between university and MTurk Prime samples were tested using a one-way ANOVA. The MTurk Prime sample (\(M = 9.78, SD = 7.98\)) had more experience as a licensed or registered nurse compared to the university sample (\(M = 2.19, SD = 2.96\)), \(F(1,186) = 73.87, p < .01\). The MTurk Prime sample (\(M = 6.13, SD = 6.41\)) also had more experience as a CNA/medical assistant compared to the university sample (\(M = 3.04, SD = 3.07\)), \(F(1,188) = 18.02, p < .01\). The MTurk Prime sample reported a slightly higher level of contact with older adults in their work experience (\(M = 63.44, SD = 30.56\)) compared to the university sample (\(M = 55.51, SD = 29.03\)), \(F(1,189) = 3.38, p = .07\). Finally, differences in age between university and MTurk Prime samples were tested using a one-way ANOVA. The MTurk Prime sample (\(M = 34.62, SD = 10.54\)) was older than the university sample (\(M = 25.49, SD = 8.13\)), \(F(1,188) = 44.43, p < .01\).
College participants were recruited using multiple strategies: 1) e-mail advertisements sent out to all registered pre-nursing and nursing students; 2) flyers distributed to campus facilities; 3) social media posts; 4) university online research system posting; 5) posting on class message boards and 6) word of mouth. The study at the university had an eligibility requirement of being a pre-nursing or nursing student. Upon completion of the survey, student participants were offered extra credit for a psychology course or a chance to win one of five gift cards in a raffle. Gift cards were delivered to winners through email. MTurk Prime nurse participants were recruited though an advertisement on the Turk Prime website, which allows researchers to target potential participants with specific demographic or occupational traits. Upon completion of the survey, MTurk Prime participants received $2.00 through their MTurk accounts.

Procedure

All participants completed the study online and were told the purpose of the study was to examine the experiences and attitudes of individuals in the nursing field. All study materials were approved by the author’s Institutional Review Board (IRB). Upon entering the survey, participants were randomly assigned to one of three experimental conditions (n = 65 mortality salience (MS), n = 58 aging salience (AS), n = 65 control). Participants then completed two filler questionnaires. These filler questions served as a distraction and delay between the MS and AS primes and the dependent measures, which allow for death thoughts to leave immediate awareness (Greenberg et al., 1994). Participants then completed a measure of death thought accessibility. They were then shown an image of an older adult named Margaret and provided a short description of Margaret as a resident in a nursing facility who needs assistance in bathing, toileting, and
dressing. Margaret, as an older adult, constitutes an outgroup member. To assess perceptions of humanness, participants were asked to rate themselves, other nurses, and the older adult on a number of uniquely human traits. They were then asked to rate themselves, other nurses, and the older adult on a number of uniquely human emotions. Finally, participants completed a measure of compassion toward the older adult. After finishing the study, participants were debriefed with information about the true purpose of the study.

**Measures**

**Experimental Conditions.** In the aging salience (AS) condition participants were told: “Please briefly write about someone you know who has experienced significant decline and challenges with aging.” In the mortality salience (MS) condition, participants were told: “Please briefly describe the emotions the thought of your own death arouses in you.” In the control condition, participants were told: “Please briefly describe the emotions the thought of dental pain arouses in you.”

**Filler Questionnaires.** Participants completed filler questionnaires, including the PANAS-X (Watson & Clark, 1991), which asked participants to rate how often they have experienced different types of emotions (e.g., cheerful, sad, active) in the past few weeks. Items were on a 5-point response scale, (1 = very slightly; 5 = extremely). Participants also completed a 10-item scale of leisure activities created by the author of this study, which asked participants to rank how often they have engaged in a leisure activity in the past month (e.g., reading a novel, camping outdoors) on a 5-point response scale (1 = 0 times; 5 = 10 or more times).
**Death Thought Accessibility.** Participants completed a measure of death thought accessibility adapted from Greenberg and colleagues’ original measure (1994). The measure consisted of 25 word fragments that could be completed with either neutral or death related words. The possible death related words were buried, dead, grave, killed, skull, and corpse.

