Dehumanization and Minimization of Informal Caregivers Suffering: The Legitimizing Role of Justice Perceptions

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Abstract

Informal caregivers, who provide unpaid care work to individuals with disabilities, are devalued despite their important contributions to society. Identifying the factors contributing to their devaluation is crucial for recognizing and valuing their work. In two experimental studies, we examined (a) whether informal caregivers are dehumanized; (b) the moderating impact of belief in a just world (BJW) on this process; and (c) the predictive impact of BJW and the dehumanization of informal caregivers on the perception of informal caregivers' suffering. In Study 1 (N = 180), a 2 (informal caregiver *vs.* non-caregiver) X 2 (female *vs.* male) between-participants design was used; in Study 2 (N = 205), there were two experimental conditions: Female informal caregiver *vs.* male informal caregiver. Participants were randomly assigned to one description of a target and were asked to complete measures assessing the dehumanization of the target (Studies 1 and 2), the perception of the suffering of the target (Study 2), and a measure of BJW referring to them (Study 2). Results showed the expected dehumanization effect, such that participants attributed fewer uniquely human emotions to informal caregivers compared to non-caregivers, regardless of their gender (Studies 1 and 2). However, this effect was observed only among participants with higher BJW (Study 2). Furthermore, BJW and the dehumanization of informal caregivers predicted the minimization of the perception of informal caregivers' suffering (Study 2). These results establish a theoretical relationship between these research areas and offer insights for practical implications and future research.

Keywords: belief in a just world, dehumanization, informal caregivers, perception of suffering

The increasing average life expectancy, the prevalence of chronic diseases and disabilities, and an underfunded, fragile, and fragmented healthcare system have contributed to a growing demand for informal care (Schulz et al., 2020; United Nations Entity for Gender Equality and the Empowerment of Women [UN Women], 2018).

Despite the growing body of literature on the challenges faced by informal caregivers, too little attention has been given to understanding the social perceptions towards this group. Analyzing how informal caregivers are socially perceived is crucial, as negative perceptions can adversely affect their health and well-being, preventing them from receiving the necessary support and ultimately impacting the quality of care they provide (e.g., Ali et al., 2012). Indeed, there is evidence that informal caregivers remain invisible, unacknowledged, and undervalued by society (Ansello & Rosenthal, 2007; EUROCARERS, 2019), even though unpaid care work is crucial to economic activity and societal well-being (Peña-Longobardo & Oliva-Moreno, 2022; UN Women, 2018).

The present research presents two experimental studies aimed at better understanding whether and under which conditions informal caregivers are dehumanized.

Informal Care Work

Informal care refers to unpaid care work provided by family members, friends, or neighbors to individuals with physical, mental, or cognitive limitations (EUROCARERS, 2019; Rodrigues & Hoffann, 2010; Schulz et al., 2020). Societal perceptions that often link caregiving to women's nature result in a disproportionate representation of women (e.g., wives, daughters, and daughters-in-law) in unpaid care work (e.g., Erreguerena, 2015; Esplen, 2009; United Nations of Economic and Social Affairs-Population Division, 2019). Nevertheless, men, especially those in the LGBTQ+ community, are also stepping into the role (e.g., Hughes & Kentlyn, 2011). Moreover, the informal caregiving role predominantly falls on middle-aged individuals, unemployed or domestic workers, and those with lower education and socioeconomic status (Verbakel et al., 2017).

Informal caregivers perform several tasks that, in some cases, require professional skills and high levels of vigilance (Lindeza et al., 2020). They typically provide assistance with activities of daily living (ADLs) (e.g., personal hygiene, dressing, and eating), as well as instrumental activities of daily living (IADLs) (e.g., housework, meal preparation, shopping, or administrative tasks) (Rodrigues & Hoffmann, 2010). Working in such a complex and unpredictable environment can be challenging for informal caregivers, affecting their personal, professional, financial, and social life (e.g., poverty, and social isolation), which is reflected in

their health and well-being (e.g., anxiety, depression, and burnout) (Schulz et al., 2020, for a review).

Moreover, some studies (e.g., Abojabel & Werner, 2019; Kinnear et al., 2016; McGown & Braithwaite, 1992; Yip & Chan, 2022; Zwar et al., 2020) have recognized informal caregivers as targets of courtesy stigma (i.e., negative stereotypes, prejudice, and discrimination from the general public due to their association with a stigmatized individual or group) (Goffman, 1963). For instance, McGown and Braithwaite (1992) found that nurses and the general public tended to perceive informal caregivers of stroke patients as emotionally unstable and incompetent in understanding the care recipient's condition. Similarly, Kinnear et al. (2016) and Yip and Chan (2022) showed that informal caregivers of children with autism spectrum disorder were perceived as incompetent in caring for their children and blamed for their deficits, resulting in high self-stigma, stress, depression, and anxiety. Furthermore, Abojabel and Werner (2019) and Zwar et al. (2020) showed the existence of devaluing and accusative cognitions, disgusted emotions, and behaviors of distance and avoidance towards informal caregivers of elderly individuals.

We believe that the failure to recognize the important contributions of such an important group may be not only a result of complex factors rooted in gender roles (e.g., Erreguerena, 2015; Poole & Isaacs, 1997) and the stigma faced by care recipients and informal caregivers, but also a consequence of the fact that informal caregivers are dehumanized.

Humanness and Dehumanization

Dehumanization refers to the act of denying individuals their humanness by perceiving or treating them as less than fully human beings (Haslam, 2021; Haslam & Loughnan, 2014). This phenomenon is closely associated with categorizing individuals based on personality traits and emotions (Haslam & Stratemeyer, 2016).

The dual model of dehumanization (Haslam, 2006) focuses on personality traits as indicators of people's humanness. In this model, humanness is understood as comprised of uniquely human traits (e.g., rationality, civility, refinement) that distinguish human beings from other animal species due to their emergence later in human development and susceptibility to cultural variation; and by traits that represent the core essence of human nature (e.g., warmth, emotionality, openness) because they are shared by all human beings as they emerge early in human development and remain consistent across different cultures. When individuals or groups are denied uniquely human traits, they are treated or perceived as primitive and irrational animals (*animalistic dehumanization)*; when individuals or groups are denied human nature

traits, they are treated or perceived as robots, automatons, or objects (*mechanistic dehumanization)* (Haslam, 2006).

The infrahumanization theory (Leyens et al., 2000, 2001) conceptualizes humanness through the attribution or denial of specific emotions to other people. According to this theoretical framework, secondary emotions (e.g., shame, hope, resentment) are considered uniquely human because they require higher cognition and morality, characteristics that develop later in life and are culturally variable. In contrast, primary emotions (e.g., fear, pain, pleasure) are shared by both humans and animals because they tend to manifest early in development (Demoulin et al., 2004). Several studies within this model have shown that people reserve secondary (uniquely human) emotions for the in-group while denying them to the outgroup. Conversely, primary emotions are usually equally attributed to both groups (Leyens et al., 2007; Paladino et al., 2002; Vaes et al., 2012, for a review). This effect remains independent of negative attitudes and ingroup favoritism (Cortes et al., 2005; Paladino et al., 2002, 2004). The denial of secondary (uniquely human) emotions to individuals or groups aligns with animalistic dehumanization (Haslam, 2006), as represents a subtle form of dehumanization in which individuals or groups are perceived as being close to animals (Demoulin et al., 2004; Haslam, 2021).

