

The Ascent of Man: Theoretical and Empirical Evidence for Blatant Dehumanization

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Dehumanization is a central concept in the study of intergroup relations. Yet although theoretical and methodological advances in subtle, “everyday” dehumanization have progressed rapidly, blatant dehumanization remains understudied. The present research attempts to refocus theoretical and empirical attention on blatant dehumanization, examining when and why it provides explanatory power beyond subtle dehumanization. To accomplish this, we introduce and validate a blatant measure of dehumanization based on the popular depiction of evolutionary progress in the “Ascent of Man.” We compare blatant dehumanization to established conceptualizations of subtle and implicit dehumanization, including infrahumanization, perceptions of human nature and human uniqueness, and implicit associations between ingroup–outgroup and human–animal concepts. Across 7 studies conducted in 3 countries, we demonstrate that blatant dehumanization is (a) more strongly associated with individual differences in support for hierarchy than subtle or implicit dehumanization, (b) uniquely predictive of numerous consequential attitudes and behaviors toward multiple outgroup targets, (c) predictive above prejudice, and (d) reliable over time. Finally, we show that blatant—but not subtle—dehumanization spikes immediately after incidents of real intergroup violence and strongly predicts support for aggressive actions like torture and retaliatory violence (after the Boston Marathon bombings and Woolwich attacks in England). This research extends theory on the role of dehumanization in intergroup relations and intergroup conflict and provides an intuitive, validated empirical tool to reliably measure blatant dehumanization.

Keywords: dehumanization, infrahumanization, intergroup relations, conflict, social dominance orientation

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Representatives . . . shall be determined by adding to the whole
Number of free Persons . . . three fifths of all other Persons.
—*Thirteenth Amendment of the United States Constitution (1868)*

You have to kill the Tutsis, they’re cockroaches.
—*Radio Télévision Libre des Mille Collines broadcast
prior to the Rwandan genocide (1993)*

[The Roma] are not fit to live among people. These Roma are animals
and they behave like animals . . . These animals shouldn’t be allowed

to exist. In no way. That needs to be solved—immediately and
regardless of the method.
—*Zsolt Bayer, founder of Hungary’s ruling Fidesz party (2013)*

Although legal, constitutional and biological edicts establish clear guidelines for determining whether an individual qualifies as ‘human’ or not, the psychological standard for humanness is far more fickle. Modern society provides ample evidence of people’s perception of women as sex objects (Heflick & Goldenberg, 2009; Vaes, Paladino, & Puvia, 2011), athletes as statistics (Hoberman, 1992), and inmates as numbers (Ahmad, 2009; Haney, Banks, & Zimbardo, 1973). History is also replete with examples of people associating specific social groups with animals: Nazi propaganda portrayed Jews as pests, advocates of American slavery depicted African Americans as apes (Goff, Eberhardt, Williams, & Jackson, 2008), Europeans openly referred to the Romani people as “vermin.” The categorical denial of membership in this most basic of superordinate identities—“human”—signals otherness in a profound way that can have dire consequences. American soldiers have highlighted the role of dehumanization in sanctioning violence in Vietnam (Boyle, 1972; Zimbardo, Maslach, & Haney, 1999), and survivors of Nazi concentration camps note the strategic value of dehumanizing one-time neighbors to enable soldiers’ engagement in mass killings (Levi, 1981).

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Empirical research confirms that dehumanization can facilitate discrimination (Goff et al., 2008) and aggression toward others (Bandura, Underwood, & Fromson, 1975; Leidner, Castano, Zaiser, & Giner-Sorolla, 2010; Struch & Schwartz, 1989; Viki, Osgood, & Phillips, 2013).

As noted by Haslam and Loughnan (2014), research on dehumanization has investigated the phenomenon along a spectrum from blatant and severe to subtle and relatively mild. Pioneering work on dehumanization, influenced by the mass killings during and following World War II, centered on blatant dehumanization, in contexts characterized by overt conflict and hostility. This research conceptualized dehumanization as a psychological process that strips others of their group identity (Kelman, 1973), places them outside of normal moral consideration (Bandura et al., 1975; Opatow, 1990), or highlights the incongruence of “their” values with “ours” (Struch & Schwartz, 1989), all of which facilitate violence against the dehumanized group. Across these perspectives, blatant dehumanization was characterized as overt and aggressive. Although mostly theoretical, this early work did provide limited empirical evidence supporting the role of dehumanization in violence. For example, in one study, participants serving as “teachers” in a remote learning paradigm delivered stronger shocks to groups of “students” if the experimenter had earlier described the group in dehumanizing terms (Bandura et al., 1975). However, neither this early research nor more recent work on blatant dehumanization (e.g., Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Jackson & Gaertner, 2010) has systematically explored this construct across a range of research contexts. As such, the causes, consequences and scope of blatant dehumanization remain almost entirely unexplored.

On the other hand, recent conceptualizations of dehumanization have broadened the theoretical focus to more subtle expressions. This “new look” on dehumanization has operationalized it as the attribution of fewer human traits, emotions, and experiences to others (other groups) than oneself (one’s ingroup). This extensive body of research has largely set aside contexts characterized by war and genocide to examine more “everyday” dehumanization, such as doctors’ perceptions of patients in hospital settings (Haque & Waytz, 2012) or people’s views of each other across (largely peaceful) national boundaries (Leyens et al., 2000, 2001; but see Castano & Giner-Sorolla, 2006). Among other consequences, the imbalance in research on subtle versus blatant dehumanization means that their interrelationship “remains uncertain” (Haslam & Loughnan, 2014, p. 418). For example, it is unclear how greatly these constructs differ from each other, both in terms of what psychological factors they are rooted in and what types of attitudes and behaviors they predict. Similarly, little is known about the conditions under which the effects of blatant and subtle dehumanization converge or diverge or the target groups for whom each might be most relevant. For example, when social conditions promote dehumanization, might blatant measures of dehumanization provide important contributions to predicting intergroup outcomes over and above any effects of subtle dehumanization?

In the following paragraphs we describe modern research on subtle dehumanization, and characterize its advances. We then argue for the importance of examining both subtle and blatant dehumanization, and suggest that well-validated measurement tools of blatant dehumanization, which have heretofore been lack-

ing, can aid its theoretical development. We put forward such a measure in the current work, and provide empirical support for the need to refocus attention on blatant dehumanization.

Modern Measures of Dehumanization

The proliferation of research on subtle dehumanization originated from the introduction of *infracumanization* (Leyens et al., 2000). The central finding from this program of research is that individuals frequently withhold a human essence from outgroups by selectively denying them emotions that distinguish humans from animals (i.e., secondary emotions, like embarrassment and elation) but not those emotions shared with animals (i.e., primary emotions, like fear and excitement). It is important to note that this research shows that individuals attribute more of both positive (e.g., compassion) and negative (e.g., bitterness) secondary emotions to the ingroup relative to outgroups, suggesting that infracumanization is not merely an expression of dislike. Infracumanization has been demonstrated across various target groups (Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007), including Canary Islander and Spanish perceptions of each other (Leyens et al., 2003) and French-speaking Belgian perceptions of Flemish-speaking Belgians (Cortes et al., 2005). Infracumanization is theoretically appealing because it offers a framework that highlights a subtle but meaningful tendency that may exist beyond explicit endorsement or conscious awareness (Leyens et al., 2000) and can occur across group status boundaries (Leyens et al., 2007). Infracumanization is also practically useful because it cuts across the dimension of valence and type of emotion (primary vs. secondary), thus concealing the intent of the measure (i.e., rendering it a subtle and indirect measure of dehumanization; Haslam & Loughnan, 2014).

Infracumanization has also been shown to have important intergroup consequences. For example, Portuguese infracumanization of Turkish people led them to perceive Turkey as a symbolic threat and predicted opposition to including Turkey as a member in the European Union (Pereira, Vala, & Leyens, 2009). Other studies have shown outgroup infracumanization to reduce acceptance of responsibility for an ingroup’s past misdeeds (Castano & Giner-Sorolla, 2006), to reduce intergroup forgiveness (Tam et al., 2007), and to reduce acceptance of Muslim immigrants in Europe (Zimmermann, Viki, Abrams, Zebel, & Doosje, 2007). To our knowledge, only one study (using only negative emotions) has shown infracumanization to predict (self-reported) behavior and behavioral intentions. Conducted in the aftermath of Hurricane Katrina, this study showed that Black and Latino participants attributed fewer negative secondary emotions to White (vs. Black and Latino) victims of Hurricane Katrina (Cuddy, Rock, & Norton, 2007) and that attributions of negative secondary emotions predicted self-reported volunteerism and helping intentions after the hurricane.¹

A second major conceptualization of dehumanization is the dual model of dehumanization (Haslam, 2006; Haslam & Loughnan, 2014), which builds on the idea of infracumanization and expands its scope. This model posits the existence of two separate modes of dehumanization: (1) animalistic dehumanization, which involves denying outgroups *uniquely human* (UH) traits that distinguish

¹ White participants in this study, however, did not show the typical infracumanization pattern, instead attributing negative secondary emotions approximately equally to Black and White victims.

humans from animals (such as cognitive aptitude, refinement, and civility) and (2) mechanistic dehumanization, which involves denying others *human nature* (HN) traits that are typical of and fundamental to humans but not necessarily unique relative to other animals (such as warmth and emotionality). Groups denied unique humanness are likened to animals, and groups denied human nature are typically likened to inanimate objects like robots or automata (Haslam, Bain, Douge, Lee, & Bastian, 2005). Whereas UH dehumanization has been applied to animalistic depictions of other groups (akin to infrahumanization), HN dehumanization has been applied in the domains of medicine (Haque & Waytz, 2012), technology (Salem, Eyssel, Rohlfing, Kopp, & Joublin, 2013), and the objectification of women (Haslam & Loughnan, 2014; Heflick & Goldenberg, 2009).

Studies of dual model animalistic and mechanistic dehumanization are methodologically similar to infrahumanization, asking participants to evaluate how well each of a series of traits (associated with human uniqueness or human nature) describe target groups of interest (e.g., Bain, Park, Kwok, & Haslam, 2009). As with infrahumanization, individuals' levels of dehumanization are assessed indirectly through their trait attributions rather than explicitly and blatantly, and thus these two measures are also considered relatively subtle measures of dehumanization. HN and UH forms of dehumanization have been shown to operate independently of one another, and (similar to infrahumanization), across traits of mixed valence, suggesting that they are complementary measures of dehumanization that cannot be reduced to outgroup dislike. Bain et al. (2009) found that Anglo-Australians denied ethnic Chinese HN relative to their own group, but they actually rated them higher in UH than the ingroup. A few studies have looked at the ability of these two forms of dehumanization to differentially predict willingness to help outgroups: Italians animalistically (but not mechanistically) dehumanized Haitians, denying them uniquely human traits, which in turn predicted decreased willingness to help Haitian earthquake victims. On the other hand, Italians mechanistically (but not animalistically) dehumanized Japanese by denying them human nature traits, which in turn predicted decreased willingness to help Japanese earthquake victims (Andrighetto, Baldissarri, Lattanzio, Loughnan, & Volpato, 2014). In the context of intergroup conflict, Leidner, Castano, and Ginges (2013) showed that mechanistic dehumanization among Palestinian and Jewish Israeli participants predicted support for punitive forms of justice over restorative forms of justice that emphasize shared values and forgiveness, which was further associated with support for violence.

Beyond the infrahumanization and dual models approaches to dehumanization, other recent studies have measured dehumanization indirectly through the attribution to others of more human-specific personality characteristics (Hodson & Costello, 2007), again representing a subtle form of dehumanization. Similarly, some studies focus on the centrality of mind to conceptualizations of humanness (Epley, Waytz, & Cacioppo, 2007; Waytz, Cacioppo, & Epley, 2014), for example by showing that human beings are the only entities to which people attribute full capacities for agency (planning, thinking) and experience (feeling, emotion, desire) (Gray, Gray, & Wegner, 2007).

In addition to the subtle measures discussed above, a number of studies have assessed dehumanization implicitly.² Implicit association tests (IATs) have illustrated that people unconsciously asso-

ciate secondary emotions more with their ingroup (e.g., French-speaking Belgians) than with an outgroup (e.g., Dutch-speaking Belgians; Paladino et al., 2002), and that individuals more quickly and accurately associate ingroup (vs. outgroup) names with human-related (e.g., *humanity, citizen*) versus animal-related (e.g., *creature, wildlife*) words (Viki et al., 2006). Similarly, Saminaden, Loughnan, and Haslam (2010) showed that Australians implicitly associated images of indigenous targets with terms denoting animals and immaturity. At the same time, Saminaden et al. (2010) concluded that, "our participants may not consciously believe that traditional people are more bestial, less human, and less fully evolved or developed in the same literal and unabashed way as early European explorers and colonialists" (p. 103); this highlights the uncertainty that currently exists about the relationship between subtle or implicit and explicit or blatant dehumanization.

Outstanding Questions in the Dehumanization Literature

Overall, subtle and implicit conceptualizations of dehumanization endow the field with a strong theoretical foundation on which to research dehumanization and provide measures that are standardized and validated. An undoubted strength of the subtle approach to dehumanization research is its transformation of the study of dehumanization from an exclusive focus on contexts marred by conflict and extreme negativity to an "everyday" social-cognitive phenomenon (Haslam, 2006; Haslam & Loughnan, 2014). Nevertheless, the measures currently used may fail in their subtlety to fully capture the overt expressions of dehumanization that originally inspired the theoretical research, and that continue today: soccer fans throw bananas at black soccer players in Europe (BBC, 2014), newspapers publish caricatures of president Obama as an ape (Huffington Post, 2014), and leaders openly describe groups such as Arabs and the Roma using terms such as *mongrel, animal, and pest* (Der Spiegel, 2013). In these cases, people express dehumanization deliberately and openly, they explicitly endorse the association between the target and animal representations, and clearly communicate the view that the outgroup is inherently inferior to the ingroup. For these types of contexts, measuring subtle or implicit dehumanization may not be enough. Rather, a more overt and explicit measure may be required to effectively capture the dehumanization being expressed.

A Novel Measure of Blatant Dehumanization: Ascent Dehumanization

To assess our contention that blatant dehumanization is theoretically meaningful, and to complement the well-validated measures of subtle, everyday dehumanization, we introduce and validate here a measure designed to capture blatant, explicit forms of

² As Haslam (2013) notes, measures of dehumanization can vary across at least two orthogonal dimensions: explicit to implicit, and blatant to subtle. For example, an IAT composed of positive and negative secondary emotions may be characterized as implicit/subtle, while another using words associated with humans and animals is implicit/blatant. The most common ways to measure dehumanization—infrahumanization, UH, HN—are subtle, and lie somewhere on the spectrum between implicit and explicit. Still lacking is a well-characterized way to assess blatant/explicit dehumanization, whereby individuals consciously deny a group full humanness.

dehumanization. Our measure uses the popular graphical description of the “Ascent of Man,” with five silhouettes depicting the physiological and cultural evolution of humans, from early human ancestors reminiscent of modern apes, through more upright ancestors with a capacity for primitive culture (depicted by a spear over the shoulder), to culturally advanced modern humans; participants were asked to indicate with continuous sliders their perceptions of the “evolvedness” of a number of groups listed below the image (see Figure 1).³

Practically, the Ascent measure of blatant dehumanization is brief, face-valid and intuitive, and represents the overt and direct denial of humanness required of blatant dehumanization (Haslam & Loughnan, 2014). Theoretically, Ascent captures a number of important characteristics of blatant dehumanization. The images conjure an explicit animalistic distinction (from quadrupedal hominid ancestors to bipedal modern humans), and the image is used colloquially to highlight a salient distinction between early human ancestors and modern humans; that is, the full realization of cognitive ability and cultural expression. These characteristics combine to make the measure inherently hierarchical, with each silhouette representing an advance—an ascent—over the previous one.

Given that blatant dehumanization involves openly held beliefs about the inherent inferiority of other groups relative to the ingroup, one would not expect all groups to be blatantly dehumanized: for example, it would be surprising if Americans openly perceived relatively high status and cooperative groups such as Canadians or Europeans as less evolved than Americans, even if they were happy to report ingroup preference relative to these outgroups. For intergroup relations of this nature, subtle dehumanization measures may well be more relevant. On the other hand, contextual factors such as low outgroup status, intergroup competition, or perceived threat may generate overt and uninhibited expressions of blatant dehumanization. For example, given the tenor of intergroup relations between Americans and Arabs/Muslims in recent decades (punctuated by the attacks of September 11, 2001, the string of U.S. led wars in the Middle East, and the rise of the Islamic extremist group ISIS) and the historical negative representation of Arabs and Muslims in American media (Shaheen, 2003), it seems reasonable to expect that Americans may overtly perceive and explicitly express blatant dehumanization of Arabs and Muslims. Given the potential role for dehumanization in rationalizing intergroup aggression (Bandura et al., 1996), licens-

ing violence (Dovidio, Kawakami, & Gaertner, 2002; Wilson, Lindsey, & Schooler, 2000) and further entrenching intractable conflicts (Bar-Tal, 2000), it seems particularly important to carefully examine what role blatant versus subtle expressions of dehumanization play in the context of intergroup conflict.

In the present work, we empirically examine blatant dehumanization, primarily using the novel Ascent dehumanization measure. Across studies, we also include subtle and implicit measures of dehumanization to allow direct, within-subject comparison across these constructs. Using a number of participant pools and target groups, we tested three main predictions about blatant (vs. subtle) dehumanization.

First, we predicted that blatant dehumanization would more strongly associate with explicit beliefs about the inherent superiority of some groups over others than would subtle or implicit indices of dehumanization. To test this hypothesis, we determined how well blatant versus subtle measures of dehumanization are associated with social dominance orientation (SDO), an individual difference measure that indexes support for hierarchy between social groups (Pratto, Sidanius, Stallworth, & Malle, 1994). Some prior work has found SDO to be associated with dehumanization of others, including immigrants (Costello & Hodson, 2011), refugees (Esses, Veenvliet, Hodson, & Mihic, 2008) and enemy war victims (Jackson & Gaertner, 2010; see also Haslam & Loughnan, 2014). While dehumanization, broadly construed, may inherently correspond to beliefs about intergroup hierarchy, the hierarchical progression implied in the Ascent measure captures this directly. We therefore expected that blatant dehumanization as captured by Ascent would be more strongly associated with SDO than would more subtle forms of dehumanization.