**Uniquely Human Traits.** Participants completed a measure assessing human traits they assign to 1) themselves; 2) other nurses (the ingroup); and 3) Margaret (the outgroup). The measure assessed four uniquely human (UH) traits (e.g.i.e., rational, intellectual, hardhearted, shallow) and four traits of animal nature (HN) (e.g.i.e., friendly, distractible, curious, aggressive) (Loughnan & Haslam, 2007). The traits were positively and negatively valenced to avoid participants attributing traits simply because they are positive or negative (Leyens et al., 2000). Participants rated the degree to which each trait best described themselves, other nurses, and Margaret. Response options were on a 7-point response scale (1 = not at all; 7 = entirely), with higher scores indicating more attribution of a trait. Sum scores were calculated for ratings of uniquely human traits toward the self, other nurses, and Margaret. To calculate a difference score for analyses, the sum score for uniquely human traits attributed to Margaret were subtracted from the sum score for uniquely human traits attributed to other nurses. A higher difference score indicated higher attribution of uniquely human traits to other nurses. The same procedure was performed for analyses for traits attributed to the self and Margaret, in which higher difference scores indicated higher traits attributed to the self. The complete measure can be found in the Appendix.
Uniquely Human Emotions. Participants completed a measure of uniquely human (UH) emotions they assign to 1) themselves; 2) other nurses; and 3) Margaret (the outgroup). The measure assessed four uniquely human emotions (e.g., compassion, hopefulness, guilt, resignation) and four animal nature emotions, (e.g., anger, surprise, happiness, fear). These emotions are identified as uniquely human or human nature in the infrahumanization literature, and were positively and negatively valanced (Leyens et al., 2000; Leyens et al., 2003). Participants rated the degree to which each trait best described themselves, other nurses, and Margaret. Response options were on a 7-point response scale (1 = not at all; 7 = entirely), with higher scores indicating more attribution of an emotion. Sum scores were calculated for the self, others, and Margaret. To calculate a difference score for analyses, the sum score for emotions attributed to Margaret were subtracted from the sum score for emotions attributed to other nurses. A higher difference score indicated higher attribution of uniquely human emotions to other nurses. The same procedure was performed for analyses for emotions attributed to the self and Margaret, in which higher difference score indicated higher ratings of uniquely human emotions to the self. The complete measure can be found in the appendix.

Compassion. Participants also completed an eight-item measure assessing their compassion toward Margaret (α = .89; Cameron & Payne, 2011). Example items included: How sympathetic do you feel toward Margaret? and How warm do you feel toward Margaret? Participant rated each item in the measure on a 7-point response scale (1 = not at all; 7 = entirely). Responses to items were averaged into a composite score. Higher scores indicated increased compassion toward the older adult.
**Demographics.** Participants were asked to report their age, gender, ethnicity, level of CNA/medical assistant experience (in years), level of registered nurse experience (in years) and percentage of their nursing experience that has involved contact with older adults.
CHAPTER III

RESULTS

Null-Hypothesis Testing

Because infrahumanization researchers have found that people see others similar to themselves (their ingroup) as more uniquely human (Leyens et al., 2003), two null hypotheses for ratings of uniquely human traits and emotions toward the self and other nurses were tested. For the first null hypothesis, a one-sample t-test was performed to determine whether participants rated themselves similarly on uniquely human traits compared to other nurses (the ingroup), defined as a difference score of 0. The mean difference score of uniquely human traits attributed to the self and other nurses ($M = -.62$, $SD = 2.93$) was lower than the expected normal score of 0, a statistically significant mean difference of -.62, 95% CI[-1.04 to -.20], $t(190) = -2.9$, $p = .004$. Because the null hypothesis was rejected, the alternative hypothesis that participants rated other nurses as higher in uniquely human traits than themselves was accepted.