Dehumanization is a prevalent phenomenon that impacts a wide range of individuals across various intergroup and interpersonal contexts (e.g., school, work, or society at large) (Haslam, 2021, for a review). Examples include dehumanizing attitudes and behaviors towards stigmatized groups, such as disabled individuals (e.g., Martinez et al., 2011; Betancor et al., 2016), elderly individuals (e.g., Boudjemadi et al., 2017), women (e.g., Fiske et al., 2002; Tipler & Ruscher, 2019), and low-status or low-income occupational groups (e.g., Volpato et al., 2017).

Indeed, evidence suggests that individuals with Down syndrome, compared to those without developmental disabilities, are denied uniquely human emotions by professional educators and the general public (e.g., Betancor et al., 2016). Similarly, Martinez et al. (2011) found that individuals with mental illness are dehumanized, and consequently perceived as dangerous and socially rejected. Moreover, Boudjemadi et al. (2017) demonstrated that older individuals tend to be attributed fewer uniquely human traits and emotions and more associated with animal-related words than younger individuals. The animalistic dehumanization also extends to certain subcategories of women, such as those in traditional roles (e.g., housewives and mothers), who are typically perceived with a lack of uniquely human traits (e.g., Fiske et al., 2002), and implicitly associated with animals, particularly when their sexual and

reproductive functions are emphasized (e.g., Tipler & Ruscher, 2019). Furthermore, individuals in low-status or low-income occupations are animalistically dehumanized, as they are attributed with fewer uniquely human traits and are associated with animal metaphors (e.g., animals, gorillas, savage beasts) (e.g., Volpato et al., 2017).

To the best of our knowledge, no research has examined whether informal caregivers are dehumanized compared to individuals who do not assume this role. Nevertheless, given that the profile and work environment of informal caregivers (e.g., unpaid work, mainly performed by women, involving the care of disabled individuals), share similar characteristics with dehumanized groups (e.g., Sakalaki et al., 2017; Volpato et al., 2017), it is plausible that informal caregivers might be targets of dehumanization.

Dehumanization Processes on the Perception of Victims

Dehumanization not only contributes to the suffering of victims (e.g., Viki et al., 2012) but can also follow experiences of suffering or ill-being (e.g., Sakalaki et al., 2017). Recent studies indicate that groups facing challenging life conditions, such as illnesses (e.g., Fontesse et al., 2021), low social status (e.g., Harris & Fiske, 2006), and lower SES (e.g., Loughnan et al., 2014; Sainz et al., 2020), are often perceived or treated as less than fully human.

Despite the crucial role of empathy in understanding the feelings of others (Scatolon et al., 2023), empathizing with the vulnerability and suffering of others can be inconvenient, stressful, and even dangerous, potentially eliciting a defensive reaction from observers (Fousiani et al., 2019; Rosenblatt, 2017). The dehumanization of victims is considered a functional and adaptive mechanism employed by observers to avoid the personal costs and distress associated with helping or witnessing the suffering of other human beings (e.g., Cameron et al., 2016; Trifiletti et al., 2014; Vaes & Muratore, 2013). For instance, Vaes and Muratore (2013) and Trifiletti et al. (2014) found that healthcare professionals attributing uniquely human traits and emotions to suffering patients experienced more stress and burnout symptoms, especially those with higher direct contact and affective commitment to patients. Moreover, a recent study by Cameron et al. (2016) showed that individuals motivated to avoid emotional exhaustion by helping drug addicts are more likely to dehumanize them.

Perceiving victims as less human is considered crucial for the well-being of observers (e.g., Vaes & Muratore, 2013), and for the proper functioning of society as a whole (Bastian et al., 2014). However, this perception worsens the situation in which victims find themselves, as it is associated with reduced helping behavior (e.g., Andrighetto et al., 2014; Cuddy et al., 2007) and with reduced empathy for victims' suffering (e.g., Čehajić et al., 2009; Nagar & Maoz, 2017). Indeed, considering others as less than fully human allows individuals to accept,

legitimize (Bar-Tal, 2000), or minimize and deny others' suffering (Čehajić et al., 2009; Nagar & Maoz, 2017).

This defensive dehumanization towards victims is deeply rooted in specific psychological processes, such as the Belief in a Just World (Lerner, 1980), which attempts to explain why observers react negatively toward victims.

Belief in a Just World and Negative Attitudes toward People Suffering

According to the Belief in a Just World theory (BJW; Lerner, 1980), individuals are motivated to perceive the world as a just place where everyone receives what they deserve. This perception of justice gives people confidence that no unjust events will happen to them, despite the injustices in daily life.

However, the existence of innocent victims contradicts this fundamental assumption, thereby threatening people's BJW. As a result, instead of offering help, observers restore justice cognitively by changing their perceptions of the situation, which may lead to one or more forms of negative attitudes towards the victim, which is frequently named secondary victimization (Philip et al., 1982). Indeed, aside from dealing with the negative consequences arising from the event that victimized them (*primary victimization)*, victims experience additional victimization from the social reaction of people who know about their situation (*secondary victimization)*. Secondary victimization is a pervasive yet very detrimental phenomenon, given that it exacerbates the adversity faced by victims through various concurrent forms, such as blaming victims for events beyond their control or minimizing and denying the perception of others' suffering (e.g., Hafer & Bègue, 2005).

Most studies exploring individual differences in the BJW have indicated that individuals with higher BJW, when confronted with an innocent victim whose suffering persists, are more likely to engage in secondary victimization than those with lower BJW (e.g., Correia & Vala, 2003). Moreover, recent studies also highlight that sharing an identity with the victim threatens the observers' BJW and is a predictor of negative reactions towards victims (e.g., Correia et al., 2018). Furthermore, research has shown an association between BJW and some ideological variables, such as religiosity and right-wing political orientation (e.g., Dalbert et al., 2001).

Despite extensive research focused on the impact of observers' BJW on different forms of secondary victimization, only a few studies have attempted to investigate the dehumanization of victims as a secondary victimization strategy. Indeed, DeVaul-Fetters (2014) revealed that, across multiple strategies employed to cope with just world threats, the dehumanization of refugees emerged as one of these strategies. Specifically, individuals with a higher BJW dehumanized the refugees more than individuals with a lower BJW. In a related study, Gillmor

et al. (2014) found that victims perceived as being sexually promiscuous were more likely to be dehumanized than those perceived as sexually conservative, especially among observers with higher BJW. The findings of these studies suggest that the dehumanization of victims may serve as a coping mechanism for individuals who feel threatened by the injustices present in the world.

Considering the highly demanding nature of informal caregiving, we believe it has the potential to threaten observers' sense of justice. Therefore, we propose that participants with higher BJW may be particularly likely to dehumanize informal caregivers and, consequently, minimize the perception of informal caregivers' suffering.

The Current Research

We conducted two experimental studies to better understand whether and under which conditions informal caregivers are dehumanized. Study 1 aimed to extend the already mentioned studies on the stigmatization of informal caregivers (e.g., Abojabel & Werner, 2019; Zwar et al., 2020) by investigating whether informal caregivers are targets of dehumanization when compared to individuals who do not perform this role. In Study 2, we further expanded these investigations to examine the moderating impact of participants' BJW on this process. Furthermore, Study 2 examined the predictive impact of participants' BJW and the dehumanization of informal caregivers on participants' perception of informal caregivers' suffering, while controlling for sociodemographic and individual variables. Lastly, both studies also explored the impact of the targets' gender on these effects. Based on previous research examining the link between victim dehumanization and perceptions of justice, we measured the attribution of emotions that targets are capable of feeling as an indicator of dehumanization.