Recent work has further distinguished between two forms of SDO: the SDO-Dominance subdimension (SDO-D), and the SDO-Egalitarian (SDO-E) subdimension (Ho et al., 2012, 2015). Whereas SDO-E reflects a more subtle opposition to equality between groups and is associated with variables such as opposition to affirmative action and political conservatism, SDO-D reflects an active orientation toward enforcing hierarchy between groups, is associated with more forceful and aggressive intergroup attitudes such as support for war and punishment, and is predicted by the “dark triad” of personality traits (i.e., Machiavellianism, Narcissism, and Psychopathy; Ho et al., 2015). Because SDO-D (relative to SDO-E) involves particularly active and overt perceptions of some groups as beneath others, we theorize that the differences in the correlation between SDO and blatant versus subtle dehumanization would be most pronounced for SDO-D (vs. SDO-E).

A second prediction we test is that blatant dehumanization will predict important intergroup outcomes (e.g., aggressive intergroup actions in conflictual intergroup contexts) beyond subtle measures of dehumanization. We tested this hypothesis by directly comparing the relative predictive utilities of blatant and subtle dehumanization across a range of intergroup contexts. Although the number of studies documenting ‘everyday dehumanization’ has increased in recent years, the number of studies examining the consequences of infrahumanization, UH/HN dehumanization, and implicit dehu-

People can vary in how human-like they seem. Some people seem highly evolved whereas others seem no different than lower animals. Using the image below, indicate using the sliders how evolved you consider the average member of each group to be:

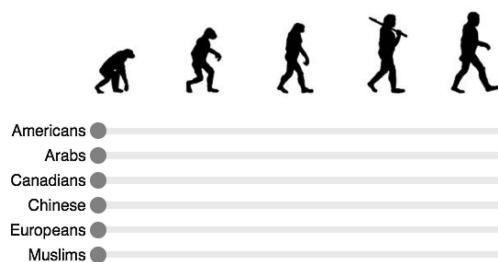


Figure 1. The Ascent measure of blatant dehumanization. Responses were made for each target group using the sliders next to the groups. Target group order was randomized across participants.

³ Silhouettes lacked texture, detail or color in order to limit low-level association biases (e.g., between darker skinned/haired early human ancestors and modern darker-skinned ethnic groups).

manization is quite small. In fact, dehumanization is frequently assessed as a dependent variable rather than as a predictor of downstream effects (e.g., Gwinn, Judd, & Park, 2013), and behavioral outcomes are very rarely examined. Furthermore, systematic empirical comparisons across measures of dehumanization have not previously been performed. Providing such a comparison is one of our central aims.

A third prediction we tested is that the Ascent measure of blatant dehumanization would be associated with other relatively blatant measures of dehumanization. Although the vast majority of studies on dehumanization over the last 2 decades have focused on subtle or implicit dehumanization, a few have provided measures that are somewhat more blatant. For example, Viki and colleagues (2006, 2013) used an *ipsative* task, in which participants were asked to match a list of ingroup and outgroup names with human-related and animal-related words, and showed that the number of human words Christians selected for Muslim names predicted support for torture of Muslim prisoners. Bastian, Denson, and Haslam (2013) introduced relatively explicit variations of animalistic and mechanistic dehumanization, using items such as “I felt like the person in the story lacked self-restraint, like an animal” (animalistic dehumanization) and “I felt like the person in the story was mechanical and cold, like a robot” (mechanistic dehumanization). Their work showed that a scale combining these two measures of dehumanization was associated with the severity of retributive justice levied against criminal offenders. In the present work, we predicted that Ascent dehumanization would be associated with these other measures of relatively blatant dehumanization.⁴ We also reasoned that Ascent dehumanization—given its specific allusion to evolutionary progression—might be especially associated with animalistic blatant dehumanization. Lastly, we compared the predictive utilities of the Ascent measure of blatant dehumanization and these other relatively blatant measures.

Overview of Studies

In Study 1, we examine blatant dehumanization across multiple target groups among American participants, using the Ascent dehumanization measure. Additionally, we examine the association between blatant dehumanization and numerous individual difference and personality variables, including individuals’ acceptance of hierarchy between groups in society (SDO; Pratto et al., 1994). In Study 2A, we assess the predictive validity of blatant dehumanization in relation to existing subtle measures of dehumanization (infracommunity, UH/HN dehumanization, and an implicit measure of dehumanization), focusing on Arabs, but including three other target groups (African Americans, Hispanic Americans, Chinese). In Study 2B, we further test the importance of blatant dehumanization of these same target groups by examining whether it uniquely predicts intergroup perceptions that are both subtler and more overt. In Studies 3A and 3B, we examine blatant versus subtle dehumanization in the context of real-world, intergroup violence. In Study 3A, we assess whether various dehumanization measures in American participants predict punitive anti-Arab attitudes and support for intergroup aggression associated with conflict escalation in the aftermath of the Boston Marathon bombings. In Study 3B, we examine whether various dehumanization measures in British participants predict attitudes and behavior toward Muslims following the murder of British citizen Lee Rigby by two British Muslim men. In Study 4, we use

a large representative sample in Hungary to examine the effects of blatant versus subtle dehumanization of the Roma (i.e., “gypsy”) population among non-Roma Hungarians. Finally, in Study 5, we considered the interrelationship between the Ascent measure of blatant dehumanization and other existing, but not fully validated, measures of dehumanization that could be considered relatively blatant: the *ipsative* task developed by Viki et al. (2013), and measures of animalistic and mechanistic dehumanization used previously by Bastian et al. (2013). Focusing on American perceptions of the extremist group of Muslims known as the Islamic State in Iraq and Syria (ISIS), we examine convergence and predictive validity of Ascent versus these (relatively) blatant measures of dehumanization, as well as subtle dehumanization and prejudice.

Study 1

In Study 1, we assessed two central questions: First, we used our novel Ascent measure to examine which groups, if any, Americans blatantly dehumanized. Second, we examined the relationship between blatant dehumanization and various personality and individual difference measures. We were particularly interested in SDO (Pratto et al., 1994), which has been shown previously to be associated with dehumanization (Costello & Hodson, 2011; Esses, Veenvliet, Hodson, & Mihic, 2008; Jackson & Gaertner, 2010; see also Haslam & Loughnan, 2014). We hypothesized that the hierarchical differentiation inherent in the Ascent measure of blatant dehumanization would cause it to associate particularly strongly (relative to more subtle measures of dehumanization) with SDO. We further predicted that differences in the association between SDO and blatant versus subtle dehumanization would be most pronounced for the SDO-D subdimension, which involves actively and overtly endorsing the superiority and dominance of some groups over others.

Along with SDO, we also examined right-wing authoritarianism (RWA). Individuals high on RWA tend to perceive the world as dangerous, follow social norms and traditions closely, submit to authorities, and aggress against individuals who threaten norms and social order (Altemeyer, 1996). To the extent that high RWA individuals hold their own group’s norms and traditions as an ideal of ‘civilized’ behavior, we predicted that they would be more likely to perceive groups whose social norms and traditions were distinct from their own not simply as different, but also less human (see also Jackson & Gaertner, 2010).

We also obtained measures from two commonly used scales that we expected would not relate to blatant outgroup dehumanization: Big Five personality traits (Costa & McCrae, 1992) and the Interpersonal Reactivity Index (Davis, 1983), which provides measures of trait empathy. A large meta-analysis of the Big Five suggests that although the personality traits Agreeableness and Openness are related to prejudice, these relationships are generally modest and are more proximally mediated by SDO and RWA, respectively (Sibley & Duckitt, 2008). Outgroup hostility’s weak association with basic personality traits, relative to SDO and RWA, reflects the fact that the Big Five measures contain less specific ideological

⁴ For other assessments of dehumanization that could be considered relatively blatant, see Esses et al. (2008), who use ratings of refugees as barbarians, and Castano and Giner-Sorolla (2006), whose dehumanization measure incorporates an item assessing support for the idea that “Native Americans were basically wild creatures before the arrival of White men.”

and group-relevant content than either SDO or RWA. Similarly, trait empathy is generally considered a basic personality measure that precedes and informs SDO and RWA (Bäckström & Björklund, 2007; Sibley & Duckitt, 2010; but see Sidanius et al., 2013) and has been shown to be independent of intergroup perceptions (Bruneau, Cikara & Saxe, 2015). We therefore expected the Big Five and empathy to relate not at all (or less strongly than SDO and RWA) to blatant dehumanization.

Method

Participants. We recruited 201 American participants through Amazon's Mechanical Turk (mTurk) marketplace ($M_{\text{age}} = 32.34$, $SD = 10.60$; 64.7% male; 153 Whites/European Americans; 16 Asian/Asian Americans; 12 Latino/Hispanic Americans; nine Black/African Americans; nine Biracial/Mixed Race; one Middle Eastern/Arab American; one Other). Participants completed a questionnaire that included the Ascent dehumanization measure toward several groups, as well as a battery of individual difference and personality inventories. Given that some of the target groups we assessed included Hispanic, Asian, and Arab groups, we excluded Asian/Asian Americans, Latino/Hispanic Americans, and Middle Eastern/Arab Americans from the analyses, leaving a total sample of 172 participants.

Measures.

Blatant dehumanization. We measured blatant dehumanization using the Ascent measure. The "Ascent of Man" diagram was accompanied by the following instructions: "People can vary in how human-like they seem. Some people seem highly evolved, whereas others seem no different than lower animals. Using the image below as a guide, indicate using the sliders how evolved you consider the average member of each group to be."⁵ Several groups appeared below the diagram, with a single slider bar next to each anchored at either side of the five-silhouette "Ascent of Man" image: Mexican Immigrants, Arabs, Chinese people, Europeans, Americans, Icelanders, Japanese people, Swiss people, Austrians, Australians, French people, South Koreans, and Muslims (see Figure 1). Responses on the continuous slider were converted to a rating from 0 (*least "evolved"*) to 100 (*most "evolved"*), and a dehumanization score was calculated by subtracting the Ascent rating of the target outgroup from the Ascent rating of the ingroup. Group presentation order was randomized across participants.

SDO. To assess SDO-D (e.g., "Superior groups should dominate inferior groups"; $\alpha = .93$) and SDO-E (e.g., "We should aim for increased social equality," reverse-coded; $\alpha = .94$), we used the 16-item SDO₆ Scale (Pratto et al., 1994). Participants rated their agreement with each of the items on Likert-type scales, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). This same 5-point Likert-type scale was used for all measures reported subsequently.

RWA. To assess RWA, we used 12 items taken from Altemeyer's (1996) scale, (e.g., "Our customs and national heritage are the things that have made us great, and certain people should be made to show greater respect for them"; $\alpha = .87$).

Personality measures. We assessed each of the Big Five personality traits: Neuroticism (e.g., "I often feel tense and jittery"; $\alpha = .93$), Extraversion (e.g., "I really enjoy talking to people"; $\alpha = .88$), Agreeableness (e.g., "I generally try to be thoughtful and considerate"; $\alpha = .84$), Openness to Experience (e.g., "I think it's interesting to learn and develop new hobbies"; $\alpha = .86$), and

Conscientiousness (e.g., "I keep my belongings neat and clean"; $\alpha = .90$) with the 60-item NEO Personality Inventory—Revised (Costa & McCrae, 1992).

Trait empathy. We assessed empathy using the Interpersonal Reactivity Index (Davis, 1983). Participants answered seven items for each of the four empathy subscales: Fantasy (e.g., "I really get involved with the feelings of the characters in a novel"; $\alpha = .84$), Perspective Taking (e.g., "I try to look at everybody's side of a disagreement before I make a decision"; $\alpha = .82$), Empathic Concern (e.g., "I often have tender, concerned feelings for people less fortunate than me"; $\alpha = .89$), and Personal Distress (e.g., "When I see someone who badly needs help in an emergency, I go to pieces"; $\alpha = .89$).

Results and Discussion

Participant ratings of blatant dehumanization differed significantly across the target groups (see Table 1): European groups and Japanese were rated as similarly evolved as Americans, whereas South Korean, Chinese and Mexican immigrants were rated as significantly less evolved than Americans. Lowest on the scale were Arabs and Muslims, who were rated on average 10.6 and 14.0 points lower than Americans, respectively. Post hoc tests revealed that Arabs and Muslims were rated as significantly less evolved than all other groups (mean differences between Mexicans immigrants, the next most dehumanized group, and Arabs: $M_{\text{difference}} = -2.76$, $SD = 11.31$, $t(171) = -3.20$, $p = .002$; Muslims: $M_{\text{difference}} = -6.08$, $SD = 19.77$, $t(171) = -4.03$, $p < .001$).

We next calculated a relative blatant dehumanization score for each target group by subtracting the target group Ascent rating from the American Ascent rating (i.e., higher scores reflect more outgroup dehumanization).⁶ To assess the association between relative blatant dehumanization and SDO, RWA, and Big Five personality traits across group targets, we computed an overall relative outgroup dehumanization score by averaging relative scores across all of the group targets for which significant dehumanization was observed ($\alpha = .88$). As expected, blatant dehumanization was strongly associated with SDO-D. We further ob-

⁵ These instructions were adapted from similar instructions used to measure mind perception (Waytz & Young, 2012). To determine whether the instructions helped to license dehumanization ratings, we presented an independent sample of 96 American participants ($M_{\text{age}} = 33.26$, $SD = 10.46$; 59.4% male) with the Ascent dehumanization measure with no instructions at all. These participants reported ratings for Americans ($M = 90.98$, $SD = 16.82$), Europeans ($M = 91.05$, $SD = 17.35$) and Muslims ($M = 77.53$, $SD = 31.12$) that were nearly identical to those given in the presence of explicit instructions in Study 1 (all independent sample t test $ps > .65$). This suggests that blatant dehumanization ratings are independent of the instructions.

⁶ We used a difference score to represent blatant dehumanization on the Ascent scale because we wanted to directly compare Ascent to other measures of dehumanization in subsequent studies (e.g., dehumanization IAT; infrahumanization), which are themselves typically computed as difference scores between attributions toward the ingroup versus outgroup. This also has the advantage of accounting for any individual differences in how the scale is generally used. However, treating blatant dehumanization exclusively as the rating of the outgroup on the Ascent scale is also a reasonable approach. When we instead calculated blatant dehumanization as an absolute score on the Ascent scale for the target outgroup, major results across all studies remained unchanged. We return to this topic in the discussion. Supplementary Tables 6a-6f include mean (absolute) Ascent ratings for each group assessed across all studies.

Table 1
Mean and Relative Blatant Dehumanization in Study 1 Assessed Using the Ascent Measure

Target	<i>M (SD)</i>	Quartile (25, 50, 75)	Difference score (Americans-[Target group])
American	91.5 (15.2)	87.3, 100, 100	-0.4, <i>ns</i>
European	91.9 (15.7)	90, 100, 100	0.3, <i>ns</i>
Swiss	91.2 (18.0)	90, 100, 100	0.4, <i>ns</i>
Japanese	91.1 (16.9)	89.3, 100, 100	0.5, <i>ns</i>
French	91.0 (16.9)	90, 100, 100	1.6, <i>ns</i>
Australian	90.1 (18.2)	87, 100, 100	1.6, <i>ns</i>
Austrian	89.9 (19.2)	86, 100, 100	1.7, <i>ns</i>
Icelander	89.8 (18.7)	89, 100, 100	3.1**
Chinese	88.4 (19.7)	83.3, 100, 100	4.7**
South Korean	86.9 (23.4)	81, 100, 100	7.9***
Mexican immigrant	83.7 (24.7)	75.3, 100, 100	10.6***
Arab	80.9 (27.4)	70, 97.5, 100	14.0***
Muslim	77.6 (29.7)	60, 91, 100	

** $p < .01$. *** $p < .001$.

served that it was unrelated to SDO-E, a subtler index of support for hierarchy between groups (see Table 2); the difference between the two correlations was significant, Steiger's $z = 4.78$, $p < .001$. Blatant dehumanization was also positively, but modestly, associated with RWA, and, unexpectedly, with extraversion (positively) and conscientiousness (negatively). None of the other personality measures or empathy subscales were associated with blatant dehumanization.

Thus, participants in Study 1 reported that some groups were less evolved than Americans, and the amount of dehumanization varied across groups: Participants blatantly dehumanized Chinese people, South Koreans, Mexican immigrants, and, particularly, Muslims and Arabs, and rated other groups, such as Europeans, Australians, and Japanese people as equal in Ascent to Americans. These results suggest that the Ascent dehumanization measure may be especially useful for assessing blatant dehumanization toward low status or derogated targets, who may be perceived as relatively primitive or unsophisticated (see also Castano & Giner-Sorolla, 2006; Saminaden et al., 2010). It is important to note that the extent of outgroup blatant dehumanization relative to Americans was significantly predicted by SDO-D, which taps individuals' notions of the acceptability of aggressive measures to maintain hierarchy between groups. This supports our hypothesis that those individuals expressing blatant dehumanization are also those more likely to accept the notion that some groups are superior to other groups.

Study 2A

Having established significant variance in Americans' blatant dehumanization of various outgroups, and documented a relation-

ship between blatant dehumanization and hierarchical intergroup perceptions, we sought to compare blatant dehumanization to subtle measures of dehumanization in predicting attitudes and behavior toward derogated groups. Given that Arabs emerged as one of the most strongly dehumanized groups in Study 1, we focused in these analyses on Americans' dehumanization of Arabs. Thus, we compared the contribution of the various measures of dehumanization of Arabs relative to Americans, while also controlling for relative prejudice toward Arabs. Although we expected blatant dehumanization to best predict attitudes and behavior toward groups that are likely most subject to demonization and moral exclusion, such as Arabs, we also considered several other target groups. Specifically, we assessed attitudes and behavior toward African Americans, Hispanic Americans, and Chinese people. Overall, we expected blatant dehumanization to predict intergroup attitudes and behavior controlling for subtle measures of dehumanization, especially for more overt outcome measures. Finally, we were interested in assessing the reliability of the various dehumanization measures over time. To examine this, we collected data in two waves, and assessed the test-retest correlation for each of the dehumanization measures.