For the second null hypothesis, a one-sample t-test was performed to determine whether participants rated themselves as equal to other nurses in terms of uniquely human emotions, defined as a difference score of 0. The mean difference score of uniquely human emotions attributed to the self and other nurses ($M = -1.08$, $SD = 3.13$) was significantly lower than the expected score of 0, 95% CI[-1.53 to -.63], $t(189) = -4.75$, $p = .000$, indicating that participants rated other nurses as significantly higher in uniquely human emotions than themselves. Because the null hypothesis was rejected, the
alternative hypothesis that participants rated other nurses as higher in uniquely human emotions than themselves was accepted. Means and standard deviations of uniquely human trait and emotions variables can be seen in Table 1.

Table 1

Means and standard deviations of uniquely human traits, uniquely human emotions and difference score variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniquely Human Traits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>3.72</td>
<td>.69</td>
<td>191</td>
</tr>
<tr>
<td>Other Nurses</td>
<td>3.90</td>
<td>.69</td>
<td>190</td>
</tr>
<tr>
<td>Margaret</td>
<td>3.31</td>
<td>.80</td>
<td>191</td>
</tr>
<tr>
<td>Uniquely Human Traits Difference Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Nurses - Margaret</td>
<td>2.25</td>
<td>3.04</td>
<td>191</td>
</tr>
<tr>
<td>Self – Other Nurses</td>
<td>-.62</td>
<td>2.94</td>
<td>191</td>
</tr>
<tr>
<td>Self – Margaret</td>
<td>1.62</td>
<td>3.45</td>
<td>191</td>
</tr>
<tr>
<td>Uniquely Human Emotions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>4.10</td>
<td>.83</td>
<td>191</td>
</tr>
<tr>
<td>Other Nurses</td>
<td>4.35</td>
<td>.88</td>
<td>191</td>
</tr>
<tr>
<td>Margaret</td>
<td>3.99</td>
<td>.90</td>
<td>191</td>
</tr>
<tr>
<td>Uniquely Human Emotions Difference Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Nurses - Margaret</td>
<td>1.49</td>
<td>3.54</td>
<td>190</td>
</tr>
<tr>
<td>Self – Other Nurses</td>
<td>-1.08</td>
<td>3.13</td>
<td>190</td>
</tr>
<tr>
<td>Self – Margaret</td>
<td>.45</td>
<td>3.75</td>
<td>191</td>
</tr>
</tbody>
</table>

Hypothesis Testing

To test hypothesis 1 that participants in the AS and MS conditions compared to the control condition would attribute fewer uniquely human traits to Margaret than to other nurses, a 2 (MTurk Prime sample, university sample) x 3 (MS, AS, control) analysis of variance (ANOVA) was conducted. There was a main effect of sample type, $F(1, 185) = 5.30, p = .022, \eta^2_p = .028$. Participants in the university sample ($M = 2.82, SD = 3.20$), were more likely to attribute increased uniquely human traits to other nurses than to Margaret compared to MTurk Prime participants ($M = 1.66, SD = 3.52$) (see Figure 2).
There was neither a main effect of experimental condition, $F(2, 185) = 0.21, p = 0.81$, $\eta_p^2 = .002$ (see Figure 1), nor an interaction of sample type and experimental condition on uniquely human traits difference scores, $F(2, 185) = 1.28, p = .28$, $\eta_p^2 = .014$.

To test hypothesis 2 that participants in the AS and MS conditions would attribute less uniquely human emotions to Margaret than to other nurses, a 2 (MTurk Prime sample, university sample) x 3 (MS, AS, control) ANOVA was conducted. There was neither a main effect of experimental condition, $F(2, 184) = 0.88, p = 0.42$, $\eta_p^2 = .009$ (See Figure 3), nor of sample type, $F(1,184) = 1.20, p = 0.28$, $\eta_p^2 = .006$ (See Figure 4) on uniquely human emotions. Similarly, there was not a significant interaction of sample type and experimental condition on uniquely human emotions, $F(2,185) = 0.85, p = 0.43$, $\eta_p^2 = .009$.