Pilot Study

We developed written vignettes where we manipulated the type of target (informal caregiver *vs*. non-caregiver): The informal caregiver condition presented a fictitious description of the name, age, and daily tasks of an informal caregiver target responsible for caring for a spouse who became paraplegic and suffered a brain injury after a car accident; the non-caregiver condition simply presented a fictitious description of the name and age of a target, along with the information that the target is married. The gender of the target was counterbalanced across experimental conditions with corresponding fictitious names of "Mary" or "Joseph". We tested the written vignettes with a few participants. Changes were made iteratively in response to feedback on the vignette's credibility, concision, and clarity.

To increase the perception of the descriptions' realism, the written vignettes were paired with a picture of either a woman or a man. A pre-test of the pictures was conducted following a procedure applied by Bernardes et al. (2021). For the pre-test of the female picture, we presented three pictures of three different white women to a sample of 20 participants (50% female; M_{age} = 29.10). Similarly, for the pre-test of the male picture, a separate sample of 22 participants (72.7% female; M_{age} = 36.32) rated four pictures featuring four different white men. Participants were asked about their perceptions of the targets' age, body weight, educational level, occupation, and socioeconomic status (using the MacArthur Scale of Subjective Social Status; Adler et al., 2000). Based on the pre-test findings, one picture of a woman and one picture of a man, both perceived as middle-aged, with normal weight, and ambiguous for socioeconomic status, were chosen. See Figure 1 for a detailed description of all vignettes, which constitute the four experimental conditions used in Study 1[1].

Experimental conditions			
Female informal caregiver	**Male informal caregiver**	**Female non-caregiver**	**Male non-caregiver**
Picture of a woman	Picture of a man	Picture of a woman	Picture of a man
"This is Mary a 45-year-old woman who started taking care of her 47-year-old husband who became paraplegic and with a brain injury after a car accident (…) She was forced to quit work to take care of him full-time, as he has a permanent disability level of 93% (…) Currently, her husband spends a significant part of the day either bedridden or in a wheelchair (…) Her daily tasks involve bathing and dressing her husband, changing his diapers several times a day, dressing him, giving him food, managing his daily medication, and cleaning the house (...) She cannot maintain a social network or take a vacation."	"This is Joseph a 45-year-old man who started taking care of his 47-year-old spouse who became paraplegic and with a brain injury after a car accident (…) He was forced to quit work to take care of her full-time, as she has a permanent disability level of 93% (…) Currently, his wife spends a significant part of the day either bedridden or in a wheelchair (…) His daily tasks involve bathing and dressing his wife, changing her diapers several times a day, dressing her, giving her food, managing her daily medication, and cleaning the house (...) He cannot maintain a social network or take a vacation."	"This is Mary a 45-year-old married woman."	"This is Joseph a 45-year-old married man."

[1] We did not include the pictures of the female and male subjects in Figure 1, as the pictures were only authorized to be shown with participants and not for publication.

Study 1

In the present study, we aimed to examine whether informal caregivers are dehumanized by being perceived as experiencing fewer secondary (uniquely human) emotions compared to individuals who do not perform this role. Given that the profile and work environment of informal caregivers (e.g., unpaid work, mainly performed by women, involving the care of disabled individuals), share similar characteristics with dehumanized groups (e.g., Sakalaki et al., 2017; Volpato et al., 2017), we predicted that informal caregivers would be targets of dehumanization. Therefore, we expected participants to attribute fewer secondary (uniquely human) emotions to informal caregivers than to non-caregivers, whereas no differences in the attribution of primary emotions were expected (H_1). We also explored whether the targets' gender impacts our expected effect; however, we did not advance any priori hypothesis, given the lack of previous supporting evidence.

Method

Participants and Design

The sample comprised 180 participants (66.1% female) aged between 18 and 71 years (M = 32.06, SD = 11.18). Participants were from all regions of Portugal, but mostly resided in the Metropolitan Area of Lisbon (49.4%). Most participants had an undergraduate degree (72.8%) and nearly half were employed (46.1%).

This study used a 2 (Emotion: Primary *vs*. secondary) X 2 (Target type: Informal caregiver *vs*. non-caregiver) X 2 (Target gender: Female *vs*. male) experimental design, with the first factor as within-participants and the two other factors as between-participants.

Procedure

This study was in agreement with the ethics guidelines of the Scientific Commission of the Research Centre where it was conducted and followed the principles outlined in the Declaration of Helsinki. According to the ethics guidelines of the Research Center, formal ethical approval is not required for anonymous surveys that are not compulsory, do not involve sensitive personal information or potentially harmful content, do not use deception, do not require substance ingestion, and do not involve any invasive measures.

Participants were invited to take part in an online survey created on the Qualtrics platform about person perception. Fifty-eight participants completed the study as part of a course requirement, while 122 participants were recruited from the Clickworker website.

After providing informed consent, participants were randomly assigned to one of the four experimental conditions mentioned in the pilot study: Female informal caregiver, male

informal caregiver, female non-caregiver, and male non-caregiver (see Figure 1). Participants were informed that the descriptions in the vignettes were real, and to preserve the anonymity of the person, the fictitious names were used. To verify the effect of the experimental manipulation of the target, after reading/seeing the description/picture of the target in the vignette, participants in the informal caregiver's conditions were asked to recall the target's age, the spouse's level of disability, and two daily tasks performed by the informal caregiver target. This task aimed to ensure that participants perceive the informal caregiver target as a middle-aged informal caregiver of a dependent spouse. Participants in the non-caregiver's conditions were only asked to recall the target's age.

Following this, participants were asked to complete the dependent measure that assessed their perceptions of the target (dehumanization) and provided demographic information (e.g., age, education, area of the country in which they lived). At the end of the survey, participants were thanked, debriefed about the purpose of the study, and provided with the contact of the main researcher.

Measures

Dehumanization

The dehumanization of the target was measured by asking participants to indicate to what extent they considered the target to experience six different emotions presented in random order. These included three negative primary (fear, sadness, and pain; $\alpha = .84$) and three negative secondary (bitterness, melancholy, and shame; $\alpha = .84$) emotions already pre-tested for valence (Demoulin et al., 2004; Martínez et al., 2017). Responses were given on a 6-point scale (from 1 = *Not at all* to 6 = *A lot*). Only negative emotions were measured due to the distressing nature of the event, which made it less likely for participants to attribute positive emotions to informal caregivers. This decision was in line with previous studies on adverse situations where only negative emotions were assessed (e.g., Cuddy et al., 2007; Gillmor et al., 2014).

Analytic Plan

Our Hypothesis 1 was tested in a 2 (Emotion: Primary *vs*. secondary) X 2 (Target type: Informal caregiver *vs*. non-caregiver) X 2 (Target gender: Female *vs*. male) mixed repeated measures ANOVA, controlling for participants' gender. When differences between conditions were found, pairwise comparisons with Bonferroni correction were examined. The analysis was conducted using IBM SPSS Statistics 28.0.