Method

Participants. We recruited 592 participants from Amazon's mTurk marketplace. Of these participants, 25 failed to correctly respond to a check question ("This is an attention check question, please move the slider all the way to the right") that was randomly distributed among the other survey items, and five other participants were excluded for having a missing or duplicate mTurk ID (the variable we used to match our two waves). This left 562

Table 2
Zero-Order Correlations Between Ascent Dehumanization and SDO, RWA, Personality, and Empathy in Study 1

	SDO-D	SDO-E	RWA	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness	EC	PT	PD	FY
Ascent dehumanization	.42***	.12	.22**	-.14	.26**	-.08	-.14	.16*	-.02	.01	-.09	-.07

Note. SDO-D = Social dominance orientation-Dominance; SDO-E = Social dominance orientation-Egalitarianism; RWA = right-wing authoritarianism; EC = Empathic Concern; PT = Perspective Taking; PD = Personal Distress; FY = Fantasy.

* $p < .05$. ** $p < .01$. *** $p < .001$.

American participants ($M_{\text{age}} = 35.53$, $SD = 12.18$; 52.6% female; 427 European Americans; 32 African Americans; 31 Hispanic Americans; 28 Asian Americans; 11 Native Americans; four Arab Americans; 29 Other). Participants were randomly assigned to evaluate one of four target outgroups: Arabs, African Americans, Hispanic Americans, or Chinese. We included only participants who did not belong to the ethnic/racial groups about which they were responding ($n = 530$). Given our reasoning that blatant dehumanization should be most relevant in intergroup contexts marked by hostility and conflict, and consistent with Study 1's findings that blatant dehumanization was most pronounced for Arabs, we focus the following analysis primarily on participants in the Arab target condition ($n = 130$). Ancillary analyses for the remaining target group conditions can be found in the online supplementary materials (Tables 1a–3c).⁷

Measures: Wave 1 assessment.

Social dominance orientation. SDO-D ($\alpha = .91$) and SDO-E ($\alpha = .93$) were assessed as in Study 1.

Blatant dehumanization. Blatant dehumanization was assessed using the Ascent dehumanization measure (as in Study 1) but toward the following groups: Americans, Europeans, Arabs, Hispanic Americans, African Americans, Christians, Jews, and Muslims. We were particularly interested in Arab dehumanization, and computed a relative Ascent dehumanization score by subtracting Arab Ascent ratings from American Ascent ratings for each participant.

Infrahumanization. Secondary emotions were selected from a list of emotions that American participants rated previously (Demoulin et al., 2004) across two dimensions: (1) valence and (2) how unique they were to humans versus animals. Consistent with the proposition that infrahumanization occurs independently of valence (e.g., Haslam & Loughnan, 2014; Leyens et al., 2000), we selected six secondary emotions, balanced by valence: three positive (compassion, tenderness, hope) and three negative (bitterness, regret, and shame). Participants were asked to "Indicate how well each of the emotions below characterizes the following group" by using unmarked sliders (0 = *not at all well*; 100 = *very well*). We also asked participants to respond with respect to six primary emotions, balanced by valence: three positive (happiness, pleasure, and excitement) and three negative (sadness, pain, and rage). Participants answered the questions with respect to both Americans and Arabs. Order of emotions was randomized for each target group, as was order of the target groups. Consistent with prior research on infrahumanization (e.g., Cuddy et al., 2007), we computed the difference between average ratings for Americans versus Arabs on secondary emotions (i.e., Arab infrahumanization; descriptive statistics reported in Table 3); positive scores indicate more attribution of secondary emotions to Americans. To isolate the effect of differential attribution of secondary emotions per se (as opposed to attributing greater emotionality to the ingroup in general), we regressed this variable on differential attribution of primary emotions. Note that all tables present the unresidualized mean (e.g., Table 3), and use the residualized variable for all zero-order correlations and regression analyses (e.g., Tables 3 and 4).⁸

UH and HN dehumanization. We assessed UH and HN trait attribution toward American and Arab targets by having participants answer, "To what extent do you think the following traits describe [Americans/Arabs], in general, as a group" for the fol-

lowing 19 traits from Haslam and Bain (2007) by using unmarked sliders (0 = *not at all*; 100 = *to a very great extent*): "Ambitious," "Imaginative," "Passionate," "Polite," "Humble," "Rude," "Stingy," "Irresponsible," "Reserved," "Active," "Friendly," "Comfortable," "Uncooperative," "Unemotional," "Timid," "Shy," "Nervous," "Curious," and "Selfless." These traits vary both on valence, and the extent to which they capture uniquely human versus human nature traits (Gwinn et al., 2013; Haslam & Bain, 2007). Our index of uniquely human (i.e., animalistic) dehumanization used an equal number of positive and negative traits that were high on UH (Ambitious, Imaginative, Passionate, Humble, Irresponsible, Reserved, Rude, and Stingy); our index of human nature traits used an equal number of positive and negative traits that were high on HN (Active, Friendly, 'Ambitious, Imaginative, Shy, Nervous, Irresponsible, and Reserved). For each measure, we created difference scores between the attribution of the traits for Americans relative to Arabs.⁹ Higher scores indicate greater attribution of UH and HN traits to Americans relative to Arabs (i.e., greater dehumanization of Arabs).

Implicit dehumanization. In order to measure implicit dehumanization of Arabs versus Americans, we used an IAT (Greenwald, McGhee, & Schwartz, 1998). Specifically, we followed the procedure of Viki et al. (2006) and compared how quickly participants associated Arab names (e.g., Mohammed, Omar) and American names (e.g., Bruce, Jonathan) to categories representing animals (e.g., wildlife, creature) and humans (e.g., person, citizen). An IAT d score was generated for each participant after removing responses slower than 3,000 ms or faster than 300 ms; a d score was not computed for a participant if more than 50% of responses were removed (Greenwald McGhee, & Schwartz, 1998). This resulted in the removal of the data from 30 participants (5.3%). Higher d scores reflected a stronger Americans–Human/Arab–Animal than American–Animal/Arab–Human association (i.e., more Arab dehumanization).

Prejudice. To assess prejudice, we used a feeling thermometer, which asked participants "How cold (unfavorable) or warm (favorable) do you feel toward the following groups . . . ?" (Haddock, Zanna, & Esses, 1993). Ratings were made for each of the target groups used in the Ascent measure by using unmarked sliders (0 = *very cold*; 100 = *very warm*). Prejudice was computed by subtracting Arab warmth from American warmth.

Arab immigration support. Our first outcome measure assessed comfort with Arab immigration into the United States, by asking participants to respond to the following:

Every year people from around the world apply for visas to immigrate permanently to the U.S. There are quotas that limit the number of

⁷ Subjects assigned to the other target group conditions received the same materials, with the relevant target group substituted in place of Arabs.

⁸ Analyses using the differential attribution of secondary emotions alone (not accounting for primary emotion attribution) yielded similar results across all studies.

⁹ Some of the traits (Ambitious, Imaginative, Irresponsible, and Reserved) are included in both scales because they are high on both human nature and unique humanness (Gwinn et al., 2013; Haslam & Bain, 2007). However, conclusions reported here and in all subsequent studies are consistent when these traits are excluded and only traits that are high on one dimension and low on the other are used for the assessment of the UH and HN measures.

Table 3
Descriptive Statistics and Variable Intercorrelations for Study 2A

Variable	1	2	3	4	5	6	7	8	9	10
1. Ascent dehumanization	—									
2. Infrahumanization	.20*	—								
3. Unique humanness	-.08	-.15	—							
4. Human nature	.30**	.04	.62***	—						
5. Implicit dehumanization	.11	.20*	-.01	.04	—					
6. Prejudice	.57***	.42***	.02	.40***	.21*	—				
7. Arab immigration support	-.49***	-.32**	.04	-.21*	-.06	-.42***	—			
8. Responses to injustice	-.32***	-.14	.09	-.16	-.02	-.25***	.39***	—		
9. Responses to media portrayal	-.29**	-.24**	.07	-.28**	-.14	-.43***	.37***	.48***	—	
10. Outgroup vs. ingroup donation	-.29**	-.21*	.10	-.08	-.20*	-.47***	.27**	.24**	.39***	—
<i>M</i>	10.55 ^a	8.88 ^a	3.87 ^a	3.86 ^a	.36 ^a	29.58	13.93	62.75	58.66	.13
<i>SD</i>	21.17	15.59	12.98	15.15	.38	31.33	8.66	25.90	24.35	.08
Quartiles	0, 0, 20	-3, 8.3, 19.8	-5, 3.9, 11.3	-2.8, 3.3, 11.4	.11, .40, .65					

Note. The descriptive statistics for infrahumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .05$ (tested only on Variables 1–5).

* $p < .05$. ** $p < .01$. *** $p < .001$.

people that can come to the U.S., based on their background. This year, there were approximately 1 million total visa applications from the groups listed below, and the number of applications from each group were approximately equal. There are a limited number of slots available, so not everybody will be awarded a visa. Indicate below what percentage of the available visas you think should be awarded to each of the groups (must total 100).

Participants indicated the percentage of visas to be given to each of the following groups: Arabs, East Asians, Hispanics, Africans, and Eastern Europeans. We focused analyses on the proportion of visas participants granted to Arabs.

Response to injustice. We assessed emotional responses to an ingroup act of outgroup discrimination by presenting participants with the following story:

Two teenage friends—one Arab, one White—are caught shoplifting from their local corner store. The White storeowner catches the youth and calls the police to the scene. When the police arrive, the storeowner recounts the robbery, placing the majority of the blame on the Arab kid. The police take the Arab kid to the police station while the White kid is sent home.

Participants were then asked: “How angry does this make you feel?” “How guilty does this make you feel?” “How ashamed does this make you feel?” and “How compassionate do you feel toward the Arab kid?” ($\alpha = .79$). Participants responded by using unmarked sliders (0 = *not at all*; 100 = *very*).

Response to media portrayals. Participants were asked to watch a 2-min trailer to a documentary (*Reel Bad Arabs* [http://www.reelbadarabs.com/]; see Shaheen, 2003), which argues that Hollywood has long perpetuated a negative image of Arabs. We assessed participants’ responses to the film by asking them, “Do you believe the main idea of the film is correct?” on an unmarked slider scale (0 = *not at all*; 100 = *very much*).

Outgroup versus ingroup donation. We assessed participants’ behavior in terms of the proportion of a \$0.50 bonus they were willing to donate to an ingroup (American) versus outgroup (Arab) cause (which we did in fact donate based on participants’ allocations). The ingroup cause was a relief fund for victims of the

Boston Marathon bombings. The outgroup cause was a relief fund for civilian victims of drone strikes in Afghanistan and Yemen. We assessed the proportion of money participants donated to the outgroup cause.

Measures: Wave 2 assessment. To assess the temporal stability of all dehumanization measures, we gave participants an opportunity to participate in a second survey four months after the first administration. We assessed all dehumanization measures as in the first wave.¹⁰

Of the original 562 participants, 228 participants with unique mTurk IDs completed the second wave. We focused our analyses only on participants who did not belong to one of the ethnic groups that they were evaluating (219 participants; $M_{\text{age}} = 38.53$, $SD = 12.92$; 51.8% female; 184 European Americans; 9 African Americans; 10 Hispanic Americans; 6 Asian Americans; 4 Native Americans; 1 Arab American; 5 Other).¹¹ Again, we focused our analyses on participants in the Arab target condition ($n = 57$).

Results and Discussion

Descriptive statistics and intercorrelations of all variables are reported in Table 3 (for all results involving other target group conditions, see Tables 1a–3c in the online supplementary materials). Overall, all measures of dehumanization showed a clear

¹⁰ Although we also assessed the dependent variables in this wave, we did not conduct longitudinal predictive utility analyses. The dependent variables had, on average, very high test–retest correlations over the 4-month period, leaving very little variance to be explained by our dehumanization measures. This fact was compounded by the loss of power to detect effects resulting from the reduced sample size (due to participant attrition).

¹¹ A multivariate analysis of variance (ANOVA) assessing effects of attrition indicated that there was no significant difference between those participants who completed both waves and those who completed only wave one on any of the dehumanization measures, Wilks’ λ , $F(5, 496) = 1.84$, $p = .10$. Univariate ANOVAs suggested that across dehumanization measures, the only significant difference as a function of attrition was a small effect of having completed the second wave on reporting lower relative HN dehumanization, $F(1, 528) = 5.45$, $p = .02$, $\eta_p^2 = .01$.

Table 4
Simultaneous Regressions Predicting Outgroup Attitudes and Behavior as a Function of Dehumanization in Study 2A

Dehumanization measure	Arab immigration support ($R^2 = .29$)		Responses to injustice ($R^2 = .13$)		Responses to media portrayal ($R^2 = .21$)		Outgroup vs. ingroup donation ($R^2 = .13$)	
	β	p	β	p	β	p	β	p
Ascent dehumanization	-.40 ^a	<.001	-.23 ^a	.02	-.10	.26	-.22	.02
Infrahumanization	-.21 ^a	.01	-.07	.43	-.13	.14	-.12	.20
UH	.09	.39	.17	.15	.33 ^a	.003	.11	.33
HN	-.12	.27	-.20	.11	-.43 ^a	<.001	-.07	.57
IAT dehumanization	.03	.68	.02	.79	-.08	.36	-.15	.09

Note. UH = Unique Humanness; HN = Human Nature; IAT = implicit association test.

^a Indicates an estimate that is significant at $p < .05$ controlling for prejudice.

ingroup bias, with Americans attributing more humanity to Americans than Arabs (see Table 3). To determine how well each of the dehumanization measures predicted each outcome variable, we performed a simultaneous regression for each dependent variable, with the set of dehumanization measures as predictors (see Table 4).

The results of these analyses consistently showed the importance of blatant dehumanization: Blatant dehumanization predicted support for minimizing Arab immigration, less compassionate responses to injustice experienced by an Arab target, and less money actually donated to an Arab versus American cause. Infrahumanization predicted reduced support for Arab immigration, but did not significantly predict any of the remaining variables. HN dehumanization predicted less sympathy with the main thesis of the film documenting the negative representation of Arabs in the media (in line with theoretical expectations). On the other hand, UH dehumanization unexpectedly predicted more sympathy with the film trailer.¹² Implicit dehumanization was not a significant predictor of any of the outcome variables, after controlling for the other dehumanization measures. Importantly, the effects of Ascent dehumanization could not be reduced to outgroup dislike: for Arab immigration support and responses to injustice, Ascent contributed significant unique variance even after controlling for prejudice (see Table 4).

Although they were not the central focus of our analyses, results from the other target groups (African Americans, Hispanic Americans, and Chinese people) suggested that blatant dehumanization was relevant even in intergroup contexts less characterized by overt hostility (see Tables 1a–2c in the online supplementary materials). Although participants registered less blatant dehumanization toward these groups versus Arabs, blatant dehumanization emerged as the strongest and most consistent dehumanization predictor of the various outcome measures. Moreover, in the African American and Hispanic American target group conditions, respectively, Ascent explained additional variance for immigration support and outgroup versus ingroup donation after accounting for outgroup prejudice. Interestingly, implicit dehumanization played a more important role in predicting outcome variables for these groups than it had for Arabs, suggesting the utility of implicit dehumanization measures among target groups toward whom explicit dehumanization may not exist, or for whom social norms

may discourage outright negative evaluations (Dunton & Fazio, 1997).

As in Study 1, we found that blatant dehumanization was numerically more strongly correlated with SDO-D ($r = .32, p < .001$) than with SDO-E ($r = .25, p = .004$), though the difference was not significant in this sample (Steiger's $z = 1.11, p = .27$). Blatant dehumanization was also numerically more strongly correlated with SDO-D than with any other dehumanization measures (infrahumanization: $r = .21, p = .02$, Steiger's $z = 1.02, p = .31$; UH dehumanization: $r = .02, p = .87$, Steiger's $z = 2.54, p = .01$; HN dehumanization: $r = .15, p = .09$, Steiger's $z = 1.73, p = .08$), though the difference was significant only for UH and marginal for HN dehumanization. Both blatant dehumanization and infrahumanization were similarly associated with SDO-E (Ascent: $r = .25, p = .004$; infrahumanization: $r = .27, p = .002$, Steiger's $z = .19, p = .85$). UH dehumanization ($r = -.05, p = .56$) and HN dehumanization ($r = .13, p = .15$) were not significantly associated with SDO-E.^{13,14}

Finally, we compared the reliability of the dehumanization measures over time. The test-retest correlation was high for blatant dehumanization ($r = .60, p < .001$) and relatively high for infrahumanization ($r = .46, p < .001$). On the other hand, the reliability for UH ($r = -.02, p = .88$) and HN ($r = .24, p = .07$) was low. The test-retest correlation was similarly high for blatant

¹² Given the absence of a significant zero-order correlation between UH dehumanization and responses to media portrayal, this is best interpreted as a suppressor variable effect.

¹³ It is important to note that although we theorize and find that blatant dehumanization strongly correlates with SDO, it was not redundant with SDO: the Ascent measure of blatant dehumanization alone significantly predicted all four outcome measures, and when SDO (or SDO-D and SDO-E) was included together with Ascent in these multiple regressions, Ascent continued to significantly predict all outcome measures. This general pattern was consistent across all studies, and this remained the case when RWA was also added to regressions (wherever it was assessed). For the full set of regression analyses across all studies, see Tables 7a–e in the online supplementary materials.

¹⁴ This pattern of correlations was generally consistent across the other target group conditions (African American, Hispanic, Chinese). Most important, the correlation between SDO-D and Ascent dehumanization was greater than between SDO-E and Ascent dehumanization, collapsing across target group (Steiger's $z = 2.50, p = .01$).

dehumanization across the other target group conditions (see Tables 3a–3c in the online supplementary materials).

In sum, by comparing the predictive validities of Ascent and established dehumanization measures (i.e., inhumanization, UH/HN dehumanization, and implicit dehumanization), Study 2A provides support for the utility and unique contribution of blatant dehumanization, as indexed by our Ascent measure. Consistent with Study 1, we observed that blatant dehumanization is associated with support for hierarchy between groups. Whereas (as in Study 1) blatant dehumanization was more strongly correlated with SDO-D than with SDO-E, in this sample the difference was trending. The Ascent measure of blatant dehumanization also showed impressive reliability over time.