To test hypothesis 3 that participants in the AS and MS conditions would report less compassion toward Margaret, a 2 (MTurk Prime sample, university sample) x 3 (MS, AS, control) ANOVA was conducted. There was neither a main effect of sample type, $F(1, 185) = 1.03, p = .31$, $\eta_p^2 = .006$, nor of experimental condition, $F(1, 185) = .27, p = .763$, $\eta_p^2 = .03$ on ratings of compassion (See Figure 7 and Figure 8). Similarly, there was not a significant interaction between sample type and experimental condition on ratings of compassion, $F(2, 185) = 2.11, p = .12$, $\eta_p^2 = .022$.

To test hypothesis 4 that individuals in both the MS and AS conditions would report increased levels of death thought accessibility than individuals in the control condition, a 2 (MTurk Prime sample, university sample) x 3 (MS, AS, control) ANOVA was conducted. There was a main effect of experimental condition approaching significance, $F(2, 185) = 2.62, p = .08$, $\eta_p^2 = .028$). LSD post hoc comparisons revealed
that individuals in the MS condition reported significantly higher death thought accessibility ($M = 1.97$, $SD = 1.13$) than individuals in the control condition ($M = 1.54$, $SD = .98$) (See Figure 5). There were no significant differences in death thought accessibility between the AS condition ($M = 1.88$, $SD = 1.40$) and MS and control conditions. There was not a main effect of sample type, $F(1, 185) = .03, p = .88, \eta^2_p = .001$ (See Figure 6) and there was not a significant interaction of sample type and experimental condition on DTA, $F(2, 185) = .74, p = .47, \eta^2_p = .008$.

Exploratory ANOVA tests were conducted to examine ratings of uniquely human traits and uniquely human emotions attributed to the self, relative to Margaret. There was not a main effect of sample type, $F(1, 185) = 1.22, p = .27, \eta^2_p = .007$, or experimental condition, $F(2, 185) = .711, p = .49, \eta^2_p = .008$. There was not a significant interaction of sample type and experimental condition on uniquely human traits attributed to the self and Margaret, $F(2, 185) = .23, p = .80, \eta^2_p = .002$. With ratings of emotions as the independent variable, there was no main effect for sample type, $F(1, 185) = .57, p = .45, \eta^2_p = .003$; or for experimental condition, $F(2, 185) = 1.11, p = .33, \eta^2_p = .012$. There was not a significant interaction of sample type and experimental condition on uniquely human emotions attributed to the self and Margaret, $F(2, 185) = 1.09, p = .340, \eta^2_p = .012$. 
Figure 1. Marginal means of difference scores (Other Nurses – Margaret) for uniquely human traits across experimental conditions are displayed. Note: A higher mean indicates higher uniquely human traits attributed to other nurses and fewer attributed to the older adult.

Figure 2. Marginal means for uniquely human traits difference scores (Other Nurses – Margaret) by University and MTurk Prime samples are displayed.
**Figure 3.** Marginal means of uniquely human emotions difference scores (Other Nurses – Margaret) between experimental conditions are displayed.

**Figure 4.** Marginal means on uniquely human emotions difference scores (Other Nurses – Margaret) by University and MTurk Prime samples are displayed.
Figure 5. Marginal means for death thought accessibility by experimental condition are displayed.

Figure 6. Marginal means for death thought accessibility by sample type are displayed.
Figure 7. Marginal means for compassion composite scores by experimental condition are displayed.

Figure 8. Marginal means for compassion composite scores by experimental condition are displayed.
CHAPTER IV
DISCUSSION

The results of the present study support the account that older adults may be subject to infrahumanizing attitudes, though presently it is unclear whether reminders of mortality and aging influence these attitudes. Results showed that regardless of experimental condition, the older adult was rated as lower in uniquely human emotions and traits than other nurses. There was a significant main effect of sample type in which nursing students were more likely than nursing professionals to see an older adult as lower in uniquely human traits. Another result of the present study suggested that reminders of mortality and aging produce similar and higher amounts of death thought accessibility compared to a control. This pattern of results was trending in the expected direction. The results will be discussed within the context of past research findings. Limitations along with future directions for research will also be discussed.