Results

Manipulation Check

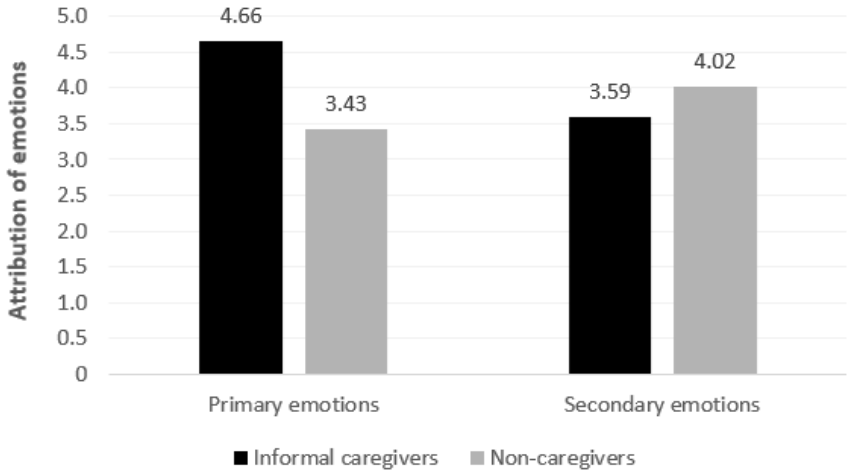
The manipulation check was successful, as all participants in the informal caregiver's condition correctly described the target's age, the spouse's level of disability, and two daily tasks performed by the informal caregiver target; and all the participants in the non-caregiver's condition were able to correctly describe the target's age.

Dehumanization of Informal Caregivers

Results showed a main effect of emotion, $F(1, 176) = 7.03$, $p = .009$, $\eta_p^2 = .04$, such that participants attributed more primary ($M = 4.10$, $SD = 1.15$) than secondary emotions ($M = 3.79$, $SD = 1.03$) to the targets. There was a main effect of the target type, $F(1, 176) = 12.04$, $p < .001$, $\eta_p^2 = .06$, such that participants attributed more emotions to informal caregivers ($M = 4.13$, $SD = 0.80$) than to non-caregivers ($M = 3.72$, $SD = 0.87$). There was no main effect of target gender, $F(1, 176) = 2.04$, $p = .155$, $\eta_p^2 = .01$.

As expected, there was a two-way interaction between emotion and target type, $F(1, 176) = 85.08$, $p < .001$, $\eta_p^2 = .33$. Pairwise comparisons with Bonferroni correction showed that participants attributed more secondary emotions to non-caregivers ($M = 4.02$, $SD = 0.96$) than to informal caregivers ($M = 3.59$, $SD = 1.06$), $p < .001$. In contrast, participants attributed more primary emotions to informal caregivers ($M = 4.66$, $SD = 0.99$) than to non-caregivers ($M = 3.43$, $SD = 0.95$), $p = .006$ (see Figure 2).

Furthermore, in this same two-way interaction, pairwise comparisons with Bonferroni correction showed that participants attributed more secondary ($M = 4.02$, $SD = 0.96$) than primary ($M = 3.43$, $SD = 0.95$) emotions to non-caregivers, $F(1, 176) = 19.89$, $p < .001$. In contrast, participants attributed more primary ($M = 4.66$, $SD = 0.99$) than secondary ($M = 3.59$, $SD = 1.06$) emotions to informal caregivers, $F(1,176) = 77.13$, $p < .001$.



The two-way interaction between emotion and target gender, $F(1, 176) = 1.47$, $p = .226$, $\eta_p^2 = .01$, and the two-way interaction between target type and target gender, $F(1, 176) = 2.16$,

$p = .144$, $\eta_p^2 = .01$, as well as the three-way interaction between emotion, target type, and target gender, $F(1, 176) = 0.63$, $p = .430$, $\eta_p^2 = .01$, were not significant.

Controlling for participants' gender, the two-way interaction between emotion and target type remained significant, $F(1, 175) = 82.87$, $p < .001$, $\eta_p^2 = .32$; the two-way interaction between emotion and target gender remained non-significant, $F(1, 175) = 1.08$, $p = .300$, $\eta_p^2 = .01$; the two-way interaction between target type and target gender remained non-significant, $F(1, 175) = 2.13$, $p = .147$, $\eta_p^2 = .01$; and the three-way interaction between emotion, target type, and target gender remained non-significant, $F(1, 175) = 0.74$, $p = .392$, $\eta_p^2 = .01$.

Discussion

In this first study, we aimed to empirically examine whether informal caregivers were dehumanized when compared to non-caregivers and to explore the impact of the targets' gender on this effect.

As expected, our findings suggest that informal caregivers are indeed targets of dehumanization, as they were perceived as experiencing fewer secondary (uniquely human) emotions than non-caregivers, thus supporting our Hypothesis 1. Contrary to the predictions of Leyens et al. (2001) and our prediction that primary emotions would be equally attributed to both groups, participants surprisingly attributed more primary emotions to informal caregivers than to non-caregivers. This may suggest that informal caregivers are not only perceived as less human but also more animal-like, as participants associate them with their animalistic nature, expressed through an over-attribution of primary emotions.

A more detailed examination of the attribution of each emotion separately revealed noteworthy differences. While non-caregivers were attributed with more secondary than primary emotions, informal caregivers were attributed with more primary than secondary emotions. This suggests a distancing of non-caregivers from non-human animals and of informal caregivers from human uniqueness.

Our results also demonstrated that the dehumanization of informal caregivers occurred regardless of their gender: We did not find significant differences between the attribution of primary and secondary emotions to female and male informal caregivers.

This study did not consider potential individual determinants contributing to the dehumanization of informal caregivers. Thus, in Study 2, we aimed to examine the moderating impact of participants' BJW on the dehumanization of informal caregivers.

Study 2

Extending from our previous study, we aimed to examine the moderating impact of participants' BJW on the dehumanization of informal caregivers. Based on the findings from Study 1, we expected that informal caregivers would be dehumanized by being attributed fewer secondary emotions (H_1[2]). Framed within the BJW theory (Lerner, 1980), and based on research examining the link between dehumanization and BJW (e.g., DeVaul-Fetters, 2014; Gillmor et al., 2014), we expected that informal caregivers would be dehumanized, especially among participants with higher BJW (H_2).

This study also examined the predictive impact of participants' BJW and the dehumanization of informal caregivers on the participants' perception of informal caregivers' suffering, while controlling for sociodemographic and individual variables. Previous research has indicated that the dehumanization of others (e.g., Čehajić et al., 2009; Nagar & Maoz, 2017) and a higher BJW endorsement (e.g., Hafer & Bègue, 2005) are associated with minimizing and denying the perception of others' suffering. Therefore, we expected that the participants' perception of informal caregivers' suffering would be predicted by the participants' BJW endorsement (H_3) and by the dehumanization of informal caregivers (H_4). Additionally, as in Study 1, we explored whether the targets' gender impacts our expected effects; however, we did not advance any priori hypothesis, given the lack of previous supporting evidence.

Method

Participants

The sample comprised 205 participants (68.8% female) aged between 18 and 79 years (M = 38.36, SD = 15.02). Participants were from all regions of Portugal, but mostly resided in the Metropolitan Area of Lisbon (71.7%). Most participants had an undergraduate degree (75.6%) and were employed (72.7%). The majority of them reported not being religious at all (61.5%), and not having a political orientation (56.6%). A total of 69.3% of participants reported that, at the time of the study, they were not informal caregivers or had not been informal caregivers in the past. None of these participants completed the previous study.

Procedure

[2] The measure of emotion-based dehumanization typically involves assessing the attribution of primary and secondary emotions to the ingroup compared to the outgroup (Leyens et al., 2001). Nevertheless, since the findings of Study 1 already showed the dehumanization effect on informal caregivers, this study only examined how informal caregivers were perceived concerning primary and secondary emotions, without making comparisons to non-caregivers.

In Study 2 the same ethical procedures of Study 1 were followed. Participants were invited to take part in an investigation introduced as involving two independent studies: (a) A first study about person perception and (b) a second study that aimed to adapt and validate two scales for the Portuguese population. One hundred and twenty-two participants completed the survey online, while 83 participants completed the survey in a paper format[3].