While Study 2A included a number of important outcome variables, it lacked the extreme outcome measures that have been linked to dehumanization in historical contexts (e.g., support for torture). For outcomes such as these, blatant dehumanization might be especially relevant. Specifically, blatant dehumanization may be particularly likely to contribute beyond subtle measures of dehumanization in predicting outcome measures that are likely to require rationalization and justification (such as support for aggressive actions; Bandura et al., 1996).

Additionally, Study 2A did not include subtle outcome measures that might be better captured by inhumanization and UH/HN dehumanization. Therefore, in Study 2B we added to the dependent measures used in Study 2A an outcome measure assessing more extreme attitudes (support for aggressive militaristic policies involving the torture of Arabs) and a subtler outcome measure designed to capture aversive racism. Unlike support for aggression, aversive racism is theorized to represent negative intergroup attitudes likely held outside conscious awareness, and expressed even by those endorsing norms of egalitarianism and who reject explicit outgroup negativity (Gaertner & Dovidio, 1986). For example, Dovidio and Gaertner (2000) showed that although explicit attitudes toward Blacks improved among White college students between 1989 and 1999, levels of discrimination toward an ambiguously (but not unambiguously) qualified Black job candidate remained unchanged. According to these authors, “aversive racism is expressed in ways that are not easily recognizable (by oneself, as well as others)” (p. 315). Thus, given that aversive racism seems not to require overt aversion, one might expect a greater contribution from subtle forms of dehumanization (Dovidio et al., 2002). Nevertheless, there is also reason to expect blatant dehumanization to be an important predictor: as noted by Dovidio and Gaertner (2000), participants higher in explicit anti-Black negativity were less likely, on average, to recommend Black candidates regardless of their qualifications. Similarly, blatant dehumanization of the outgroup may be associated with discriminatory outgroup attitudes over and above any subtle dehumanization effects.

A final additional outcome measure asked participants to indicate a level of monetary reparations they would support providing to an outgroup victim of ingroup injustice.

Study 2B

Method

Participants. We recruited 725 American participants from Amazon’s mTurk marketplace. Of these participants, 31 failed to correctly respond to the same attention check question used in

Study 2A. This left 694 participants ($M_{\text{age}} = 35.07$, $SD = 12.29$; 52.6% female; 530 European Americans; 42 African Americans; 40 Hispanic Americans; 49 Asian Americans; 8 Native Americans; 4 Arab Americans; 21 Other). Participants were randomly assigned to one of four target outgroups: Arabs, African Americans, Hispanic Americans or Chinese. We included only participants who did not belong to the ethnic/racial groups about which they were responding ($n = 663$). Once again, we were primarily interested in investigating dehumanization of Arabs, given our expectation that this group would be most subject to blatant dehumanization. As such, we focus our analyses and discussion below primarily on participants in that condition ($n = 160$). Analyses of the remaining target group conditions can be found in Tables 4a–5c in the online supplementary materials.¹⁵

Measures.

SDO. SDO-D ($\alpha = .90$) and SDO-E ($\alpha = .93$) were assessed as in earlier studies.

RWA. RWA was assessed as in Study 1 ($\alpha = .88$)

Blatant dehumanization. Ascent dehumanization was assessed as in Study 2A.

Inhumanization. Inhumanization was assessed as in Study 2A, except that “Optimism” was used in place of Tenderness, “Guilt” in place of Shame and “Contempt” in place of Regret.

UH and HN dehumanization. UH and HN dehumanization were assessed as in Study 2A, with the exception that we included the full set of traits that previous research has identified as high in one dimension and low in the other (Gwinn et al., 2013; Haslam et al., 2005): UH: Broadminded, Conscientious, Humble, Polite, Thorough, Disorganized, Hardhearted, Ignorant, Rude, and Stingy; HN: Active, Curious, Friendly, Helpful, Fun Loving, Impatient, Impulsive, Jealous, Nervous, and Shy.

Prejudice. To assess prejudice toward Arabs, participants used unmarked sliders (0 = *strongly disagree*; 100 = *strongly agree*) to rate each of the following items, adapted from the Attitudes Toward Blacks Scale (Brigham, 1993): “If an Arab were put in charge of me at work, I would not mind taking advice and direction from him or her” (reverse-scored); “I get very upset when I hear someone make a prejudiced comment about Arabs” (reverse-scored); “If I had a chance to introduce Arab visitors to my friends and neighbors, I would be pleased to do so” (reverse-scored); “I would not mind at all if an Arab family with about the same income and education moved in next door” (reverse-scored); and “I enjoy a funny joke about Arabs, even if some people find it offensive.” The final item was dropped due to its low item-total correlation, leaving four items ($\alpha = .86$).

Arab immigration support. Support for Arab immigration was assessed as in Study 2A.

Responses to injustice. Participants read a story (see Appendix) about Mohammed Jamaluddin, an Arab man who was apprehended by American forces in Afghanistan after an anonymous tip indicated that he was an enemy combatant. Mr. Jamalludin was held for five years in Guantanamo without being formally charged, and then released due to a complete lack of evidence against him.

¹⁵ Whereas participants in the Arab target condition (as the target group of interest in our analyses) received the full complement of dependent variables, participants in the other target groups received a subset.

After reading the story, participants were asked to answer the following questions: "As an American, how angry does this make you feel?", "As an American, how guilty does this make you feel?", "As an American, how ashamed does this make you feel?", and "How compassionate do you feel toward Mohammed?" ($\alpha = .87$). Participants answered on an unmarked slider scale (0 = *not at all*; 100 = *very*).

Compensation for injustice. After reading the story described above, participants were asked, "How much compensation, if any, do you think Mohammed should receive from the U.S. tax payers (through the government) for damages?" Participants were asked to give a number ranging from \$0 to \$10,000,000.

Response to media portrayals. This construct was assessed as in Study 2A.

Militaristic counterterrorism. We assessed extreme outgroup hostility by having participants register their support for the following aggressive counterterrorism tactics on unmarked sliders (0 = *completely disagree*; 100 = *completely agree*): "Use enhanced interrogation techniques," "Use torture," "Use waterboarding," "Target civilians and combatants alike in the Middle East," and "Bomb an entire country if it is known to harbor anti-American terrorists" ($\alpha = .89$).

Aversive racism. To assess subtle prejudice (Gaertner & Dovidio, 1986) we obtained participant judgments about an ambiguously qualified Arab judge who was being considered for a position on a state Supreme Court (see Appendix). To create the ambiguity central to the aversive racism construct, we described the judge as competent but also subject to negative allegations (i.e., spousal abuse and nepotism), for which he had been cleared. Participants were then asked to rate the judge's "moral character," "ability to be a fair and impartial judge," and "thoughtfulness and intelligence" on unmarked sliders (0 = *very weak*; 100 = *very strong*). Last, participants were asked, "Overall, how strongly do you oppose or support the Judge's confirmation as a state Supreme Court judge?" (0 = *strongly oppose*; 100 = *strongly support*). Items were all reverse scored such that higher scores indicated greater aversive racism ($\alpha = .93$).

Outgroup donation. Unlike in Study 2A, participants were not forced to distribute a bonus between an ingroup and an outgroup cause. Rather, participants were given \$1.00 in bonus money, and given the opportunity to distribute any amount of it (\$0.00 to \$1.00) to a relief fund for civilian victims of drone strikes in Afghanistan and Yemen, which they were promised would be sent; participants were told that whatever they did not donate would be given to them as a bonus (which they received).

Results and Discussion

Descriptive statistics and intercorrelations of all variables are reported in Table 5. Once again, a clear ingroup bias emerged, with Americans attributing significantly more 'humanity' to Americans than Arabs across all dehumanization measures (see Table 5). To determine how well each dehumanization measure predicted each outcome variable, we performed a series of simultaneous regressions across all dependent variables, with the set of dehumanization measures as predictors (see Table 6).

Consistent with Study 2A, blatant dehumanization was associated with consequential intergroup outcomes, predicting all seven dependent variables to a significant or marginally significant degree. For immigration support, compensation for injustice, aversive racism, and outgroup donation measures, Ascent remained a significant or marginally significant predictor even after controlling for prejudice. Infracumanization was a significant predictor of three of the seven dependent variables (compensation for injustice, responses to media portrayals, and outgroup donations), and this pattern held after controlling for prejudice (though its effect on outgroup donations became marginally significant). Infracumanization was further significantly associated with less aversive racism, but given the absence of significant zero-order correlation between infracumanization and aversive racism, this is best interpreted as a suppressor variable effect. As in Study 2A, UH and HN dehumanization did not generally contribute uniquely to the prediction of our dependent variables when the other dehumanization measures were taken into account: the only outcome significantly

Table 5
Descriptive Statistics and Variable Intercorrelations in Study 2B

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Ascent dehumanization	—											
2. Infracumanization	.17*	—										
3. Unique humanness	-.01	.08	—									
4. Human nature	.12	.14	.73***	—								
5. Prejudice	.44***	.06	.03	.04	—							
6. Arab immigration support	-.51***	-.15	.01	-.16*	-.60***	—						
7. Responses to injustice	-.16*	-.10	.01	.05	-.36***	.26**	—					
8. Compensation for injustice	-.37**	-.25*	-.01	-.10	-.25*	.29**	.38***	—				
9. Response to media portrayals	-.17*	-.30***	-.09	-.10	-.39***	.29***	.42***	.44***	—			
10. Militaristic counterterrorism	.29***	.15	-.10	-.09	.49***	-.40***	-.36***	-.32**	-.37***	—		
11. Aversive racism	.34**	-.12	.09	.06	.39***	-.33***	-.27**	-.19	-.23***	.17*	—	
12. Outgroup donation	-.24**	-.16*	.09	.06	-.24**	.18*	.25**	.27*	.29***	-.25**	-.17*	—
<i>M</i>	9.39 ^a	5.01 ^a	6.50 ^a	11.96 ^a	24.80	15.65	77.06	\$3.95 million	62.41	27.99	35.33	.29
<i>SD</i>	21.76	15.19	14.20	14.88	23.83	6.33	23.27	\$3.69 million	24.69	27.71	22.14	.40
Quartiles	0, 0, 12.75	-4.5, 3.0, 14.6	-.18, 3.8, 13.4	1.9, 8.7, 19.1								

Note. The descriptive statistics for infracumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .05$ (tested only on Variables 1–4).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6
Simultaneous Regressions Predicting Outgroup Attitudes and Behavior as a Function of Dehumanization in Study 2B

Dehumanization measures	Support for Arab immigration ($R^2 = .29$)		Responses to injustice ($R^2 = .04$)		Compensation for injustice ($R^2 = .19$)		Responses to media portrayals ($R^2 = .11$)		Militaristic counter-terrorism ($R^2 = .11$)		Aversive racism ($R^2 = .16$)		Outgroup donation ($R^2 = .09$)	
	β	p	β	p	β	p	β	p	β	p	β	p	β	p
Ascent dehumanization	-.48 ^a	<.001	-.17	.04	-.34 ^a	.002	-.13	.10	.28	<.001	.38 ^a	<.001	-.23 ^b	.005
Infrahumanization	-.06	.42	-.08	.32	-.21 ^b	.04	-.27 ^a	.001	.13	.11	-.19 ^a	.01	-.14 ^b	.08
UH	.17	.10	-.09	.46	.04	.81	-.08	.49	-.02	.84	.16	.14	.06	.59
HN	-.22 ^a	.03	.14	.23	-.10	.52	.01	.92	-.12	.27	-.07	.50	.06	.61

Note. UH = Unique Humanness; HN = Human Nature.

^a Indicates an estimate that remains significant at $p < .05$ controlling for prejudice. ^b Indicates an estimate that remains (marginally) significant at $p < .10$ controlling for prejudice.

predicted by HN dehumanization was resistance to Arab immigration (see Table 6).

Although they were not our primary focus, the results involving the other target groups (African Americans, Hispanic Americans, and Chinese people) again suggested the predictive utility of blatant dehumanization even outside of actively and overtly hostile intergroup contexts (see Tables 4a–5c in e online supplementary materials). For African American targets, blatant dehumanization predicted reduced support for African immigration, less anger, guilt and shame in response to injustice (wrongful incarceration), and less sympathetic responses to negative media portrayals; for Hispanic American targets, blatant dehumanization predicted less support for Hispanic immigration, and greater aversive racism; and for Chinese targets, blatant dehumanization predicted lower donations made to a Chinese charity. Moreover, the effects of blatant dehumanization on responses to media portrayals in the African American condition, aversive racism in the Hispanic American condition, and outgroup donation in the Chinese condition remained significant even after controlling for prejudice toward these groups.

In Study 2B, we again assessed the association between dehumanization measures and SDO-D, SDO-E, and RWA. Similar to Study 2A, blatant dehumanization was more highly correlated with SDO-D ($r = .26, p = .001$) than with SDO-E ($r = .11, p = .17$; Steiger's $z = 2.41, p = .02$). Blatant dehumanization was also numerically more strongly associated with SDO-D than were the other dehumanization measures (infrahumanization: $r = .11, p = .17$, Steiger's $z = 1.50, p = .13$; UH dehumanization: $r = .12, p = .12$, Steiger's $z = 1.27, p = .20$; HN dehumanization: $r = .05, p = .52$; Steiger's $z = 2.03, p = .04$), although this difference was only significant for HN dehumanization and trending for infrahumanization. SDO-E was weakly correlated with infrahumanization ($r = .17, p = .04$) and uncorrelated with UH and HN dehumanization (UH: $r = .03, p = .74$; HN: $r = .03, p = .67$). RWA was significantly associated with both blatant dehumanization ($r = .17, p = .03$) and infrahumanization ($r = .22, p = .005$) but not UH ($r = .10, p = .20$) or HN dehumanization ($r = .03, p = .73$).¹⁶

In sum, the results of Study 2B replicated and extended those of Study 2A. In addition to predicting the same outcome measures used in Study 2A, blatant dehumanization predicted militaristic counterterrorism, which included items that could readily escalate intergroup conflict, such as lack of concern for civilian casualties and vengeance (bombing a country in response to an individual act

of terrorism). We reasoned that blatant dehumanization might be more predictive than subtle dehumanization of such actions given that they would seem to require the type of rationalizations or justifications that would particularly 'benefit' from an explicit denial of outgroup humanity. As expected, blatant dehumanization was the strongest predictor of this variable among the dehumanization measures. Also included in this study was aversive racism, a subtle measure of prejudice that we thought might be uniquely predicted by more subtle forms of dehumanization, with blatant dehumanization potentially providing additional utility. In fact, blatant dehumanization predicted aversive racism more strongly than the other dehumanization measures. Although it is possible that an even more subtle outcome measure would be predicted exclusively by subtle dehumanization, this result speaks to the potency of blatant dehumanization. Finally, replicating the results of Studies 1 and 2A, blatant dehumanization in Study 2B was associated with the more overt and aggressive dimension of SDO and also with RWA.

Although Studies 2A and 2B illustrated the theoretical importance and predictive utility of blatant dehumanization, we considered it important to examine its effects under conditions approximating those that inspired the original dehumanization research: following acts of violence targeted at the ingroup. When the ingroup faces such threats, one might expect greater levels of dehumanization and moral disengagement, which enable responses such as retaliatory aggression (Bandura et al., 1975; Bar-Tal, 2000; Kelman, 1973; Opatow, 1990). In Study 3A, we assessed dehumanization among American participants in the days immediately following the Boston Marathon bombings, when many presumed Arab and/or Muslim groups to be responsible. In Study 3B, we assessed British participants' dehumanization of Muslims in a similar context: the immediate aftermath of the gruesome murder of a British soldier (Lee Rigby) by two British Muslims.

¹⁶ Across all of the remaining target group conditions, blatant dehumanization was also more correlated with SDO-D ($r = .34, p < .001$) than with SDO-E ($r = .18, p < .001$; Steiger's $z = 4.69, p < .001$). Moreover, of all the dehumanization measures, blatant dehumanization was the most strongly correlated with SDO-D (infrahumanization: $r = .07, p = .10$; UH: $r = -.01, p = .92$; HN: $r = .07, p = .11$; Steiger's z s $> 4.67, ps < .001$). Blatant dehumanization was also significantly correlated with RWA across target group conditions ($r = .27, p < .001$).

Study 3A

Studies 1 and 2 support the utility of blatant dehumanization for predicting Arab attitudes and behavior even during periods of relatively calm intergroup relations. In Study 3A, we examined blatant dehumanization in the immediate aftermath of a highly salient real-world event: the Boston Marathon bombings. The bombings, which took place on April 15, 2013 were the largest terrorist attack on American soil since September 11th, 2001 and gripped the nation's attention for months thereafter. Particularly in the immediate aftermath of the incident, many speculated about whether the attackers were likely to be Arab or Muslim. Indicative of the prevailing atmosphere at the time, the *New York Post* released a photo of a dark-skinned 17-year old later identified as Salah Barhoun, an American of Moroccan origin, as a potential suspect under the headline "Bag Men" (he was later cleared of any wrongdoing). A Bangladeshi man also claimed to have been beaten in a revenge attack in the Bronx, New York, with the attackers (incorrectly) shouting expletives about his Arab background (Daily Mail, 2013). Study 3A therefore provided a naturalistic experiment in which to examine dehumanization toward Arabs in this context.

Study 3A allowed us to test two specific predictions. First, we expected that blatant dehumanization of Arabs relative to Americans would spike immediately after an act of violence perpetrated by an outgroup. Against the backdrop of a threatening attack on the ingroup, we expected individuals to ascribe more humanity to their ingroup relative to the enemy outgroup, reflected by increases in blatant dehumanization on the Ascent scale. Given that subtle indices of dehumanization do not capture the type of direct and explicit denial of humanness that might prevail in the aftermath of aggression targeted at the ingroup (Haslam & Loughnan, 2014), we reasoned that subtle dehumanization of Arabs might be less likely to increase immediately after an attack.