Terror Management Theory

Past TMT experimental research has found that reminders of personal death lead to increased ageist attitudes toward older adults, including distancing from and derogation of older adults (Martens et al., 2004, Study 2). The present findings are not consistent with past research. Unexpectedly, there was not a main effect of experimental condition on ratings of uniquely human traits or emotions attributed to an older adult relative to other nurses as the ingroup. Instead, participants across all experimental conditions attributed similar amounts of humanness to the older adult and other nurses.
In addition, there was not a main effect of mortality salience or aging salience on reported compassion toward an older adult. Instead, participants across all experimental conditions rated their compassion toward an older adult as high. This is inconsistent with other related TMT research which demonstrated that reminders of mortality provoke feelings of diminished compassion toward threatening others, such as those with physical disabilities (Hirschberger et al., 2005). The results suggest that individuals may report strong attitudes of compassion toward an older adult despite discomfort with reminders of mortality, perhaps because it is socially desirable to report positive and caring attitudes toward an older adult (Krumpal, 2013). This finding also supports the notion older adults may be subject to paternalistic prejudice, or treated with warmth and compassion despite condescending attitudes toward their competence (Fiske et al., 2002).

In contrast to the null findings reported above, there was a main effect of sample type on ratings of uniquely human traits attributed to Margaret relative to other nurses. The university sample was significantly younger than the MTurk Prime sample, suggesting that younger participants were more likely to deny uniquely human traits to Margaret than were older participants. This effect may be a result of terror management mechanisms that have been found frequently in samples of young adults. For example, Martens and colleagues (2004; Study 3) found that college age participants who saw themselves as similar to older adults were more likely to report negative attitudes toward older adults and see themselves as increasingly different from older adults after reminders of personal mortality. These researchers suggest distancing toward older adults may be a terror management defense in young people who see themselves as one day belonging to the older age group. Therefore, seeing one’s self and the cultural ingroup as uniquely
different from older adults may aid in alleviating terror associated with knowledge of eventual aging and death.

**Infrahumanization Perspectives**

Existing infrahumanization research has demonstrated that members of outgroups are denied aspects of unique humanness, because they are seen as lower in certain emotions or traits (e.g., guilt, hopefulness, reasoning, rationality), whereas ingroup members are perceived as higher in unique humanness (Cortes et al., 2005; Leyens et al., 2001; Leyens et al., 2003; Haslam & Loughnan, 2007a). The present findings indicated that participants attributed less uniquely human traits to an older adult and more uniquely human traits to other nurses, regardless of experimental condition, which was evidenced by a higher difference score between other nurses and the older adult. These findings are consistent with past research in which members of outgroups, specifically older adults, are perceived as lower in uniquely human traits, and members of ingroups are seen as higher in uniquely human traits (Cortes et al., 2005; Loughnan and Haslam, 2007a).

The present study also found that participants rated an older adult as lower in uniquely human emotions and members of the ingroup as higher in uniquely human emotions, regardless of experimental condition. This infrahumanization effect was evidenced by a higher difference score between other nurses and the older adult. This is consistent with prior research in which members of outgroups are rated as lower uniquely human emotions, whereas ingroup members are judged as higher in uniquely human emotions (Cuddy et al., 2007; Leyens et al., 2003). The present findings are also consistent with one laboratory study in which older adults were implicitly linked to animal nature and not human uniqueness. Specifically, Boujemadi and colleagues (2017)
demonstrated that older adults were attributed less uniquely human emotions compared to younger adults (Study 1). They also found that primes of older adults facilitated reactions to human nature emotions and animal-related words during implicit association tasks, suggesting older adults may activate concepts related to animal nature and not unique humanness (Study 3). (Boujemadi et al., 2017).

**Nursing Research**

The present findings also point to the role of increased nursing experience in mitigating negative attitudes toward older adults. The present study found that a sample of nursing professionals who reported increased experience working as registered nurses/CNAs and also had increased contact with older adults in their work experience were more likely to see an older adult and other nurses as similar in unique humanness. The lesser experienced university sample were more likely to see an older adult as lower in unique humanness compared to other nurses. This is consistent with prior research which found that increased knowledge of aging and nursing experience involving older adults is associated with more positive attitudes toward older adults and aging (Demmer, 2000; Liu, Norman, & While, 2013; McLafferty, & Morrison, 2004).