After providing informed consent, participants were randomly assigned to one of two experimental conditions: Female informal caregiver *vs.* male informal caregiver. Specifically, participants read a written vignette with a fictitious description of an informal caregiver target that takes care of a spouse with Alzheimer's. The gender of the target was counterbalanced, with the alternative wording for each experimental condition highlighted in bold: "*Mary/Joseph* a 63-year-old *woman/man* who started taking care of *her/his* 67-year-old *husband/wife* who has Alzheimer's over more than 5 years (…) *She/He* was forced to quit work to take care of *him/her* full-time (…) The doctors estimate that *his/her* condition may persist for more than 20 years (…) Currently, *her/his husband/wife* spends a considerable portion of the day bedridden (…) *Her/his* daily tasks involve bathing and dressing *his/her husband/wife*, changing *his/her* diapers several times a day, dressing *him/her*, giving *him/her* food, managing *his/her* daily medication, and cleaning the house (…) *She/He* cannot maintain a social network or take a vacation.". Participants were informed that the descriptions in the vignettes were real, and to preserve the anonymity of the person, the fictitious names of "Mary" and "Joseph" were used.

After reading the description of the target in the vignette, participants were asked to complete the dependent measures that assessed their perceptions about the target (dehumanization and suffering) and justice perceptions referring to them (BJW). Following this, they provided demographic information (e.g., age, education, area of the country in which they lived, religion), and were asked whether they were or have been informal caregivers. At the end of the survey, participants were thanked, debriefed about the purpose of the study, and provided with the contact of the main researcher.

Measures

Dehumanization

The dehumanization of the target was measured by asking participants to indicate to what extent they considered the target to experience 11 different emotions presented in random order. These included five negative primary (boredom, anguish, terror, tension, and panic; α =

[3] Both questionnaire administration methodologies were chosen due to their potential to increase the response rate and, consequently, the sample size.

.75) and six negative secondary (pity, worry, bitterness, melancholy, resentment, and disconsolation; α = .83) emotions already pre-tested for valence (Demoulin et al., 2004; Martínez et al., 2017). Responses were given on a 5-point scale (from 1 = *Much less than the average person* to 5 = *Much more than the average person*). As with Study 1, we only measured negative emotions.

Belief in a Just World

The participants' BJW was measured with the Portuguese translation of the six-item General Belief in a Just World scale (GBJW) (Dalbert et al., 1987) that has been found to be a good predictor of negative reactions towards victims (e.g., Sutton & Douglas, 2005). These items assess the extent to which individuals believe that the world, in general, is a just place (e.g., "I think basically the world is a just place", "I think that, by and large, people get what they deserve"; α = .65). Responses were given on a 5-point scale (from 1 = *Totally disagree* to 5 = *Totally agree*). Higher scores reflected higher levels of BJW endorsement.

Perception of Informal Caregivers' Suffering

The participants' perception of informal caregivers' suffering was measured using ten items adapted from Sebastian et al. (2017)[4]. Some of the items have been adapted to the specific context of informal caregivers described in the experimental manipulation (e.g., "The situation in which Mary/Joseph finds herself/himself is pleasant (reversed)", "Mary's/Joseph's present life is a great sacrifice"; α = .79). Responses were given in a 5-point scale (from 1 = *Totally disagree* to 5 = *Totally agree*). Higher scores reflected higher levels of participants' perception of informal caregivers' suffering.

Control Variables

Besides some relevant participants' sociodemographic characteristics, we also included participants' religiosity, empathy, and whether they were or have been informal caregivers as possible controlling variables in the hierarchical regression[5]. Participants' religiosity was measured with a single item from the European Social Survey (2018) where participants were asked to rank themselves, regardless of their particular religion, how religious they would say they were. Responses were given on a 5-point scale (from 1 = *Not religious at all* to 5 = *Very religious*). Empathy was measured using the Basic Empathy Scale in Adults (BES-A) (Carré et al., 2013). We used six items for the disconnection dimension (e.g., "The emotions of my

[4] Sebastian et al. (2017) created and defined the items as a measure of negative and positive volitional stigma. However, we used the items as the perception of informal caregivers' suffering scale.

[5] We did not include political orientation as a control variable in the hierarchical regression analysis, as most participants (56.6%) did not identify with any specific political orientation.

friends don't affect me much", α = .78) and eight items for the cognitive dimension (e.g., "I can often understand how people are feeling even before they tell me", α = .79). Responses were given in a 5-point scale (from 1 = *Totally disagree* to 5 = *Totally agree*). To be or have been an informal caregiver was measured with a single item ("Are you or have you ever been an informal caregiver?"), with a (yes/no) answer.

Analytic Plan

Our Hypotheses 1 and 2 were tested in a 2 (Emotion: Primary *vs.* secondary) X 2 (BJW: Low *vs.* high[6]) X 2 (Target gender: Female *vs.* male) mixed repeated measures ANOVA, controlling for whether participants were or have been informal caregivers. When differences between conditions were found, pairwise comparisons with Bonferroni correction were examined. The analysis was conducted using IBM SPSS Statistics 28.0.

For Hypotheses 3 and 4, descriptive statistics (means and standard deviations) were performed to determine the characteristics of the study population and the studied variables. After that, bivariate correlations between all studied variables were conducted. Afterward, a hierarchical regression analysis was conducted to test the predictive impact of participants' BJW and the attribution of secondary emotions to informal caregivers in participants' perception of informal caregivers' suffering. The hierarchical regression analysis included only the variables that significantly correlated with the participants' perception of informal caregivers' suffering. The variables were ordered in two blocks: Step 1-socio-demographic and control variables = gender, age, religiosity, cognitive empathy; Step 2-theoretical predictors = BJW, secondary emotions. The analysis was conducted using IBM SPSS Statistics 28.0. A sensitivity power analysis using G*Power (Faul et al., 2009) indicated that we had 80% power to detect an effect size of $\eta_p^2 = .05$, for Hypotheses 3 and 4.

Results

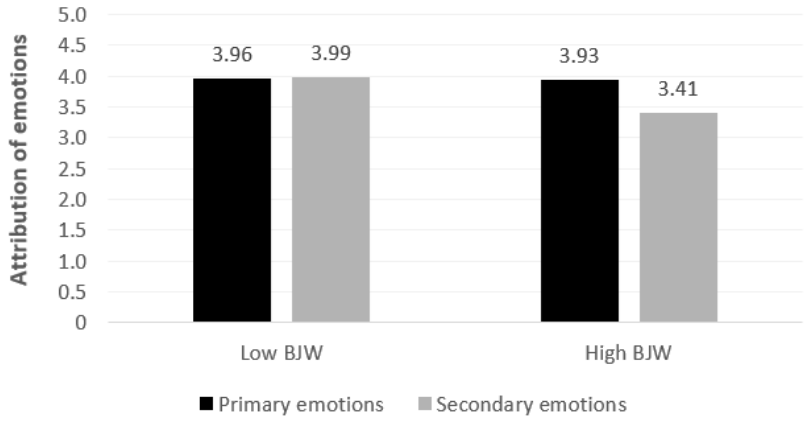
Dehumanization of Informal Caregivers Moderated by BJW

Results showed a main effect of emotion, $F(1, 201) = 33.82$, $p < .001$, $\eta_p^2 = .14$, such that participants attributed more primary ($M = 3.94$, $SD = 0.62$) than secondary emotions ($M = 3.69$, $SD = 0.66$) to informal caregivers. There was a main effect of BJW, $F(1, 201) = 17.05$, $p < .001$, $\eta_p^2 = .08$, such that participants with lower BJW attributed more emotions to informal caregivers ($M = 3.98$, $SD = 0.53$) than participants with higher BJW ($M = 3.67$, $SD = 0.51$). There was no main effect of target gender, $F(1, 201) = 0.05$, $p = .826$, $\eta_p^2 = .00$.