Second, we expected that blatant dehumanization in this setting might be particularly effective at predicting conflict-escalating attitudes, such as support for violent reprisals and lack of concern for outgroup civilian casualties.¹⁷

We collected data for Study 3A in the direct aftermath of the Boston Marathon attacks across two waves. The dependent measures of interest for our current purposes were included in the second wave, and thus we focus our analyses primarily on the data in this wave. To determine whether blatant dehumanization was greater immediately proximal to the attacks, as opposed to either before or long after, we compared Ascent dehumanization in Study 3A to Ascent dehumanization in Studies 2A and 2B (collected about 6 months after the attacks), and to Ascent dehumanization data collected in two pilot studies conducted about 2 months prior to the attacks. Each pilot study assessed blatant dehumanization using the same Ascent dehumanization measure used in Studies 1 and 2.

Method

Participants. On April 18, 2013 (3 days after the attacks), we collected data from 574 American participants using Amazon's mTurk platform. We collected a second wave of survey data, launched on April 26, 2013 and terminated on May 1, 2013 (11 to 16 days after the attack, by which point the identities of Dzhokhar and Tamerlan Tsarnaev were clear), from 348 (60.6%) of these participants ($M_{\text{age}} = 33.16$, $SD = 11.03$, 53.2% female; 278 White; 24 Asian/Asian American; 21 Black/African American; 14

Hispanic/Latino American; six Biracial; three Arab/Arab American; one Native American; one Other). We excluded the three Arab/Arab American participants from analyses.

Measures: Wave 1 assessment. The following measures were taken from a larger survey intended to assess a variety of unrelated research questions in addition to the questions of interest here (see Kteily, Cotterill, Sidanius, Sheehy-Skeffington, & Bergh, 2014, for the full set of variables). We focus in the following paragraphs on the variables of relevance to the current study.

SDO and RWA. SDO-D ($\alpha = .87$) and SDO-E ($\alpha = .86$) were assessed using a random half of the items used in Studies 1 and 2B. RWA ($\alpha = .88$) was assessed by using the same items as in Studies 1 and 2B. Responses were indicated on 7-point Likert-type scales (1 = *not at all*; 7 = *very much so*).

Responsibility for bombings. We assessed the extent to which participants felt the Boston Marathon bombings were conducted by Muslims by asking the following question: "How likely do you think it is that this [Boston Marathon bombings] was an act of Islamic terrorism?" (1 = *not at all*; 7 = *very much so*).

Measures: Wave 2 assessment.¹⁸

Blatant dehumanization. Ascent dehumanization of Americans versus Arabs was assessed as in previous studies.

Infrahumanization, UH, and HN dehumanization. Infrahumanization, UH and HN dehumanization of Arabs (vs. Americans) were assessed as in Studies 2A and 2B, with one minor modification to the instructions: "To what extent do you think [Americans/Arabs], as a group, in general, feel the following emotions" (1 = *not at all*; 7 = *very much so*).

Perceived outgroup threat. Perceptions of Arab threat were assessed using six items ($\alpha = .94$), adapted from integrated threat theory (see Appendix; Stephan & Stephan, 2000; sample item: "Arabs, as a group, pose a threat to other Americans"). Responses were made on 7-point Likert-type scales (1 = *strongly disagree*; 7 = *strongly agree*).

Arab immigration support. Support for Arab immigration was assessed as in previous studies.

Drone strike support. Support for the use of drone strikes was assessed by asking participants to rate their agreement (1 = *strongly disagree*; 7 = *strongly agree*) with four items associated with the U.S. drone program (see Appendix; sample item: "I support America's use of drone attacks against suspected militant targets in Pakistan and Afghanistan"; $\alpha = .86$).

Militaristic counterterrorism. Participants' support for militaristic and aggressive policies intended to counter terrorism was

¹⁷ Although not all Arabs are Muslim and not all Muslims are Arab, these two categories are strongly associated in the United States, and frequently treated as interchangeable. In this study, our dehumanization measures were assessed with respect to Arabs whereas some of our dependent variables referred to Muslims. In Study 3B, both our dehumanization measures and dependent variables referred to Muslims specifically.

¹⁸ At the end of Wave 1, participants were asked to read a text that served as an experimental manipulation for purposes unrelated to the current study. In one condition, participants read a text arguing that Americans should consider the effects of America's own policies on the world rather than only considering the costs of terrorism to Americans. In a second condition, participants read a text arguing that America was facing increasing threats to its security. In a third condition, participants read no text. In order to control for any effects of experimental condition, we residualized all Wave 2 variables on condition before entering them into our regressions.

measured by asking participants to rate their agreement (1 = *strongly disagree*; 7 = *strongly agree*) with each of 11 items (see Appendix; sample items: “To put an end to terrorist acts, I think it is OK to use torture,” “To put an end to terrorist acts, I think it is OK to target civilians and combatants alike in foreign terrorist strongholds”; $\alpha = .92$).

Outgroup sympathy. To measure participant sympathy toward Arabs and Muslims, participants’ rated their agreement (1 = *strongly disagree*; 7 = *agree*) with the following item, taken from a Twitter post that became popular in the aftermath of the Boston Marathon attacks: “I’m all for us all being Bostonians today. But can we all be Yemenis or Pakistanis tomorrow?”

Support for vengeance. To measure support for extreme outgroup aggression avenging the bombings, we asked participants to indicate their agreement (1 = *strongly disagree*; 7 = *strongly agree*) from the following statement adapted from a Twitter post popularized in the aftermath of the attacks: “Muslims bombed Boston. We as a planet need to wipe them off this world. Every one of them.”

Results and Discussion

Descriptive statistics and intercorrelations of all variables are presented in Table 7. Similar to Studies 2A and 2B, Americans dehumanized Arabs on all measures.

On the basis of the hypothesized role of intergroup conflict in increasing dehumanization (Bandura et al., 1996), our first specific prediction of Study 3A was that dehumanization of Arabs relative to Americans would spike in the aftermath of a threatening event, like the Boston Marathon bombings. To assess this, we compared blatant dehumanization immediately after the Boston Marathon bombings to blatant dehumanization obtained in two pilot studies two months prior to the attacks ($n = 212$ and $n = 208$, respectively) and two samples obtained six months after the attacks, in Studies 2A and 2B (see Figure 2).

Consistent with our prediction, Ascent dehumanization of Arabs relative to Americans was significantly greater immediately after the Boston Marathon bombings ($M = 15.58$, $SD = 25.43$) than it was both 2 months prior to the bombings ($M = 10.77$, $SD = 23.44$; $F(1, 753) = 7.27$, $p = .007$, $\eta_p^2 = .01$) and 6 months after the bombings ($M = 10.14$, $SD = 21.99$; $F(1, 623) = 8.06$, $p = .005$, $\eta_p^2 = .013$). Moreover, the more participants perceived that the attacks were acts of Islamic terrorism, the greater their levels of blatant dehumanization of Arabs versus Americans ($r = .36$, $p < .001$).¹⁹

It is interesting to note that increased dehumanization following the Boston Marathon bombings was restricted to blatant dehumanization: infrahumanization levels were not significantly different in the direct aftermath of the attacks relative to the pilot data collected two months before the attack, $F(1, 541) < 1$,²⁰ and the data collected six months afterward, $F(1, 623) = 2.08$, $p = .15$, and levels of UH, $F(1, 463) = 2.19$, $p = .14$ and HN ($F(1, 463) < 1$) dehumanization were similar immediately after the attacks, relative to six months later.^{21, 22, 23} One possible explanation for this pattern of data is that threats to the ingroup might provoke conscious and overt dehumanization, which explicit/blatant measures of dehumanization may be better positioned to immediately register than more indirect measures.

A second prediction of Study 3A was that Ascent dehumanization would strongly predict support for extreme attitudes and social policies following the attacks. As in Studies 2A and 2B, we included each of the dehumanization measures as a predictor in a series of regressions. Ascent again emerged as the strongest and most consistent predictor of a range of outcome measures. Replicating Studies 2A and 2B, Ascent dehumanization was the strongest predictor of reduced support for Arab immigration. Ascent also significantly predicted a variety of attitudes that could escalate intergroup violence: decreased outgroup sympathy, support for vengeance, and support for drone strikes and militaristic counterterrorism (see Table 8; Viki et al., 2013). With the exception of support for drone strikes, the effects of Ascent dehumanization were significant even after controlling for Americans’ perceived sense of realistic and symbolic Arab threat. Particularly striking was the very strong association ($\beta = .51$, $p < .001$) between Ascent dehumanization and support for vengeance (agreement with the tweet suggesting that all Muslims should be wiped off the face of the earth).

Despite this event representing an extreme intergroup situation that may drive more overt and explicit expressions of intergroup bias, two of the subtle dehumanization measures also predicted unique variance among some of the outcome measures. Infrahumanization was a significant or marginally significant unique predictor of all the dependent variables except vengeance, although after controlling for outgroup threat, infrahumanization only predicted support for militaristic counterterrorism. HN dehumanization significantly predicted all dependent variables, although its prediction of reduced support for Arab immigration was not significant controlling for outgroup threat. On the other hand, UH dehumanization predicted drone support, militaristic counterterrorism, and vengeance, but in all cases, the effects

¹⁹ Although the overall increase in blatant dehumanization reflected increased average Ascent ratings of Americans more than decreased Ascent ratings of Arabs, those who perceived the act as the responsibility of Islamic terrorists specifically denied Arabs humanity ($r = -.33$, $p < .001$) as opposed to bolstering American humanity ($r = -.03$, $p = .62$). On the other hand, attributing the attacks to Islamic terrorism was not associated with either subtly dehumanizing Arabs (UH: $r = -.05$, $p = .36$; HN: $r = -.09$, $p = .09$; infrahumanization: $r = -.11$, $p = .05$) or bolstering American humanity (UH: $r = .05$, $p = .35$; HN: $r = .08$, $p = .17$; infrahumanization: $r = .11$, $p = .05$).

²⁰ Infrahumanization measures appeared only in our second pilot study, and thus the pilot data described here includes only that sample. Because the infrahumanization and UH/HN measures were not all assessed on a 0–100 scale, they were transformed into 0 to 100 scores with the “percentage of maximum possible” technique for purposes of comparison (see Cohen, Cohen, Aiken, & West, 1999).

²¹ Because the mean of residualized variables is 0, here, we used the measures of infrahumanization that were not residualized on primary emotions.

²² Indeed, although this was not significant, the slight trend was toward lower UH dehumanization in the aftermath of the Boston attacks relative to 6 months later.

²³ Because UH and HN dehumanization were assessed using different traits in Study 2B, we restricted our comparison for these variables to the Study 2A and Study 3A samples.

Table 7
Descriptive Statistics and Intercorrelations of Variables in Study 3A

Variable	1	2	3	4	5	6	7	8	9	10
1. Ascent dehumanization	—									
2. Infrahumanization	.28***	—								
3. Unique humanness	.24***	.15**	—							
4. Human nature	.37***	.21***	.74***	—						
5. Perceived outgroup threat	.61***	.34***	.25***	.39***	—					
6. Support for Arab immigration	-.43***	-.22***	-.13*	-.26***	-.51***	—				
7. Drone strike support	.30***	.18**	.06	.22***	.38***	-.34***	—			
8. Militaristic counterterrorism	.47***	.28***	.09	.24***	.58***	-.43***	.70***	—		
9. Outgroup sympathy	-.35***	-.20***	-.09	-.20***	-.45***	.43***	-.46***	-.47***	—	
10. Vengeance	.53***	.22***	.07	.21***	.49***	-.42***	.26***	.44***	-.26***	—
<i>M</i>	15.58 ^a	.29 ^a	.15 ^a	.23 ^a	3.08	11.40	4.00	3.26	3.55	1.52
<i>SD</i>	25.43	.90	.62	.74	1.65	6.45	.99	1.38	1.95	1.14
Quartiles	0, 0, 25	-.17, 0, .67	-.18, .13, .50	-.25, .13, .63						

Note. The descriptive statistics for infrahumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .05$ (tested only on Variables 1–4).

* $p < .05$. ** $p < .01$. *** $p < .001$.

were in the unpredicted direction (with greater UH dehumanization predicting *less* hostility).²⁴

Finally, we assessed the relationship between SDO and RWA and each of the dehumanization measures. Consistent with the patterns in Studies 2A and 2B, the correlation between SDO-D and Ascent ($r = .43$, $p < .001$) was significantly higher than the correlation between SDO-E and Ascent ($r = .34$, $p < .001$; Steiger's $z = 2.06$, $p = .04$). The correlation between SDO-D and Ascent was also significantly higher than the correlation between SDO-D and each of the other dehumanization measures (infrahumanization: $r = .01$, $p = .81$, Steiger's $z = 6.85$, $p < .001$; UH: $r = .01$, $p = .83$, Steiger's $z = 6.67$, $p < .001$; HN: $r = .09$, $p = .09$; Steiger's $z = 6.00$, $p < .001$). SDO-E was correlated with Ascent ($r = .34$, $p < .001$), infrahumanization ($r = .12$, $p = .03$) and HN ($r = .22$, $p < .001$) but not UH ($r = .10$, $p = .07$). Consistent with Study 2B, Ascent was also significantly correlated with RWA ($r = .48$, $p < .001$). RWA was also associated with the other dehumanization measures (infrahumanization: $r = .31$, $p < .001$; UH: $r = .19$, $p < .001$; HN: $r = .30$, $p < .001$).

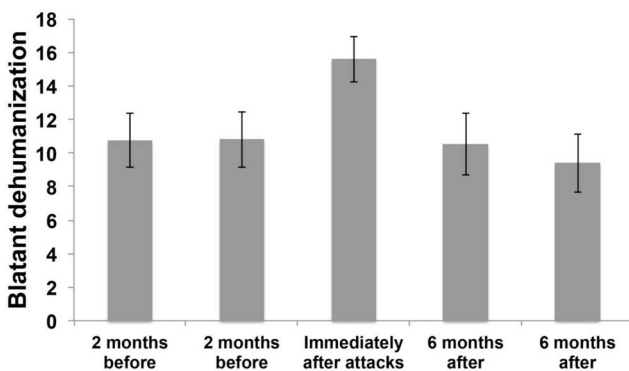


Figure 2. Ascent dehumanization of Arabs 2 months before, immediately after, and 6 months after the Boston Marathon bombing attacks. Error bars represent SEM.

Study 3B

A few weeks after the Boston Marathon attacks, a tragic incident in Woolwich, England provided another opportunity to test our predictions against the backdrop of a salient real-world event. On 22nd May, 2013 Michael Adebolajo and Michael Adebowale murdered a British Army soldier, Lee Rigby, in broad daylight. The suspects were both born and raised in Britain by families of Christian Nigerian origin, but had converted to Islam and claimed that their attacks were religiously inspired. In the aftermath of these attacks, we assessed Muslim dehumanization using Ascent, infrahumanization, UH, HN, and investigated how well each of these measures predicted negative and aggressive attitudes toward Muslims.

Method

Participants. Data were collected, by using *Qualtrics'* Panel service, from 179 participants between May 24, 2013 and May 27, 2013 (2 to 5 days after the attack). Because we were interested in assessing Muslim dehumanization among British people, we used data only from participants who indicated that they were non-Muslim citizens of Britain ($n = 128$; 50.0% female; $M_{\text{age}} = 41.10$, $SD = 14.99$; 112 White; 6 African/Black; three South Asian; 1 East Asian; 1 (non-Muslim) Middle Eastern; 1 Mediterranean; 3 Other).

Measures.

SDO and RWA. SDO-D ($\alpha = .81$) and SDO-E ($\alpha = .78$) were assessed as in Study 3A. Although eight items had originally been included to assess RWA, we found that a four-item version of the scale produced better reliability ($\alpha = .82$; see Kteily et al., 2014 for further details).²⁵

²⁴ Given the absence of significant zero-order correlations between UH dehumanization and these variables, these effects should be considered suppressor variable effects.

²⁵ As noted in Kteily et al., 2014, a clerical error resulted in some participants (37 of the 128 participants in this study) not receiving two of the RWA items used in our scale. As such, their RWA scale scores are based on the remaining half of the scale.

Table 8
Simultaneous Regressions Predicting Outgroup Attitudes as a Function of Dehumanization in Study 3A

Dehumanization measures	Support for Arab immigration (R ² = .22)		Drone support (R ² = .15)		Militaristic counterterrorism (R ² = .28)		Outgroup sympathy (R ² = .15)		Vengeance (R ² = .32)	
	β	p	β	p	β	p	β	p	β	p
Ascent dehumanization	-.36 ^a	<.001	.23	<.001	.40 ^a	<.001	-.29 ^a	<.001	.51 ^a	<.001
Infrahumanization	-.10	.06	.09	.10	.16 ^b	.001	-.09	.08	.07	.15
UH	.11	.14	-.24 ^a	.002	-.17 ^a	.01	.11	.13	-.17 ^b	.01
HN	-.20	.01	.31 ^a	<.001	.22 ^b	.002	-.17	.04	.17	.02

Note. UH = Unique Humanness; HN = Human Nature.

^a Indicates an estimate that remains significant at $p < .05$ controlling for perceived outgroup threat. ^b Indicates an estimate that remains (marginally) significant at $p < .10$, controlling for perceived outgroup threat.

Blatant dehumanization. Ascent dehumanization toward Muslims was assessed as in previous studies, but with British and Muslim as the target groups. Other groups included in the Ascent measure were: Arabs, Americans, Pakistanis, Christians, Jews, Indians, and Black people.

Infrahumanization, UH/HN dehumanization. Infrahumanization, UH and HN dehumanization were assessed as in Study 3A, but with British and Muslims (rather than Americans and Arabs) as the target groups.

Prejudice. We assessed anti-Muslim prejudice (1 = *strongly disagree*; 7 = *strongly agree*) using a six-item scale (see Appendix) adapted from Pratto et al. (1994; sample item: “Most of the terrorists in the world today have a Muslim background”; $\alpha = .92$).

Drone strike support and militaristic counterterrorism. We assessed support for drone strikes and militaristic counterterrorism policies as in Study 3A, with a few minor modifications to make it relevant to a British rather than U.S. audience ($\alpha = .80$). The militaristic counterterrorism scale was similarly modified for a British audience from the scale used in Study 3A ($\alpha = .88$).

Outgroup individuation. We assessed the extent to which individuals distinguished the outgroup as a whole from the specific outgroup individuals suspected of committing the Woolwich attacks. Specifically, we asked participants to indicate their agree-

ment (1 = *strongly disagree*; 7 = *strongly agree*) with the following two statements tweeted in the aftermath of the attacks: “The horrific attack in Woolwich had nothing to do with Islam and everything to do with the scum who say they do this in the name of Islam,” and “Islam didn’t murder the man in Woolwich. It was perverse criminals using religion to rationalize their indefensible barbarism” ($\alpha = .88$).