**Limitations and Future Directions**

There are limitations to the present study, which are acknowledged. The present study did not measure individual factors found to moderate reactions to mortality salience. Specifically, individual differences in trait self-esteem (Harmon-Jones et al., 1997) and self-control (Gailliot, Schmeichel, & Maner, 2007) have been found to moderate defensive reactions to mortality salience. Harmon-Jones and colleagues (1997) found that individuals with higher traits levels of self-esteem did not respond to death
reminders with increased worldview defense, whereas those with lower levels of self-esteem reacted with increased defense of cultural worldview. The researchers suggest that higher dispositional self-esteem helps to suppress death thoughts. Similarly, Gaillot and colleagues (2007) demonstrated that high levels of trait self-control reduced cultural worldview defense after mortality salience, whereas those with low levels of traits self-control responded to mortality salience with increased worldview defense. Future examinations may want to include measures of trait self-control or self-esteem that potentially moderate defensive reactions such as infrahumanization to death reminders.

Given the null findings on infrahumanizing attitudes in the present study, it may be that participants immediately suppressed death thoughts after viewing the image of the older adult, which may explain the null effects across experimental conditions. The present study examined death thought accessibility prior to asking participants to view an image of an older adult, so it was unclear if participants were under mortality salience immediately after viewing the image. Past TMT studies have shown that participants report higher death thought accessibility immediately after viewing pictures of older adults, suggesting that images of older adults bring death thoughts into the subconscious rather than immediate awareness (Martens et al., 2004; O’Connor & McFadden, 2012). Evidence suggests there would be immediate suppression of death thoughts and lower death thought accessibility immediately after viewing images of older adults if these images introduced death thoughts into awareness (Arndt et al., 1997). Future research could examine death thought accessibility in participants who view images of older adults with and without a delay to determine if death thoughts remain in sub-consciousness for some time after viewing images of older adults.
Additionally, a limitation is that measures of traits and emotions used in the present study were not tested using a pilot study prior to the experimental research. It cannot be determined if the participants perceived the traits and emotions used in the current study as unique to humans or part of human nature. There may be limitations regarding the validity of the present measures in measuring attributions of unique humanness and human nature toward an older adult and other nurses. However, the traits and emotions were identified in past studies asking individuals to rate emotions as unique to humans or as human nature (Haslam et al., 2005; Cortes et al., 2005). Perhaps the traits and emotions measured in the present study may be indicative of stereotypes that are commonly attributed to older adults and nurses. For example, a uniquely human emotion that was used in the present study was “compassion”. Because nurses are thought to be compassionate, it may be that participants attributed more compassion to the nurse than the older adult simply because that is a stereotypical characterization of a nurse. A pilot study identifying specific emotions and traits as uniquely human or human nature may increase the validity of the measures used in future experimental studies.

A final limitation to the current experimental design was the use of an online platform to perform experimental research. Issues related to participants’ motivation, attention, and the environment in which they complete the study arise during completion of online experimental research (Crump, McDonnell, & Gureckis, 2013). Specifically, participants may not be fully motivated to complete the study in a timely manner or answer questions truthfully when completing the study online compared to a traditional laboratory setting. There are possible concerns related to whether participants fully engaged in the experimental primes used in the present study. One possibility is that
participants may have used stimuli in their environment to distract themselves from uncomfortable feelings related to writing about death and aging. Future research could address this limitation by performing experimental research within a laboratory setting where participant attention and motivation can be monitored by researchers.