[6] We calculated low and high BJW using a median split on the BJW scale.

As expected, there was a two-way interaction between emotion and BJW, $F(1, 201) = 42.70$, $p < .001$, $\eta_p^2 = .18$. Pairwise comparisons with Bonferroni correction showed that participants with higher BJW attributed more primary ($M = 3.93$, $SD = 0.66$) than secondary emotions ($M = 3.41$, $SD = 0.68$) to informal caregivers, $p < .001$. In contrast, participants with lower BJW did not differently attribute primary ($M = 3.96$, $SD = 0.57$) and secondary emotions ($M = 3.99$, $SD = 0.48$) to informal caregivers, $p = .619$ (see Figure 3).

Furthermore, in this same two-way interaction, pairwise comparisons with Bonferroni correction showed that participants with higher BJW attributed fewer secondary emotions ($M = 3.41$, $SD = 0.68$) to informal caregivers than participants with lower BJW ($M = 3.99$, $SD = 0.48$), $F(1, 201) = 48.58$, $p < .001$; whereas there were no differences on the attribution of primary emotions to informal caregivers by participants with higher BJW ($M = 3.93$, $SD = 0.66$) and lower BJW ($M = 3.96$, $SD = 0.57$), $F(1, 201) = 0.11$, $p = .742$.



The two-way interaction between emotion and target gender, $F(1, 201) = 0.79$, $p = .374$, $\eta_p^2 = .05$, and the two-way interaction between target gender and BJW, $F(1, 201) = 0.00$, $p = .981$, $\eta_p^2 = .00$, as well as the three-way interaction between emotion, BJW, and target gender, $F(1, 201) = 1.978$, $p = .161$, $\eta_p^2 = .01$, were not significant.

Controlling whether participants were or have been informal caregivers, the two-way interaction between emotion and BJW remained significant, $F(1, 200) = 42.17$, $p < .001$, $\eta_p^2 = .17$; the two-way interaction between emotion and target gender remained non-significant, $F(1, 200) = 0.81$, $p = .368$, $\eta_p^2 = .00$; the two-way interaction between target gender and BJW remained non-significant, $F(1, 200) = 0.00$, $p = .981$, $\eta_p^2 = .00$; and the three-way interaction between emotion, BJW, and target gender remained non-significant, $F(1, 200) = 1.893$, $p = .170$, $\eta_p^2 = .01$.

The Predictive Role of Participants' BJW and the Dehumanization of Informal Caregivers in the Participants' Perception of Informal Caregivers' Suffering

The descriptive statistics and the pattern of correlations between all the studied variables are presented in Table 1. The perception of informal caregivers' suffering was significantly and negatively correlated with BJW (r = –.34, p < .001) and religiosity (r = –.20, p = .004); and positively correlated with secondary emotions (r = .41, p < .001) and cognitive empathy (r = .15, p = .036). The BJW was significantly and negatively correlated with secondary emotions (r = –.44, p < .001); and positively correlated with religiosity (r = .14, p = .046). Cognitive empathy was significantly and negatively correlated with emotional disconnection (r = –.42, p < .001). Being a woman was significantly and negatively correlated with being or having been an informal caregiver (r = –.22, p < .001); and positively correlated with religiosity (r = .15, p = .029) and cognitive empathy (r = .14, p = .042). Finally, a significant negative correlation between age and being or having been an informal caregiver was found (r = –.28, p < .001).

Table 1.
Descriptive Statistics and Bivariate Correlations between Study Variables (Study 2)

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Gender[a]	0.69	-	-								
2. Age	38.36	15.02	0.12	-							
3. Religiosity	1.71	1.08	0.15*	0.11	-						
4. To be or have been an informal caregiver[a]	0.69	-	–0.22***	–0.28***	–0.09	-					
5. Emotional disconnection	1.65	0.66	–0.12	0.04	0.00	–0.01	-				
6. Cognitive empathy	4.08	0.60	0.14*	–0.12	–0.02	–0.08	–0.42***	-			
7. BJW	2.28	0.67	–0.07	–0.06	0.14*	–0.06	0.07	0.00	-		
8. Secondary emotions	3.69	0.66	–0.04	0.02	–0.04	–0.01	–0.14	0.12	–0.44***	-	
9. Perception of informal caregivers' suffering	4.22	0.54	0.01	0.04	–0.20**	–0.09	–0.11	0.15*	–0.34***	0.41***	-

Note. For all measures, scores were computed by averaging across items, with higher scores indicating a higher endorsement of the construct. For gender, 1 indicates "male" and 2 "female"; for to be or have been an informal caregiver, 1 indicates "yes" and 2 "no". BJW = belief in a just world.
[a] Dummy variable: It reports the proportion of females, and the proportion of participants that reported were not an informal caregiver at the time of the study or had not been an informal caregiver in the past (respectively).
*p < .05. **p < .01. ***p < .001.

The results of the hierarchical regression analysis are presented in Table 2. The analysis revealed that Model 1 was statistically significant, $F(4, 204) = 3.69$, $p = .006$, and that participants' religiosity ($\beta = -.21$, $p = .003$) and cognitive empathy ($\beta = .15$, $p = .030$) significantly explained 0.7% of the variance in the participants' perception of informal caregivers' suffering. Higher participants' religiosity and fewer participants' cognitive empathy significantly predicted the participants' minimization of the perception of informal caregivers' suffering. In Model 2, the inclusion of participants' BJW and attribution of secondary emotions to informal caregivers led to a significant improvement in the model, with significant changes in R^2 of 18%, $F(6, 204) = 10.70$, $p < .001$. Specifically, 25% of the variance in the participants' perception of informal caregivers' suffering was predicted by participants' religiosity ($\beta = -.17$, $p = .007$), participants' BJW ($\beta = -.18$, $p = .013$), and the attribution of secondary emotions to informal caregivers ($\beta = .32$, $p < .001$). Higher participants' religiosity, higher participants' BJW, and a lower attribution of secondary emotions (dehumanization) to informal caregivers significantly predicted the participants' minimization of the perception of informal caregivers' suffering.