Punitiveness. Finally, we assessed participants’ punitiveness toward the suspected Woolwich attackers using seven items (see Kteily et al., 2014), which included “I hope the perpetrators of the Woolwich attacks rot in hell” and “Imagine the U.K. reinstated the death penalty. How likely would you be to recommend the suspects be sentenced to death?” Because some of the items were measured using different response scales, we standardized all items before averaging to compute a punitiveness scale ($\alpha = .86$).

Results and Discussion

Descriptive statistics and intercorrelations of all variables are presented in Table 9. Consistent with Studies 2A, 2B, and 3A, we observed significant dehumanization of Muslims on all measures. In fact, similar to blatant Arab dehumanization by Americans following the Boston Marathon Bombings, there was substantial Ascent dehumanization of Muslims by non-Muslim British partic-

Table 9
Descriptive Statistics and Intercorrelations of Variables in Study 3B

Variable	1	2	3	4	5	6	7	8	9
1. Ascent dehumanization	—								
2. Infrahumanization	.15	—							
3. Unique humanness	.20*	.08	—						
4. Human nature	.38***	.11	.73***	—					
5. Prejudice	.57***	.27**	.24*	.42***	—				
6. Drone strike support	.40***	.04	.14	.26**	.40***	—			
7. Militaristic counterterrorism	.60***	.02	.18	.31**	.52***	.58***	—		
8. Outgroup individuation	-.32***	.00	.02	-.07	-.35***	-.20*	-.29**	—	
9. Punitiveness	.44***	.17	.23*	.34***	.52***	.52***	.64***	-.12	—
M	21.00 ^a	.52 ^a	.40 ^a	.49 ^a	3.91	3.98	3.58	5.04	-.01
SD	33.68	1.34	.67	1.00	1.65	.96	1.37	1.85	.73
Quartiles	0, 2.5, 40.5	-.17, .08, 1.17	0, .38, .75	0, .29, .90					

Note. The descriptive statistics for infrahumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .05$ (tested only on Variables 1–4).

* $p < .05$. ** $p < .01$. *** $p < .001$.

ipants following the murder of Lee Rigby ($M = 21.00$, $SD = 33.68$). As in previous studies, we included each of the relative dehumanization measures (Ascent, infrahumanization, UH, and HN) as predictors in separate regressions for each outcome measure (see Table 10).

Consistent with Study 3A, perceptions of Muslims as less evolved (relative to British people) predicted greater aggressive attitudes and support for anti-Muslim policies. Specifically, Ascent dehumanization predicted support for drone strikes, militaristic counterterrorism policies affecting Arabs and Muslims, punitive reactions toward the suspected perpetrators, and the perception that the attackers' actions represented Islam as a whole. As in previous studies, the effects of Ascent dehumanization could not be reduced to outgroup dislike: Ascent remained a significant predictor of all dependent variables even when anti-Muslim prejudice was controlled for, though its effect on punitiveness became marginal. In Study 3B, the more subtle indices of dehumanization more weakly predicted outcome measures than they had in Study 3A. In fact, none of infrahumanization, UH or HN dehumanization uniquely predicted any outcome measure in this study.

As in previous studies, we observed that the correlation between SDO-D and Ascent, $r = .50$, $p < .001$ was higher than the correlation between SDO-E and Ascent ($r = .10$, $p = .26$; Steiger's $z = 4.20$, $p < .001$). Moreover, the relationship between SDO-D and Ascent was stronger than that between SDO-D and all other indices of dehumanization (Infrahumanization: $r = .09$, $p = .32$, Steiger's $z = 3.57$, $p < .001$; UH: $r = .22$, $p = .02$, Steiger's $z = 2.59$, $p = .01$; HN: $r = .38$, $p < .001$, Steiger's $z = 1.17$, $p = .24$), although the difference was not significant for HN dehumanization. SDO-E was not significantly related to any of the other dehumanization measures (Infrahumanization: $r = .14$, $p = .13$; UH: $r = -.10$, $p = .29$; HN: $r = .08$, $p = .41$). Finally, RWA was significantly associated with Ascent dehumanization, ($r = .27$, $p = .003$), consistent with Studies 1, 2A, 2B, and 3A. RWA was also significantly correlated with infrahumanization ($r = .21$, $p = .02$), and HN ($r = .29$, $p < .001$) and marginally correlated with UH ($r = .17$, $p = .07$).

In sum, the importance of blatant dehumanization generalized to a different context, among a different population toward a different (albeit related) target group (Muslims vs. Arabs).

In Study 4, we sought to extend our examination of the effects of blatant versus subtle dehumanization to another social context

in which we expected blatant dehumanization to be highly relevant, by assessing Hungarians' perceptions of Europe's largest minority group: the Roma or Romani people. For centuries the Roma have been excluded from European society, and have faced extreme discrimination, culminating in the mass killing of approximately 1 million Roma (20% of the Roma population) by the Nazi regime in World War II. Recent years have been witness to a resurgence of anti-Roma sentiment, with internment camps in Italy, forced sterilization of Roma women in the Czech Republic, and public calls for the evacuation or extermination of the Roma by political figures in Hungary (Hungarian Media Monitor, 2013). These extreme examples punctuate a background of strong and potentially increasing discrimination across Europe, particularly in housing, health care and education. Since the Roma are commonly depicted as essentially primitive and unsophisticated (Jahoda, 1999), we expected to observe high levels of blatant dehumanization, and hypothesized that it would be an important predictor of discrimination and negative intergroup outcomes.

Study 4

Method

Participants. We collected an online representative sample from Hungary using a collection service (Solid Data SIA). Of the 1,002 survey respondents, 12 identified as Roma, and 84 answered (at least) one of two attention checks embedded within the survey incorrectly; all these participants were excluded, leaving 906 participants (M age = 42.04, $SD = 12.75$; 50.7% male).

Measures.

SDO. SDO-D ($\alpha = .86$) was assessed as in Study 3A. Participants responded using a 5-point scale (1 = *completely disagree*; 5 = *completely agree*). SDO-E was not assessed in this study.

Blatant dehumanization. Ascent dehumanization toward the Roma was assessed, as in previous studies, as a difference score between Hungarians and the Roma. Other groups included in the Ascent measure were: the homeless, lesbians/gays/bisexuals/transgendered individuals, Transylvanians, Jews, Muslims, and the countryside population. Participant ratings were made using a 0 to 10 scale; we multiplied scores by 10 to allow comparison across studies.

Table 10
Simultaneous Regressions Predicting Outgroup Attitudes as a Function of Dehumanization in Study 3B

Dehumanization measures	Drone support ($R^2 = .16$)		Militaristic counterterrorism ($R^2 = .35$)		Outgroup individuation ($R^2 = .12$)		Punitiveness ($R^2 = .24$)	
	β	p	β	p	β	p	β	p
Ascent dehumanization	.33 ^a	.001	.55 ^a	<.001	-.34 ^a	.001	.35 ^b	<.001
Infrahumanization	-.01	.88	-.05	.51	.02	.82	.09	.27
UH	-.06	.63	-.04	.74	.10	.44	.02	.90
HN	.16	.25	.11	.36	-.05	.75	.19	.15

Note. UH = Unique Humanness; HN = Human Nature.

^a Indicates an estimate that remains significant at $p < .05$ controlling for outgroup prejudice. ^b Indicates an estimate that remains (marginally) significant at $p < .10$ controlling for outgroup prejudice.

Infrahumanization/UH/HN dehumanization. Infrahumanization was assessed as in Study 2B, but with respect to Hungarians and the Roma. Participants were asked to “Please indicate how typical each of the following emotions are for the groups below” on a 0 to 10 scale (0 = *not typical at all*; 10 = *very typical*). As with Ascent dehumanization, scores were multiplied by 10 for ease of comparison across studies. UH/HN dehumanization was not assessed in this study.

Prejudice. We assessed prejudice as in Study 2A (i.e., using feeling thermometers), with Hungarians and the Roma as target groups of interest. Participants provided responses on a 0 to 10 scale (0 = *very cold*; 10 = *very warm*), and scores were multiplied by 10 for ease of comparison across studies.

Outgroup homogeneity. Outgroup homogeneity is often considered a corollary phenomenon to dehumanization in that outgroup members are often considered to be part of a homogeneous faceless mass rather than individualized humans (Ostrom & Sedikides, 1992; Smith, 2011). We assessed outgroup homogeneity here by asking participants to “Indicate how similar the Roma are to each other in each of the following dimensions”: “Intellect,” “Values,” “Honesty,” “Morality,” “Social Opinions,” “Ambition,” and “Hope.” Responses were provided on a 1 to 6 scale (1 = *very different from one another*; 6 = *very similar to one another*; $\alpha = .91$).

Responses to injustice. We assessed emotional responses to an ingroup act of outgroup discrimination by presenting participants with a real newspaper report. The report described an incident in which Hungarian football hooligans went into a Roma village, approached the elementary school, and began shouting vulgarities at the Roma children while threatening them with bottles and urinating around the campus; the perpetrators went unpunished. As in previous studies, we assessed emotional responses by asking: “How angry does this make you feel?”, “How guilty does this make you feel?”, “How ashamed does this make you feel?”, and “How compassionate do you feel toward the children?”. Participants responded on a 6-point scale (1 = *not at all*; 6 = *very much so*; $\alpha = .86$).

Funding allocated to Roma integration. We assessed support for public spending on (a) “Integration of the Roma into society” versus (b) “Urban development and beautification (maintenance on public squares and roads).” Participants were asked what proportion of the budget they wanted to spend on each of these two purposes, using a 0 to 100 scale (0 = *none of the budget*; 100 = *all of the budget*). We used the percent of funds allocated to Roma integration as our measure of Roma support.²⁶

Support for discrimination. We assessed support for a variety of discriminatory policies targeting the Roma population using 14 items that spanned education, employment, housing, health and social support. Sample items included, “Decrease the number of Roma teachers” and “Decrease access to social housing for the Roma” (see Appendix for complete scale). Responses were provided on a 9-point scale (1 = *completely disagree*; 9 = *completely agree*; $\alpha = .90$).

Results and Discussion

Descriptive statistics and intercorrelations of all variables are presented in Table 11. Consistent with all other studies, we observed significant levels of dehumanization of the target group (the Roma) on both blatant ($M = 28.97$, $SD = 32.72$) and subtle ($M = 7.97$, $SD = 18.13$) indices. As in previous studies, we included

blatant and subtle dehumanization measures (Ascent and infrahumanization) as simultaneous predictors in separate regressions for each outcome measure (see Table 12).

Consistent with previous studies, blatant dehumanization of the Roma predicted negative and discriminatory outgroup attitudes, controlling for subtle dehumanization. Specifically, blatant dehumanization predicted less compassionate responses to a real newspaper story about the harassment of Roma schoolchildren, lower funding allocations to Roma integration programs (vs. urban beautification), and greater support for discriminatory policies disadvantaging the Roma. As in previous studies, the effects of Ascent dehumanization could not be reduced to prejudice: Ascent remained a significant predictor of all dependent variables even when anti-Roma prejudice (as assessed by relative feeling thermometer ratings) was controlled for. Subtle dehumanization also uniquely predicted outcomes: Roma infrahumanization predicted less compassionate responses to the story about harassment of Roma children, less funding allocated to Roma integration, and support for discriminatory policies targeting the Roma.

Finally, as in previous studies, we observed that SDO-D was significantly more strongly associated with Ascent dehumanization, $r = .43$, $p < .001$ than infrahumanization ($r = .20$, $p < .001$; Steiger’s $z = 6.14$, $p < .001$).

Given our theorizing about the strength of the relationship between SDO-D and blatant dehumanization in particular, we formally tested the association between SDO-D and blatant versus subtle dehumanization across all studies where these variables were available. First, we compared Ascent dehumanization with infrahumanization because these measures were used in all studies beyond Study 1 ($n = 1,669$). We found that the correlation between SDO-D and Ascent ($r = .41$, $p < .001$) was significantly greater than the correlation between SDO-D and infrahumanization ($r = .15$, $p < .001$; Steiger’s $z = 9.08$, $p < .001$). When we analyzed the subset of samples ($n = 763$) that included Ascent, all subtle measures of dehumanization (infrahumanization, UH, HN), SDO-D and SDO-E, we found that the correlation between Ascent and SDO-D ($r = .42$, $p < .001$) was significantly stronger than the correlation between Ascent and SDO-E ($r = .25$, $p < .001$; Steiger’s $z = 5.51$, $p < .001$). Furthermore, the correlation between Ascent and SDO-D was stronger than the correlation between SDO-D and each of the other dehumanization measures (infrahumanization: $r = .07$, $p = .06$, Steiger’s $z = 7.82$, $p < .001$; UH: $r = .09$, $p = .02$, Steiger’s $z = 7.11$, $p < .001$; HN: $r = .15$, $p < .001$, Steiger’s $z = 6.43$, $p < .001$). SDO-E was significantly correlated with infrahumanization ($r = .15$, $p < .001$) and HN dehumanization ($r = .11$, $p = .003$) but not with UH dehumanization ($r = .01$, $p = .76$). Overall, these data show that blatant dehumanization, but not subtle dehumanization, is distinguished by its strong relationship with the particularly aggressive and overt Dominance (vs. Egalitarianism) subdimension of SDO.²⁷

²⁶ One participant entered a score of -100 on the item about integration of Roma into society. This response was recoded as a missing value.

²⁷ To keep the scaling of the Study 3A variables included in this analysis consistent with the scaling of the variables in the remaining studies, we did not residualize them on experimental condition. We note, however, that experimental condition had negligible influence on the relationship between SDO-D/SDO-E and the dehumanization variables.

Table 11
Descriptive Statistics and Intercorrelations of Variables in Study 4

	1	2	3	4	5	6	7
1. Ascent dehumanization	—						
2. Infrahumanization	.25***	—					
3. Prejudice	.53***	.15***	—				
4. Funding allocated to Roma integration	-.39***	-.22***	-.28***	—			
5. Support for discrimination	.38***	.20***	.32***	-.63***	—		
6. Perceptions of outgroup homogeneity	.19***	.03	.11**	-.19***	.20***	—	
7. Responses to injustice	-.22***	-.17***	-.16***	.43***	-.56***	-.17***	—
<i>M</i>	28.97 ^a	7.97 ^a	24.68	29.06	3.08	2.98	4.19
<i>SD</i>	32.72	18.13	29.35	25.30	1.08	1.34	1.51
Quartiles	0, 20, 50	-1.7, 6.7, 18.3					

Note. The descriptive statistics for infrahumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .05$ (tested only on Variables 1–2).

** $p < .01$. *** $p < .001$.

Study 5

In a final study, we examined blatant dehumanization among Americans toward an openly vilified group: the Islamic State in Iraq and Syria (ISIS). At the time of data collection (winter of 2014), ISIS had experienced a rapid rise in power and prominence in the Middle East, and had committed a number of well-publicized acts of violence, including beheadings of Westerners, and Christians and moderate Muslims residing in the Middle East. In this study, we had two central aims. First, we were interested in examining the relationship between blatant dehumanization as assessed by our Ascent measure and other previously published measures of relatively blatant dehumanization. In particular, the measures used in Study 5 included relatively blatant measures of animalistic and mechanistic dehumanization, which allowed us to examine convergent validity between the Ascent dehumanization measure and relatively blatant variables indexing each of these two types of dehumanization. Second, and as in previous studies, we were able to compare the effects of blatant dehumanization versus subtle dehumanization on attitudes and behavior toward ISIS, controlling for prejudice. Finally, we were able to compare the effects of the Ascent measure versus other relatively blatant measures of blatant dehumanization.

Method

Participants. We recruited 301 American participants ($M_{\text{age}} = 32.13$, $SD = 10.31$; 49.2% female; 234 European Americans; 19 African Americans; 20 Hispanic Americans; 17 Asian Americans; 4 Native Americans; 1 Arab American; 6 Other) from Amazon's mTurk marketplace. We excluded the Arab American participant from analyses.

Measures.

Blatant dehumanization—Ascent. The Ascent measure of blatant dehumanization was assessed as in previous studies, here taking the difference between ratings of Americans and members of ISIS.²⁸ Other groups assessed were Europeans, Arabs, Gypsies, Swedes, Israelis, and Russians.

Blatant dehumanization—Animalistic and mechanistic. We assessed blatant forms of animalistic and mechanistic dehumanization by adapting the multiitem measure described in Bastian et

al. (2013). Specifically, participants were asked to “rate how well the following terms describe [Americans/members of ISIS],” using eight items, four associated with animalistic dehumanization (e.g., “refined and cultured,” “rational and logical,” “lacking self-restraint, like animals” (reverse-coded), and “unsophisticated” (reverse-coded)), and four associated with mechanistic dehumanization (“mechanical and cold, like robots” (reverse-coded), “open-minded, able to think clearly about things,” “superficial, lacking depth” (reverse-coded), and “emotional; responsive and warm”). Ratings were made on a 7-point Likert-type scale (1 = *not at all*; 7 = *extremely so*). Animalistic and mechanistic dehumanization were computed by taking the difference score between humanity attributed to Americans versus members of ISIS. As with other measures, higher scores indicate greater relative dehumanization of ISIS.

To conduct item-level analyses with a broader range of constructs not included in the Bastian et al. (2013) measure, we further assessed a range of other perceptions by adapting qualities comprising animalistic and mechanistic dehumanization from Haslam (2006, Figure 1). Specifically, using the same instructions as above, we asked participants to rate the extent to which Americans and members of ISIS were: “savage, aggressive,” “barbaric, cold-hearted,” “mature, responsible,” “coarse, boorish,” “scholarly, cerebral,” “backward, primitive,” “lacking morals,” “like objects, lacking in passion,” and “passive, submissive.” The final two items reflect aspects of mechanistic dehumanization, whereas the former reflect aspects of animalistic dehumanization. Although we report results using just the eight items from Bastian et al. (2013) for our indices of blatant mechanistic and animalistic dehumanization, we also examined patterns obtained when these additional items were included in defining each of these two constructs, as well as item-level correlations between all 17 items and Ascent.