Despite these limitations, the findings of the present study may lead to future research on the differences between reminders of aging and reminders of personal death. Though the effect of experimental condition on death thought accessibility was not statistically significant, it was trending in the expected direction. The marginal means indicated that mortality salience and aging salience led to higher levels of death thought accessibility compared to the control condition. It is possible the present study was not sensitive enough to detect significant differences that might exist between the experimental conditions and the control condition. Individuals in the aging salience condition were asked to write about someone they know who has experienced decline and challenges with aging, rather than writing about their own imagined process of aging in the future. This aging salience prime was expected to activate awareness of the difficulties associated with aging, such as illness and physical decline, which are thought to be closely related to death (Martens et al., 2005). It is possible that many people wrote about a close relative or an older adult they knew relatively well, which may have activated feelings such as compassion and grief rather than thoughts of death. Instead, asking individuals to write about their imagined aging in the future may be preferred when priming thoughts of death, because the discomfort in response to older adult could be a result of a threatening future self. Given that thoughts of aging may result in concerns related to loss of self-esteem and worth in a society that values youthfulness and
employment (Martens et al., 2005; Bodner, 2009), future research may want to examine
the effects of aging reminders on self-esteem and other terror management anxiety
buffers. Future research could examine different types of aging salience (e.g., self-aging
vs. other-aging) and the variations in terror management defenses that are activated after
exposure to aging primes.

Implications for Nursing Practice

The present findings support the notion that nursing trainees with less experience
may be more likely to endorse negative attitudes (i.e., infrahumanizing perceptions)
toward an older adult than nursing professionals with more experience, which is
supported in the nursing literature (Aradilla-Herrero, Tomás-Sábado, & Gómez-Benito,
2013; Demmer, 2000; Lange, Thom, & Kline, 2008). Perceptions endorsed by nursing
trainees may have implications for the care and assistance provided to older adults in
long-term care. Relevant research in long-term care settings has identified dehumanizing
behaviors as preventing capable patients of performing activities, outpacing patients
without informing patients of one’s intended actions to help, and infantilizing patients
(i.e., speaking to patients as if they were infants) (Davies et al., 2000; Sormunen et al.,
2007). The present findings shed light on specific attitudes that may be linked to such
dehumanizing behaviors in nursing practice. It is reasonable to assume that perceiving an
older adult as lower in rational and intellectual thinking may promote specific care
behaviors, such as preventing an older adult from exerting agency in their daily life and
activities and infantilizing older adults.

Furthermore, the present findings raise concerns toward the emotional well-being
of older adults as targets of infrahumanizing attitudes. Existing research suggests that
individuals denied aspects of unique humanness experience negative emotions, such as shame, sadness, and guilt (Bastian & Haslam, 2011; Zhang et al., 2017). Older adults residing in long-term care may be at risk for negative emotional consequences when denied unique humanness by nursing professionals. Taken together, the present findings suggest attitudes endorsed by nursing students have implications for nursing practice in long-term care. Specifically, when targets of infrahumanization, older adults may be at risk of negative emotional consequences, such as sadness and guilt and prevented from exerting agency over activities in their daily life.

The present findings underscore the importance of addressing potential biases and attitudes toward older adults endorsed by nursing trainees during nursing education. However, research has shown that many nurses did not receive specific education or preparation in dealing with death during their training (Bloomer, Morphet, O’Connor, Lee & Griffiths, 2013; Ellershaw et al., 2010) or education on negative attitudes toward aging (Hovey, Dyck, Reese, & Kim, 2016). Existing evidence suggests that increased education and training experiences on death and aging increases positive attitudes toward older adults and the experience of death along with improving the relationships between patients and nursing professionals (Lehto & Stein, 2009; Maysui & Braun, 2010). The present results also suggest that increased attention paid to infrahumanizing attitudes during nursing education may benefit relationships between older adults and nursing professionals in settings such as long-term care.
CHAPTER V
CONCLUSION

In summary, the present study found that a lesser experienced and younger sample of nursing students were more likely to infrahumanize an older adult through attributing less uniquely human traits to an older adult relative to other nurses, whereas more experienced nursing professionals were less likely to engage in infrahumanization. Findings showed that an older adult was infrahumanized regardless of experimental condition, suggesting that future research is needed to determine if mortality and aging concerns are the motivator of these attitudes. Given the relational costs of infrahumanizing attitudes, the present findings suggest a need for nursing educators to address attitudes toward older adults endorsed by nursing trainees.
REFERENCES


Imagine that you work at a long-term care facility. Margaret is a resident at the long-term care facility where you work. You are asked to provide care to Margaret, including assistance in bathing, toileting, and dressing.
(Uniquely human characteristics are bolded).