Table 2.
Hierarchical Regression Analysis Predicting the Perception of Informal Caregivers' Suffering (Study 2)

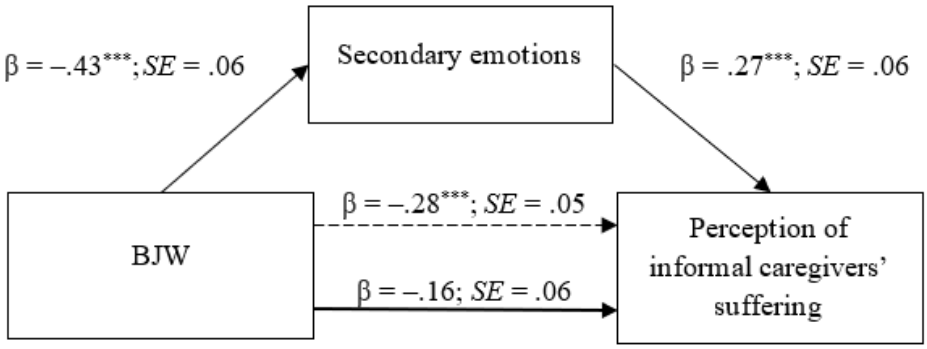
Variable	*B*	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	*UL*				
Step 1						0.07	0.05**
Constant	3.71***	3.13	4.29	0.30			
Gender	0.01	–0.15	0.17	0.08	0.01		
Age	0.00	–0.00	0.01	0.00	0.08		
Religiosity	–0.11**	–0.17	–0.04	0.04	–0.21**		
Cognitive empathy	0.14*	0.01	0.26	0.06	0.15*		
Step 2						0.25	0.22***
Constant	3.22***	2.47	3.97	0.38			
Sex	0.02	–0.13	0.17	0.08	0.02		
Gender	0.00	–0.00	0.01	0.00	0.06		
Religiosity	–0.09**	–0.15	–0.02	0.03	–0.17**		
Cognitive empathy	0.10	–0.01	0.22	0.06	0.11		
BJW	–0.14*	–0.25	–0.03	0.06	–0.18*		
Secondary emotions	0.26***	0.15	0.37	0.06	0.32***		

Note. For all measures, scores were computed by averaging across items, with higher scores indicating a stronger endorsement of the construct. For gender, 1 indicates "male" and 2 "female"
Abbreviations: BJW = belief in a just world. *B* = unstandardized coefficients; *β* = standardized coefficients; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.
*$p < .05$. **$p < .01$. ***$p < .001$.

Mediating Effect of Dehumanization of Informal Caregivers on the Relationship between BJW and the Perception of Informal Caregivers' Suffering

Given the results consistently found the impact of participants' BJW and the attribution of secondary emotions to informal caregivers on the participants' perception of informal caregivers' suffering, we tested a model of the relationship between these variables. Specifically, to test the possible indirect effect of the participants' BJW on the participants' perception of informal caregivers' suffering through the attribution of fewer secondary emotions (dehumanization) to informal caregivers, we computed a mediation model using PROCESS macro (Model 4; Hayes, 2017) with 5,000 bootstrap samples. Our analysis revealed a significant indirect effect, β = –.11, 95% CI [–0.19, –0.05], which suggests that the participants' BJW impacts their perception of informal caregivers' suffering through the attribution of fewer secondary emotions (dehumanization) of informal caregivers (see Figure 4). These results demonstrated that the higher the participants' BJW and the less they attribute secondary emotions to informal caregivers, the more they minimize the perception of informal caregivers' suffering. When considering secondary emotions in the path between participants' BJW to their perception of informal caregivers' suffering (the indirect effect), the direct path between participants' BJW to their perception of informal caregivers' suffering (direct effect) is no longer significant, β = –.16, p = .05, 95% CI [0.01, –0.27], which indicates a mediation effect.

Figure 4. Test of the Indirect Effect of BJW on the Perception of Informal Caregivers' Suffering through Dehumanization of Informal Caregivers (Study 2)



Note. The dotted line shows coefficient weights for the relationship before mediation by the attribution of secondary emotions to informal caregivers (total effect). β = nonstandardized coefficients; *SE* = standard error.
***p < .001.

Discussion

This study aimed to build upon the findings of Study 1 by examining the moderating impact of participants' BJW on the dehumanization of informal caregivers. Additionally, we aimed to examine the predictive impact of participants' BJW and the dehumanization of informal caregivers on the participants' perception of informal caregivers' suffering, while controlling for sociodemographic and individual variables. As in Study 1, we also explored whether the targets' gender impacts the dehumanization effect.

As expected, our findings replicated the findings of Study 1 by showing that individuals dehumanize informal caregivers, thus supporting our Hypothesis 1. In line with Study 1, our results also provided additional support for the over-attribution of primary emotions to informal caregivers, suggesting that informal caregivers are relegated to a lower and more primitive order of humanity, as primary emotions are more rapidly associated with animals than with humans (Demoulin et al., 2004). Moreover, our results also showed that the dehumanization of informal caregivers occurred regardless of the gender of informal caregivers.

We also extended these findings by showing that the dehumanization of informal caregivers was moderated by participants' BJW endorsement. Specifically, while participants with lower BJW did not differ on the attribution of primary and secondary emotions to informal caregivers, participants with higher BJW attributed them more primary than secondary emotions, supporting our Hypothesis 2. These findings suggest that individuals with higher BJW are more likely to dehumanize informal caregivers, possibly as a cognitive coping mechanism when confronted with the challenging life conditions faced by informal caregivers, serving as a means to restore their BJW.

Moreover, our findings also revealed the predictive impact of participants' religiosity, participants' BJW, and the dehumanization of informal caregivers on the participants' perception of informal caregivers' suffering. These findings support our Hypotheses 3 and 4 and suggest that higher participants' religiosity, higher participants' BJW, and the lower attribution of secondary emotions (dehumanization) to informal caregivers predicted the participants' minimization of the perception of informal caregivers' suffering.

Furthermore, we tested the possible indirect effect of participants' BJW on the participants' minimization of the perception of informal caregivers' suffering through the attribution of fewer secondary emotions (dehumanization) to informal caregivers. Notably, we found that the dehumanization of informal caregivers was an underlying process between participants' BJW and their minimization of the perception of informal caregivers' suffering.

General Discussion

Our studies address for the first time the dehumanization of informal caregivers and the conditions in which this phenomenon seems to occur. Results from Study 1 showed that informal were dehumanized, as they were perceived as experiencing fewer secondary emotions compared to non-caregivers. Study 2 while not directly comparing informal caregivers and non-caregivers, still showed a consistent pattern of attributing fewer secondary emotions to informal caregivers. This aligns with prior research on the dehumanization of stigmatized groups facing difficult conditions, like disabled individuals, elderly individuals, women, and low-status occupational groups (e.g., Boudjemadi et al., 2017; Fiske et al., 2002; Volpato et al., 2017), which share similarities with the profile and role of informal caregivers. Indeed, informal care is mostly performed by women who provide care without monetary compensation to dependent elderly or disabled individuals, often dehumanized and facing challenging conditions. Moreover, the caregiving role involves emotional involvement, nurturing, and sensitivity, characteristics often associated with animals. Furthermore, perceiving informal caregivers as less than human may lead to their social devaluation and invisibility in society, despite their crucial contributions. Indeed, dehumanization has the potential to result in reduced opportunities for intergroup engagement (Haslam & Loughnan, 2014), reduced empathy for others' suffering (e.g., Čehajić et al., 2009; Nagar & Maoz, 2017), reduced prosocial behavior (e.g., Andrighetto et al., 2014; Cuddy et al., 2007), and reluctance to support for welfare policies (e.g., Sainz et al., 2020).

Surprisingly, in both studies, informal caregivers were attributed with more primary than secondary emotions, suggesting an attempt to differentiate them from the non-caregivers. At this point, only a few studies have identified a similar over-attribution of primary emotions to outgroups (e.g., Leyens et al., 2001, Study 1; Rodrigues et al., 2018; Rohmann et al., 2009; Viki & Calitri, 2008). Because caring is an integral part of women's identity (e.g., Erreguerena, 2015; Esplen, 2009; United Nations Department of Economic and Social Affairs-Population Division, 2019), we could perceive the over-attribution of primary emotions to informal caregivers as a simple reflection of the traditional stereotype by which women are perceived (e.g., emotional, warm, and affectionate). However, the same pattern of results was not found for the female non-caregiver, which suggests that this effect is not driven by the target's gender but by the characteristics associated with the informal caregiving role. We believe that the over-attribution of primary emotions to informal caregivers and the tendency to associate this group

more closely with animals than with humans (Demoulin et al., 2004), may suggest a devaluation of their role and a reduced social status.