Blatant dehumanization—Ipsative. Blatant dehumanization was also measured using the ipsative task developed by Viki et al.

²⁸ As with Study 1, we used the instructions-free Ascent scale with a separate pilot group of Americans rating ISIS ($n = 437$); mean Ascent dehumanization of ISIS was similar for the instruction and instruction-free ($M = 38.23$, $SD = 37.3$) versions ($F < 1$). Moreover, Ascent dehumanization functioned similarly in the instruction-free sample, strongly predicting intergroup attitudes.

Table 12
Simultaneous Regressions Predicting Outgroup Attitudes as a Function of Dehumanization in Study 4

Dehumanization measures	Funding allocated to Roma integration ($R^2 = .16$)		Support for discrimination ($R^2 = .16$)		Perceptions of outgroup homogeneity ($R^2 = .04$)		Responses to injustice ($R^2 = .06$)	
	β	p	β	p	β	p	β	p
Ascent dehumanization	-.35 ^a	<.001	.35 ^a	<.001	.20 ^a	<.001	-.19 ^a	<.001
Infrahumanization	-.13 ^a	<.001	.12 ^a	<.001	-.02	.60	-.12 ^a	<.001

^a Indicates an estimate that remains significant at $p < .05$ controlling for prejudice.

(2006). To adapt their pencil and paper method to an online survey, participants were shown a row of 20 words, half associated with animals (e.g., wild, creature, pedigree) and half associated with humans (e.g., person, citizen, man), and 10 outgroup names (five male and five female; e.g., Abdullah, Fatima). As in the Viki et al. (2006) task, participants were given the following instructions:

In this word association task, please drag the word from the 'Items' list that best matches one of the names listed on the right. You may only use 1 item per name, and no item may be used more than once.

Participants were also shown the same task, with ingroup names (e.g., Colin, Erika). Presentation order of ingroup and outgroup tasks was counterbalanced. Blatant dehumanization was assessed as the difference score between the number of animal words assigned to outgroup names versus ingroup names (i.e., higher scores indicate greater dehumanization).

Infrahumanization. Infrahumanization was assessed as in Study 2B.

Prejudice. Prejudice was assessed as in Study 2A (i.e., using feeling thermometers), with Americans and members of ISIS as the target groups of interest.

Arab immigration support. Support for Arab immigration was assessed as in previous studies, with the exception that the groups were changed to: Arabs, Chinese, Mexicans, Europeans, Indians and Vietnamese.

Drone strike support. Support for the use of drone strikes was assessed as in previous studies (with slight adaptations to the ISIS context), by asking participants to rate their agreement with four items (see Appendix; sample item: "Keeping American soldiers' lives out of harms way by using drones is more important than ensuring a total lack of civilian casualties in countries that harbor ISIS members"; $\alpha = .82$).

Militaristic counterterrorism. Extreme outgroup hostility was assessed similarly to Study 3A, but with the addition of a few items and the slight adaptation of others (see Appendix; sample items: "The only way to deal with ISIS is by bringing in the heavy artillery," "We should strike back with brutal force against members of ISIS who seeks to intimidate us"; $\alpha = .93$).

Signing anti-ISIS petitions. To assess a set of behaviors against ISIS, we provided participants with five petitions purportedly being distributed online. Participants were told that the petition sponsors had agreed to use mTurk IDs as a proxy for a name because mTurk IDs are uniquely assigned to individuals. Participants could indicate, for each petition, whether they would like their mTurk ID added to it (coded as 1), whether they would like

their mTurk ID added to a petition opposing that proposition (coded as -1), or if they would not like their mTurk ID added to either petition (coded as 0). The petitions were to: "Increase the military budget allotted to combating the ISIS threat," "End all immigrant visas granted to citizens of countries harboring ISIS," "Forcibly deport all Islamic clerics in the U.S. who preach in favor of ISIS," "Life imprisonment for any American Muslim who goes abroad to fight with ISIS and attempts to return," "End any form of torture against anti American militants abroad, including ISIS members" (reverse-scored; $\alpha = .70$).

Encouragement of U.S. soldiers fighting ISIS. We provided participants with the opportunity to engage in effortful helping behavior on behalf of the ingroup against ISIS. Specifically, we told participants the following:

We would like to give you the opportunity, should you wish, to write a few lines in support of the American military's effort against ISIS. Would you like to write a short note in support of the troops fighting against ISIS?

Participants received a score of 1 if they indicated *yes* and 0 if they declined to write a message. Participants indicating *yes* were provided with a text box to write their note.

Anti-Islamic extremism fund disbursement. For our final behavioral measure, we asked participants to distribute funds between two different programs aimed at decreasing extremism among Islamic communities in the United States: one based purely on punishment and control, and another appealing to the human capacity for education. Specifically, participants were told the following:

In an effort to give back to some of the communities that are targets of our studies, we have received a small grant that allows us to distribute some money to antiterrorism efforts. We're giving each of our participants the opportunity to decide where this money should be distributed. Please indicate below what percent of the money you would like distributed to each of the projects in the U.S.—we will then base our contributions on participants' recommendations.

Participants were then asked to indicate what percent of the funds they would like to contribute to each the following two choices: "Build libraries and schools in Muslim majority communities throughout the U.S." and "Increase surveillance and policing capabilities in Muslim majority communities throughout the U.S." Our prediction was that perceiving a group as animals would preclude supporting the distribution of funds to building libraries and schools—a policy that appeals to human-specific cognition—controlling for any like or dislike of that group. Rather, we rea-

soned that blatant dehumanization would result instead in support for control and discipline (tactics commonly employed during training of dogs, for example) to regulate behavior. This was indexed using participants' percentage contributed to surveillance/policing (vs. libraries/schools).

Results and Discussion

As with previous studies, we observed significant levels of dehumanization across all items: for each measure, American participants attributed significantly (and substantially) more humanity to Americans than to members of ISIS (see Table 13).

The first goal of Study 5 was to determine how the Ascent dehumanization measure corresponds to other measures of blatant dehumanization. As predicted, Ascent dehumanization was significantly correlated with each of the other relatively blatant measures (ipsative dehumanization: $r = .25, p < .001$; mechanistic dehumanization: $r = .39, p < .001$; animalistic dehumanization: $r = .45, p < .001$; see Table 13). The predicted difference between Ascent's correlation with animalistic versus mechanistic dehumanization was only trending (Steiger's $z = 1.55, p = .12$); however, when we used the expanded set of words also including animalistic and mechanistic dehumanization items derived from Haslam (2006), we observed support for our prediction that Ascent is significantly more associated with animalistic dehumanization ($r = .49, p < .001$) than mechanistic dehumanization ($r = .39, p < .001$; Steiger's $z = 2.65, p = .008$).

To learn more about what exactly participants' use of the Ascent dehumanization measure reflected, we also investigated the individual pattern of correlations between the Ascent measure of blatant dehumanization and each of specific items comprising our blatant mechanistic and animalistic dehumanization measures. As can be seen in Table 14, Ascent dehumanization was associated with a broad range of items: Ascent had, numerically, the highest

Table 14

Correlations Between Ascent Dehumanization and Item-Level Trait Ratings of ISIS Relative to Americans in Study 5

Trait	Ascent dehumanization
Mature, responsible (A)	-.43***
Rational and logical (A)	-.41***
Backward, primitive (A)	.39***
Savage, aggressive (A)	.37***
Barbaric, cold-hearted (A)	.36***
Unsophisticated (A)	.35***
Refined and cultured (A)	-.34***
Lacking self-restraint, like animals (A)	.34***
Scholarly, cerebral (A)	-.34***
Coarse, boorish (A)	.33***
Open-minded, able to think clearly about things (M)	-.33***
Lacking morals (A)	.32***
Mechanical and cold, like robots (M)	.31***
Like objects, lacking in passion (M)	.28***
Superficial, lacking in depth (M)	.27***
Emotional, responsive and warm (M)	-.22**
Passive, submissive (M)	-.06

Note. (A) = Animalistic; (M) = Mechanistic.
** $p < .01$. *** $p < .001$.

correlations with perceived maturity and responsibility ($r = -.43, p < .001$), rationality and logic ($r = -.41, p < .001$), and backwardness and primitiveness ($r = .39, p < .001$)—all aspects of animalistic dehumanization—and the lowest correlations with passivity and submissiveness ($r = -.06$), emotionality and warmth ($r = .22$), and superficiality and lack of depth ($r = .27$)—all aspects of mechanistic dehumanization. In sum, the Ascent measure of blatant dehumanization is associated with a wide range of components of blatant dehumanization, and particularly to aspects

Table 13
Descriptive Statistics and Intercorrelations of Variables in Study 5

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Ascent dehumanization	—											
2. Animalistic dehumanization	.45***	—										
3. Mechanistic dehumanization	.39***	.72***	—									
4. Ipsative dehumanization	.25***	.14*	.14*	—								
5. Infrahumanization	.19***	.24***	.20**	.10	—							
6. Prejudice	.38***	.46***	.52***	.05	.19**	—						
7. Support for Arab immigration	-.32***	-.26**	-.21***	-.25***	-.04	-.13*	—					
8. Support for drone strikes	.31***	.32***	.24***	.19**	.10	.28***	-.36***	—				
9. Support for militaristic counterterrorism	.44***	.40***	.34***	.31***	.10	.25***	-.48***	.65***	—			
10. Signing anti-ISIS petitions	.31***	.26***	.21***	.25***	.07	.26***	-.37**	.34***	.48***	—		
11. Encouragement of US soldiers fighting ISIS	.19**	.13*	.06	.08	.04	.03	-.22***	.23***	.22***	.23***	—	
12. Anti-Islamic extremism fund disbursement	.36***	.22***	.16**	.36***	-.01	.12*	-.45***	.39***	.62***	.47***	.23***	—
<i>M</i>	36.96 ^a	2.10 ^a	2.07 ^a	.54 ^a	.84 ^a	68.66	11.20	4.23	4.15	.08	.21	34.06
<i>SD</i>	35.86	1.69	1.54	1.88	.98	28.43	6.15	1.48	1.47	.37	.41	32.92
Quartiles	0, 29, 71.8	.75, 2.3, 3.3	.75, 2, 3.3	0, 0, 1	.17, .83, 1.5							

Note. The descriptive statistics for infrahumanization reflect differential attribution of secondary emotions unresidualized on differential attribution of primary emotions.

^a One sample *t* test indicates value significantly different from 0, $p < .001$ (tested only on Variables 1–5).

* $p < .05$. ** $p < .01$. *** $p < .001$.

of animalistic dehumanization reflecting perceptions such as irrationality, primitiveness, and irresponsibility.

As in previous studies, we were centrally interested in comparing the predictive utility of blatant versus subtle dehumanization across a number of attitudes and behaviors, controlling for prejudice. In this study, we were further interested in comparing the predictive validity of the various measures of blatant dehumanization to each other. As such, we conducted two sets of regressions: first, we compared a composite of the blatant dehumanization scales (Ascent, mechanistic dehumanization, animalistic dehumanization, and ipsative dehumanization; all scales standardized, $\alpha = .68$) with infrahumanization. Second, we considered the predictive validity of infrahumanization and each of the individual blatant dehumanization measures when they were all included as independent predictors of the various outcomes in a series of multiple regressions.

As expected, the composite measure of blatant dehumanization significantly predicted all intergroup outcomes including all three attitudes and all three behaviors, controlling for infrahumanization (see Table 15), and prejudice. When all measures of blatant dehumanization (and infrahumanization) were examined separately, and included together in regression analyses predicting each of the outcome measures, only Ascent dehumanization uniquely and significantly predicted all outcome measures, even controlling for prejudice (see Table 16). Ipsative dehumanization also uniquely predicted all outcome measures, with the exception of sending messages of support to U.S. soldiers fighting ISIS. Animalistic dehumanization uniquely predicted two of the attitudinal measures (support for drone strikes and militaristic counterterrorism), whereas neither mechanistic dehumanization nor infrahumanization significantly predicted additional variance for any of the outcome measures.

The behavioral measure assessing fund disbursement provides an interesting window into the effects of blatant dehumanization by tapping into perceptions about outgroup cognition. When faced with the forced choice of combating violent Muslim extremism through policing or education, we reasoned that dehumanization would predict greater support for policies that were punitive (i.e., diverting funding to police and surveillance) versus transformative (i.e., diverting funding to schools and libraries) because higher education is lost on nonhumans (see Jahoda, 2013). Perceiving another group as irrational, primitive, and savage-like could reduce support for transformative actions designed to appeal to higher cognition regardless of positive or negative affect toward that group (see similar ideas regarding patronizing forms of dehumanization of women, children, and the disabled; e.g., Bogdan &

Taylor, 1989; Haslam, 2006; Heflick & Goldenberg, 2009; Jahoda, 2013; Ortner, 1974). Consistent with this reasoning, we found that Ascent dehumanization, which related most strongly in the item analysis to perceptions of others as illogical, irrational and primitive, strongly predicted punitive over transformative policy.

In sum, Study 5 reinforced the importance of blatant dehumanization in the context of real intergroup conflict. Consistent with previous studies, blatant dehumanization correlated with outcomes relevant to intergroup conflict, including three behaviors, and predicted all of these outcomes accounting both for subtle dehumanization and prejudice. Study 5 also further characterized the Ascent measure relative to other measures of blatant dehumanization: Ascent dehumanization was more strongly associated with overtly animalistic versus mechanistic characteristics, but was significantly associated with both. Finally, Ascent dehumanization predicted all outcomes even beyond other measures of relatively blatant dehumanization. Together, these results help solidify the significance of blatant dehumanization to real intergroup conflicts, and support the use of Ascent, in particular, as a valid construct of blatant dehumanization.

General Discussion

Across seven studies, we sought to establish the theoretical importance of blatant dehumanization beyond the established subtle indices of dehumanization that have dominated research on the topic. Despite the documented importance of subtle dehumanization to intergroup processes, there are a variety of contemporary contexts in which dehumanization is overt and unbridled. We reason that in such contexts understanding and measuring explicit blatant dehumanization provides utility over and above subtler and more indirect forms of dehumanization that may even occur outside conscious awareness (Leyens et al., 2000, 2007; see also Haslam, 2013). In testing this claim, we provided a rare and much-needed comprehensive comparison of the effects of blatant versus subtle dehumanization across a range of intergroup attitudes and behaviors (see Castano & Giner-Sorolla, 2006, and Leidner et al., 2010 for exceptions). Through this work, we also aimed to provide a useful, validated and generalizable empirical tool for the measurement of blatant dehumanization, which has thus far been lacking. Using the novel Ascent measure of blatant dehumanization, we found that people in three different countries openly reported that some groups are less 'evolved and civilized' than others, that these ratings showed high test-retest reliability, and, crucially, that Ascent dehumanization was the strongest and most

Table 15
Simultaneous Regressions Predicting Outgroup Attitudes and Behavior as a Function of Dehumanization in Study 5

Dehumanization measures	Arab immigration support ($R^2 = .13$)		Support for drone strikes ($R^2 = .14$)		Support for militaristic counterterrorism ($R^2 = .27$)		Signing anti-ISIS petitions ($R^2 = .13$)		Encouragement of U.S. soldiers fighting ISIS ($R^2 = .03$)		Anti-Islamic extremism fund disbursement ($R^2 = .16$)	
	β	p	β	p	β	p	β	p	β	p	β	p
Composite blatant dehumanization	-.37 ^a	<.001	.37 ^a	<.001	.53 ^a	<.001	.37 ^a	<.001	.16 ^a	.01	.41 ^a	<.001
Infrahumanization	.05	.35	.01	.84	-.04	.48	-.03	.62	-.00	.96	-.11 ^b	.05

^a Indicates an estimate that remains significant at $p < .05$ controlling for prejudice. ^b Indicates an estimate that remains marginally significant at $p < .10$ controlling for prejudice.

Table 16
Simultaneous Regressions Predicting Outgroup Attitudes and Behavior as a Function of Dehumanization in Study 5

Dehumanization measures	Arab immigration support ($R^2 = .15$)		Support for drone strikes ($R^2 = .15$)		Support for militaristic counterterrorism ($R^2 = .29$)		Signing anti-ISIS petitions ($R^2 = .15$)		Encouragement of U.S. soldiers fighting ISIS ($R^2 = .04$)		Anti-Islamic extremism fund disbursement ($R^2 = .22$)	
	β	p	β	p	β	p	β	p	β	p	β	p
Ascent	-.22 ^a	.001	.18 ^a	.004	.28 ^a	<.001	.21 ^a	.001	.16 ^a	.02	.27 ^a	<.001
Animalistic	-.14	.08	.24 ^a	.004	.20 ^a	.008	.14	.08	.12	.15	.12	.14
Mechanistic	-.01	.89	-.02	.79	.07	.33	.01	.95	-.10	.24	-.05	.47
Ipsative	-.18 ^a	.002	.11 ^a	.05	.21 ^a	<.001	.18 ^a	.001	.04	.54	.30 ^a	<.001
Infrahumanization	.05	.35	.01	.92	-.04	.48	-.03	.63	-.01	.91	-.10	.06

^a Indicates an estimate that remains significant at $p < .05$ controlling for prejudice.

consistent predictor of a variety of outcome measures across an array of contexts and target groups.

It is important to note that blatant dehumanization (as assessed by Ascent) was not merely a proxy for outgroup negativity. Across the studies, we examined the predictive validity of Ascent after controlling for outgroup negativity, operationalized as prejudice (Studies 2A, 2B, 3B, 4, and 5; Haddock et al., 1993; Brigham, 1993), and outgroup threat (Stephan & Stephan, 2000; Study 3A). Although blatant dehumanization was, unsurprisingly, significantly associated with prejudice and perceived threat, it remained a significant outcome predictor in each study even after outgroup negativity was controlled for. When examining American attitudes and behavior toward ISIS, for example, the Ascent measure of blatant dehumanization predicted all outcome measures (including three behavioral measures) after accounting for prejudice.

Finally, it is worth noting that although blatant dehumanization was related to both SDO (particularly SDO-D) and RWA, these measures remained independent predictors of outcomes—blatant dehumanization consistently predicted outcome measures across studies after accounting for both SDO and RWA (see Footnote 13).