Please indicate a number on the scale that best describes your attitudes. 1(not at all) to 7(entirely).

I consider myself to be:

1. Curious
2. Friendly
3. Aggressive
4. Distractible
5. Intellectual
6. Rational
7. Hardhearted
8. Shallow

I experience:

1. Surprise
2. Happiness
3. Fear
4. Anger
5. Compassion
6. Hopefulness
7. Guilt
8. Resignation
Please indicate a number on the scale that best describes your attitudes toward nurses in general.

Nurses in general are considered as:

1. Curious
2. Friendly
3. Aggressive
4. Distractible
5. Intellectual
6. Rational
7. Hardhearted
8. Shallow

Nurses in general experience:

1. Surprise
2. Happiness
3. Fear
4. Anger
5. Compassion
6. Hopefulness
7. Guilt
8. Resignation
Please indicate a number on the scale that best describes your attitudes toward Margaret, who you viewed in the image.

Margaret is considered as:

1. Curious
2. Friendly
3. Aggressive
4. Distractible
5. Intellectual
6. Rational
7. Hardhearted
8. Shallow

Margaret experiences:

1. Surprise
2. Happiness
3. Fear
4. Anger
5. Compassion
6. Hopefulness
7. Guilt
8. Resignation
Compassion Scale

Please indicate a number on the scale that best describes your attitudes toward Margaret.

1(Not at all) to 7(Extremely)

1. How sympathetic do you feel toward Margaret?
2. How warm do you feel toward Margaret?
3. How compassionate do you feel toward Margaret?
4. How touched were you by Margaret?
5. How urgent do the needs of Margaret seem?
6. How much do you value the welfare of Margaret?
7. How important is it to you that Margaret be happy?
8. How important is it to you that Margaret not suffer?
APPENDIX B

University of Colorado Colorado Springs
Institutional Review Board (IRB) for the Protection of Human Subjects

Date: 2/7/2017

IRB Review

IRB PROTOCOL NO.: 17-091
Protocol Title: Attitudes and Experiences of Nurses
Principal Investigator: JoAnna Dickey
Faculty Advisor if Applicable: Elizabeth Daniel
Application: New Application
Type of Review: Expedited
Risk Level: No more than Minimal Risk
Renewal Review Level (if changed from original approval) if Applicable: N/A No Change
This Protocol involves a Vulnerable Population: N/A (No Vulnerable Population)
Expires: 6 February 2018
*Note, if exempt: If there are no major changes in the research protocol does not require review on a continuing basis by the IRB. In addition, the protocol may match more than one review category not listed.

Funded by: No

Thank you for submitting your Request for IRB Review. The protocol identified above has been reviewed according to the policies of this institution and the provisions of applicable federal regulations. The review category is noted above, along with the expiration date, if applicable.

Once human participant research has been approved, it is the Principal Investigator’s (PI) responsibility to report any change in research activity related to the project:

- The PI must submit all protocol, recruitment, advertising, and consent form amendments/rewrites to the IRB for approval.
  - The IRB must approve these changes prior to implementation.
- If you are a student, please note that it is required to include the IRB approval letter to the literature when you submit the dissertation/thesis.
- The PI must promptly inform the IRB of all unanticipated serious adverse (within 24 hours). All unanticipated adverse events must be reported to the IRB within 1 week (see 45CFR46.103A(2)). Failure to comply with these federally mandated responsibilities may result in suspension or termination of the project.
- Review study with the IRB at least 10 business days prior to expiration.
- Notify the IRB when the study is complete.

If you have any questions, please contact Research Integrity Specialist in the Office of Sponsored Programs and Research Integrity at 719-255-3903 or irb@uccs.edu

Thank you for your concern about human subject protection issues, and good luck with your research.

Sincerely yours,

Michele Okawa, Ph.D.
IRB Reviewer

www.uccs.edu/irb
Version: 7/18/16
1420 Austin Bluffs Parkway Colorado Springs, CO 80916 719-255-3321 phone 719-255-2705 fax