Subtle Versus Blatant Dehumanization

The Ascent measure of blatant dehumanization was remarkably effective at predicting a variety of outcome measures, from subtle aversion to outright vengeance. The measure is also intuitive, efficient and reliable. Together, these characteristics establish the Ascent measure as a practically useful tool in the study of blatant dehumanization specifically, and intergroup processes more generally. At the same time, our results highlight a number of *theoretically* important aspects of blatant dehumanization.

First, blatant dehumanization and subtle measures of dehumanization responded differently to instances of real intergroup violence. Ascent dehumanization increased immediately after the Boston Marathon bombings, compared to both two months before and six months after the attacks. This spike in dehumanization following incidents of intergroup violence that induce a sense of threat and moral disengagement is in line with historical precedent (Steuter & Wills, 2010) and consistent with prior dehumanization research (McAlister, Bandura, & Owen, 2006). Blatant dehumanization also predicted important outcomes in the wake of inter-

group violence: in Studies 3A and 3B, which followed terrorist attacks, Ascent predicted outcomes such as support for violent counterterrorism, drone strikes, and vengeance, even after controlling for outgroup negativity. This was also the case when examining American attitudes toward ISIS—engaged in attacks against Americans at the time of data collection—whether blatant dehumanization was assessed using Ascent or the composite blatant dehumanization measure. On the other hand, subtle indices of dehumanization remained unchanged in the aftermath of the terrorists attacks, and showed no increased predictive power in these contexts. Thus, whereas an incident of intergroup threat may result in increased blatant dehumanization, it may not translate as readily to subtle dehumanization. Although future work will be necessary to unpack the psychological mechanisms driving changes in blatant versus subtle dehumanization, the data reported here illustrate an important divergence between these two conceptualizations.

Second, blatant and subtle dehumanization have clearly distinct personality correlates. Specifically, individuals particularly likely to endorse group-based hierarchy were also more likely to perceive their group as more evolved than outgroups. This was specifically the case for SDO-D, reflecting the endorsement of active and overt domination of “inferior” groups by “superior” groups. Indeed, blatant dehumanization was significantly more associated with SDO-D than with the Egalitarianism subdimension of SDO (i.e., SDO-E), which is associated with more passive and subtle support of hierarchy-enhancing intergroup attitudes (Ho et al., 2012, 2015). Moreover, blatant dehumanization was significantly more associated with SDO-D than were any of the subtle measures of dehumanization.

The Ascent measure was also associated with RWA (as were, in some cases, the subtle dehumanization measures, especially infrahumanization), suggesting that another source of blatant outgroup dehumanization is the sense that some outgroups contravene intergroup norms and values. Consistent with this, observing outgroup cultural practices that are perceived to be disgusting (e.g., eating the anus of a warthog) can, under certain conditions, increase blatant dehumanization on the Ascent measure (Kteily & Hodson, 2015). Future work should explore the mechanisms influencing the relationship between RWA and blatant versus subtle dehumanization more systematically.

Finally, although blatant dehumanization was generally the more effective predictor of most outcome variables across all target groups, both subtle and blatant measures of dehumanization predicted unique variance in intergroup outcomes. One prediction of the current work was that blatant dehumanization would best predict overt and aggressive outcome measures (e.g., support of vengeance in response to terror attacks, support for Roma discrimination), consistent with research suggesting that explicit attitudes are particularly likely to shape outcomes for which people have the motivation and opportunity to deliberate over courses of action (Dovidio et al., 2002; Wilson et al., 2000). This proved to be the case, as blatant dehumanization was generally the strongest and most consistent predictor of extreme outcome measures like support for torture of ISIS members, vengeance against Arabs and support for anti-Roma discrimination programs; nevertheless, subtle dehumanization measures sometimes explained additional variance.

On the other hand, we thought that subtler forms of dehumanization might be particularly well positioned to predict relatively subtle outcome measures (e.g., Dovidio et al., 2002). For example, given that aversive racism can take hold even unconsciously (Dovidio & Gaertner, 2000), we expected that subtle racism (rejecting an ambiguously qualified outgroup judge for promotion) might be most strongly predicted by subtle measures of dehumanization (e.g., infrahumanization or UH/HN dehumanization) that involve less direct denial of humanness than blatant dehumanization. However, we did not find that subtle dehumanization outperformed blatant dehumanization in predicting aversive racism. One possibility is that we did not use outcome measures that were subtle enough. Alternative subtle measures, such as those reflecting paternalism toward native groups or women, should be tested in the future. More generally, future research should continue to clarify the conditions under which blatant versus subtle dehumanization may predominate.

Another line of future research could explore the validity of blatant dehumanization in interpersonal contexts. It seems possible, for example, that blatant dehumanization may inform sentences levied at criminal perpetrators (cf. Bastian et al., 2013), predict tolerance for domestic abuse, or license physical punishment of minors in foster care. Individuals may also blatantly dehumanize those who socially ostracize them (Bastian & Haslam, 2010).

Potential Limitations and Future Directions

Notwithstanding the contributions of the present research, some limitations and questions require further examination. One question about the Ascent measure (as well as blatant dehumanization more generally) that will require further investigation is its applicability to contexts requiring socially desirable responding. Particularly given our attempt to make the measure as blatant as possible, it is possible that Ascent's usefulness may be limited in some contexts or populations. Although American, British, and Hungarian community samples suggest that a substantial portion of these populations harbor and express blatant dehumanization, it is possible that this would not be the case among other samples (e.g., liberal college students).

Another potential limitation of the Ascent dehumanization measure is that it may not apply to all target outgroups. We observed significant Ascent dehumanization of multiple groups in Study 1

that are not engaged in open hostilities with Americans (e.g., South Koreans, and Mexican immigrants), and Ascent provided some marginal utility for predicting outgroup attitudes and behavior toward African Americans, Hispanic Americans, and Chinese people in Studies 2A and 2B. This suggests that Ascent dehumanization may be relevant and useful for certain low status groups even outside the context of intense conflict.

Nevertheless, the prevalence of blatant dehumanization in a population will likely depend on characteristics of the outgroup under consideration. One such factor may be the level of intergroup conflict between the ingroup and the outgroup or the perceived threat posed by the outgroup. For example, although Americans reported significant blatant dehumanization of African Americans, Hispanic Americans, and Chinese people, a smaller proportion of Americans expressed such attitudes toward these groups relative to Arabs, with whom the United States has an extensive recent history of conflict. A still greater proportion of Americans blatantly dehumanized members of ISIS—a group whose direct and brutal targeting of American citizens is, at present, acutely salient.

Another dimension likely to influence blatant dehumanization is the status of the outgroup in question. Groups occupying positions of particularly low status in society (e.g., the Roma, homeless people) might be most subject to blatant dehumanization, all else being equal (see also Harris & Fiske, 2006). The relatively large proportion of Hungarians who blatantly dehumanized the Roma is consistent with this, although future work should more systematically measure or experimentally manipulate the status of the outgroups in question.

One potential extension of this idea is the notion that blatant dehumanization is not only exacerbated by low status but is in fact dependent on it. Americans' reluctance to blatantly dehumanize higher status outgroups such as Europeans and Australians seems consistent with this position. However, we suspect that there will be several contexts in which people will blatantly dehumanize even relatively high status outgroups. For example, Communists' perceptions about Capitalist exploitation of others, and religious fundamentalists' perceptions of Western moral degradation and excess may well involve blatant dehumanization of these high status groups. Also, subordinate groups subjected to intense violence in asymmetric conflict might also engage in blatant dehumanization toward more dominant, "advanced," and Western outgroups. In fact, preliminary evidence suggests that Ascent dehumanization can cut in both directions along a power gradient: in a study conducted in the Middle East during the invasion of Gaza in the Summer of 2014, low status Palestinians rated high status Israelis to be substantially less evolved than Palestinians (a 35-point ingroup vs. outgroup rating differential on the 100-point Ascent scale). Indeed, Palestinian dehumanization of Israelis was about equivalent to Israeli dehumanization of Palestinians (Bruneau & Kteily, 2015).

Compared with blatant dehumanization, subtle dehumanization may be relatively less sensitive to factors such as group status (Gaunt, 2009; Leyens et al., 2001) and intergroup conflict/perceived threat and may therefore apply more widely. Indeed, one of the major contributions of subtle dehumanization research (e.g., infrahumanization and UH/HN dehumanization) has been the illustration of dehumanization as an "everyday" phenomenon, that may operate outside of conscious awareness (Leyens et al., 2007) and manifest indirectly (Haslam & Loughnan, 2014). Consistent with this, preliminary data we collected

suggests that blatant dehumanization is a better predictor (relative to subtle dehumanization) of compassion toward Arab targets, whereas subtle dehumanization is a better predictor of compassion for Swiss targets. It therefore seems most appropriate to think of blatant dehumanization not as a measure to supplant existing subtle dehumanization constructs but as a way to complement or supplement them.

Another matter worth discussing is our assessment of blatant dehumanization as a relative phenomenon. Although this has certain advantages, and is consistent with previous conceptualizations and operationalizations of dehumanization of outgroups as relative to the humanity granted the ingroup (e.g., Paladino et al., 2002; Leyens et al., 2000; see also Haslam, 2013, pp. 38–41, 44 for a detailed discussion of assessing dehumanization as a relative vs. absolute phenomenon), we note that there will be contexts in which absolute ratings of outgroup humanity are also relevant. For example, it is noteworthy that although Americans blatantly dehumanized Arabs relative to Americans (rating Arabs, on average, a little over 10 points lower on the Ascent scale than Americans), the average rating of Arabs was still reasonably high on the Ascent scale (typically around 80 points on the 100-point scale). On the other hand, the Roma were strongly dehumanized both relatively and absolutely by Hungarians, with average ratings of (absolute) Roma humanity on the Ascent scale of about 50. Although very similar results were observed across our studies when absolute Ascent dehumanization was used rather than relative Ascent dehumanization, future work may benefit from further considering the implications of treating blatant dehumanization in relative versus absolute terms.

Finally, although we began to explore the relationship between the Ascent measure of blatant dehumanization and other relatively blatant measures, more work undoubtedly needs to be done to refine our understanding of the convergence and divergence of Ascent with mechanistic and animalistic dehumanization. For example, it will be important to consider whether there may be instances where the relatively blatant indices of mechanistic and animalistic dehumanization provide more utility than the Ascent measure alone. Since the Ascent measure does not allow a simple dissociation between the animalistic and mechanistic components of blatant dehumanization, contexts in which such distinctions are important would likely benefit from the inclusion of the multi-item measures proposed by Bastian et al. (2013). Furthermore, research might benefit from a pictorial analogue of the Ascent measure specifically targeting the mechanistic aspects of blatant dehumanization.

Despite the fact that more work is required to fully understand blatant dehumanization and delineate the most appropriate measures with which to assess it, the central point we hope to convey in this research is the importance of conducting this work. While subtle dehumanization may be more common than blatant dehumanization, numerous contemporary intergroup contexts render blatant dehumanization highly relevant: the Romani population in Europe, sectarian conflicts in Syria and Iraq, the conflict in Israel–Palestine, continuing struggles between Indians and Pakistanis, and responses to the rising tide of immigration in Europe. These contexts bare striking similarities to dark periods in human history where explicit dehumanization enabled violence and helped usher in incredible human suffering (e.g., equating Tutsis with cockroaches prior to the Rwandan genocide). Having a validated way to measure the perception of blatant dehumanization brings us closer to understanding how this psychological phenomenon can cause terrible acts of mass violence, and potentially how to mitigate its effects.

Conclusion

The current research examined whether individuals engage in blatant dehumanization toward certain groups, and if so, whether blatant dehumanization predicts consequential intergroup outcomes. Across numerous targets and social contexts, we found that individuals were willing to overtly describe many other groups as less evolved than their own. The degree of blatant dehumanization expressed in turn uniquely predicting a range of aggressive attitudes and behavior such as support for torture and openly discriminatory social policy, and spiked following intergroup violence when measures of subtle dehumanization did not. These findings highlight the need to further our understanding of blatant and explicit dehumanization, particularly in light of the number of persistent violent intergroup conflicts around the world.

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Appendix

Detailed Description of Constructs Used in Various Studies

Text for “Responses to Injustice,” Study 2B. While on vacation with his family in Afghanistan, Mohammed Jamaluddin was picked up by American forces after they received an anonymous tip that he was a member of the Taliban. He was held at Guantanamo without being officially charged of any crime, and was not given a trial. While there, he was kept in solitary confinement for days, and subjected to several difficult interrogations throughout which he maintained his innocence. During his captivity, his eldest child was married, and his youngest took her first steps and learned to talk. His family faced severe financial struggles, forcing his son had to quit university in order to help out at home. His wife fell into a deep depression from which she never fully recovered. After 5 years in captivity, the U.S. acknowledged that they had no hard evidence against him. He was released without apology or compensation, and sent home.

Text for “Aversive Racism,” Study 2B

Tareq Khalef is an Arab American man who is being considered for a position as a state Supreme Court judge. Judge Khalef was in the top 5% of his law school class, and received high praise for his judicial work from nearly every lawyer who has worked with him. Since this is a high level position, the decision committee has also been focused on personal events, including two from his past. First, Judge Khalef was once cited for spousal abuse by neighbors; he and his wife told the police that it was a misunderstanding, and no charges were filed. Second, there was an allegation of nepotism at a prior job, for which he was eventually cleared after an internal review.

Perceived Outgroup Threat, Study 3A

1. “Arabs, as a group, pose a threat to other Americans.”
2. “Arabs, as a group, take economic resources away from Americans.”

3. “Arabs, as a group, limit the economic opportunities available to Americans.”
4. “Arabs, as a group, possess values that directly oppose those of Americans.”
5. “Arabs, as a group, hold values that are morally inferior to those of Americans.”
6. “Arabs, as a group, endanger the physical safety of other Americans.”

Drone Strike Support, Study 3A

1. “I support America’s use of drone attacks against suspected militant targets in Pakistan and Afghanistan.”
2. “Drone strikes have an unacceptably high rate of civilian casualty” (reverse-scored).
3. “Keeping American soldiers’ lives out of harms way by using drones is more important than ensuring a total lack of civilian casualties in other countries.”
4. “Even one civilian death from a drone attack should be enough to make us abandon this as a strategy.”

Militaristic Counterterrorism, Study 3A

1. “To put an end to terrorist acts, I think it is OK to use enhanced interrogation techniques.”
2. “To put an end to terrorist acts, I think it is OK to use torture.”

(Appendix continues)

3. "To put an end to terrorist acts, I think it is OK to use waterboarding."
4. "To put an end to terrorist acts, I think it is OK to target civilians and combatants alike in foreign terrorist strongholds."
5. "To put an end to terrorist acts, I think it is OK to bomb an entire country if it is known to harbor anti American terrorists."
6. "To put an end to terrorist acts, I think it is OK to target Muslims with extra profiling and surveillance."
7. "I support the war in Afghanistan."
8. "I support continued military efforts abroad to root out potential terrorists."
9. "We should spend more time on diplomatic efforts as opposed to engaging in military activity abroad" (reverse-scored).
10. "We shouldn't be afraid to hunt down anyone who threatens our country anywhere."
11. "We should strike back with brutal force against anyone who seeks to intimidate us."

Prejudice, Study 3B

1. "Most of the terrorists in the world today have a Muslim background."
2. "British Muslims have little appreciation for democratic values."
3. "British Muslims tend to be fanatical."
4. "British Muslims value peace and love" (reverse-scored).
5. "British Muslims tend to be violent."
6. "British Muslims are generally aggressive."

Support for Discrimination, Study 4

Education

1. Move Roma children unreasonably placed in special education schools to public schools (reverse-scored).

2. Cancel currently operating scholarships for Roma children.
3. Include equal opportunity and fundamental human rights to the public education curriculum (reverse-scored).
4. Teach about Roma ethnography and culture (reverse-scored).
5. Decreasing the number of Roma teachers.

Employment

6. Increase the employment rate of Roma women to counter trends in employment discrimination (i.e., affirmative action) (reverse-scored).
7. Start state-funded labor market programs for Roma (reverse-scored).

Housing

8. Decrease access of social housing for the Roma.
9. Improve Roma access to housing benefits and debt management services (reverse-scored).

Health

10. Implement health education and awareness programs among the disadvantaged Roma (reverse-scored).
11. Supply information on healthy lifestyle and make services available (e.g., Free health screening; reverse-scored).

Social Support

12. Support and training of professionals working to provide legal support for anti-Roma discrimination cases (reverse-scored).
13. Support for Roma NGOs involved in human rights violations (reverse-scored).
14. Give state support for Roma theater, museum, gallery, library, independent radio and TV (reverse-scored).

(Appendix continues)

Drone Strike Support, Study 5

1. "I support the use of drone strikes against suspected ISIS targets."
2. "Keeping American soldiers' lives out of harms way by using drones is more important than ensuring a total lack of civilian casualties in countries that harbor ISIS members."
3. "Drone strikes against ISIS members have an unacceptably high rate of civilian casualty."
4. "Even one civilian death from a drone attack against ISIS should be enough to make us abandon this as a strategy."

Militaristic Counterterrorism, Study 5

1. "To put an end to terrorist acts by ISIS, I think it is OK to use enhanced interrogation techniques."
2. "To put an end to terrorist acts by ISIS, I think it is OK to use torture."
3. "To put an end to terrorist acts by ISIS, I think it is OK to use waterboarding."
4. "To put an end to terrorist acts by ISIS, I think it is OK to target civilians and combatants alike in foreign terrorist strongholds."

5. "To put an end to terrorist acts by ISIS, I think it is OK to bomb an entire country if it is known to harbor ISIS terrorists."
6. "To put an end to terrorist acts, I think it is OK to target supporters of ISIS with extra profiling and surveillance."
7. "I support continued military efforts abroad to root out potential ISIS terrorists."
8. "We are being way too soft on ISIS."
9. "We shouldn't be afraid to hunt down any ISIS member who threatens our country anywhere."
10. "We should strike back with brutal force against members of ISIS who seeks to intimidate us."
11. "We should spend more time on diplomatic efforts as opposed to engaging in military activity toward ISIS" (reverse-scored).
12. "Those ISIS members who have beheaded American journalists deserve to die a slow, painful death."
13. "The only way to deal with ISIS is by bringing in the heavy artillery."

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