In addition to this, both studies contribute to understanding the impact of informal caregivers' gender on their dehumanization. Specifically, the results reveal no significant difference in the attribution of secondary emotions based on the gender of informal caregivers. This suggests that perceiving informal caregivers as less human is more influenced by their caregiving status than their gender.

Moreover, the results of Study 2 further reveal that individuals' BJW endorsement plays a role in the dehumanization of informal caregivers. Specifically, participants with higher BJW were more likely to dehumanize informal caregivers as they attributed them more primary than secondary emotions. In contrast, participants with lower BJW showed no difference in the attribution of primary and secondary emotions to informal caregivers. This supports previous research indicating that dehumanization is a strategy employed by those with higher BJW to cope with injustices in the world (e.g., DeVaul-Fetters, 2014; Gillmor et al., 2014). The dehumanization of victims may serve as another form of secondary victimization used by individuals motivated to perceive the world as just. Considering that the highly demanding nature of informal caregiving has the potential to threaten participants' sense of justice, it is plausible that the dehumanization of victims represents another form of secondary victimization, especially by those individuals more motivated to perceive the world as a just place.

Study 2 also highlights for the first time the relationship between BJW, dehumanization, and the perception of suffering. Indeed, we aimed to test the predictive impact of participants' BJW and the dehumanization of informal caregivers on the participants' perception of informal caregivers' suffering. Moreover, we included individual variables such as participants' religiosity and participants' cognitive empathy as control variables in the analysis. Our findings suggest that higher participants' religiosity, higher participants' BJW, and the dehumanization of informal caregivers contributed to the participants' minimization of the perception of informal caregivers' suffering. This suggests that the dehumanization of informal caregivers may be considered a functional and adaptive mechanism for individuals with higher BJW to cope with the distress linked to witnessing others' suffering.

Additional analysis indicated that the association between participants' BJW and the participants' minimization of the perception of informal caregivers' suffering was mediated by the dehumanization of informal caregivers. This finding not only adds to previous literature on the association between BJW endorsement and dehumanization in minimizing others' suffering

but also establishes a theoretical connection between these three areas of research. It emphasizes the importance of recognizing and valuing the unique emotional experiences of informal caregivers and the potential harm caused by their dehumanization.

The strengths inherent in our studies are evident through several key aspects. Firstly, in Study 1, we presented vignettes of a paraplegic spouse accompanied by a picture of a woman or a man depending on the experimental condition, while in Study 2, we presented vignettes of a spouse with dementia without accompanying pictures. Even though there was this difference in the experimental manipulations, getting similar results in both studies strengthens the validity of the findings. This suggests that the observed effects are not dependent on specific details of the experimental manipulation or context, but rather represent a robust and generalizable phenomenon.

Another strength is related to the dehumanization measures used. It is reasonable to expect that using both absolute and relative measures to assess the degree of dehumanization of informal caregivers could lead to different results (Dawtry et al., 2018). In Study 1 participants assessed the dehumanization of the target without making comparisons to anyone else (absolute measure: From 1 = *Not at all* to 6 = *A lot)*. In Study 2 participants were asked to assess the dehumanization of the target in comparison to others (relative measure: From 1 = *Much less than the average person* to 5 = *Much more than the average person*). Relative measures are less susceptible to the impact of social norms and may provide a more precise understanding of the underlying motivation driving derogatory behavior towards victims compared to absolute measures. However, our investigation produced consistent results across both objective and relative measures of dehumanization.

However, it is important to recognize certain limitations that might have affected the scope and generalizability of our findings. One major limitation is the use of convenience sampling, which may have restricted the representativeness and generalizability of our findings. Moreover, most of our participants were women, who might generally show more empathy and willingness to help others compared to men (MacGeorge et al., 2003). Additionally, the limited age range of our sample may have limited the generalizability of our conclusions to other age groups, as they may have had less contact with informal caregivers. To improve the external validity of our studies, future research should aim to recruit a more diverse sample in terms of gender and age.

Furthermore, while previous studies examining adverse situations have only assessed dehumanization through negative emotions (e.g., Cuddy et al., 2007; Gillmor et al., 2014), it is possible that considering positive emotions might yield different results. To disentangle this

possibility, future research could build on our findings by investigating the dehumanization of informal caregivers using both positive primary and secondary emotions. Moreover, future studies should extend our results and investigate other forms of dehumanization of informal caregivers using for example other subtle measures of dehumanization (e.g., attribution of uniquely human and human nature personality traits; Haslam, 2006), or an explicit and direct blatant dehumanization measure (e.g., Ascent of Human measure; Kteily et al., 2015). Future studies should also seek to understand how these forms of dehumanization might influence not only the perception of informal caregivers' suffering but also prosocial behavior towards them. Lastly, future studies should examine the self-dehumanization of informal caregivers and should seek to understand the actual implications of such dehumanization for their psychological and physical well-being.

Another limitation relates to the use of self-reported measures for all predictors and outcome variables in the linear regression raises concerns about potentially shared method variance, which could lead to an overestimation of the associations between them.

One final limitation concerns the mediation analysis. Even though the direct effect between participants' BJW and the participants' perception of the informal caregivers' suffering is no longer significant, caution is needed in interpreting the causal relationship between the dependent and mediator variables since the association is correlational in nature (Pirlott & MacKinnon, 2016).

To the best of our knowledge, our research is pioneering in examining whether and under which conditions informal caregivers are dehumanized. This investigation contributes to the literature by revealing that informal caregivers are dehumanized, regardless of their gender. Indeed, informal caregivers were attributed fewer secondary emotions compared to non-caregivers. Moreover, this effect was moderated by participants' BJW endorsement, as participants with higher BJW were more likely to dehumanize informal caregivers. Furthermore, our results showed that the dehumanization of informal caregivers serves as an underlying process in the relationship between participants' BJW and the minimization of the perception of informal caregivers' suffering. We hope that these results open a new avenue for the study of informal caregivers because they offer both theoretical and practical insights for addressing the dehumanization processes that take place toward informal caregivers.

References

Abojabel, H., & Werner, P. (2019). Exploring family stigma among caregivers of persons with Alzheimer's disease: The experiences of Israeli-Arab caregivers. *Dementia, 18*(1), 391-408. https://doi.org/10.1177/1471301216673920

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. *Health Psychology, 19*(6), 586-592. https://doi.org/10.1037/0278-6133.19.6.586

Ali, A., Hassiotis, A., Strydom, A., & King, M. (2012). Self stigma in people with intellectual disabilities and courtesy stigma in family carers: A systematic review. *Research in Developmental Disabilities, 33*(6), 2122-2140. https://doi.org/10.1016/j.ridd.2012.06.013

Andrighetto, L., Baldissarri, C., Lattanzio, S., Loughnan, S., & Volpato, C. (2014). Human-itarian aid? Two forms of dehumanization and willingness to help after natural disasters. *British Journal of Social Psychology, 53*(3), 573-584. https://doi.org/10.1111/bjso.12066

Ansello, F. E., & Rosenthal, C. (2007). Editorial: Hidden costs and invisible contributions in family caregiving: An introduction. *Canadian Journal on Aging/La Revue canadienne du vieillissement, 26*(Suppl. 1), S1-S6. https://doi.org/10.3138/cja.26.suppl_1.001

Bar-Tal, D. (2000). *Shared beliefs in a society: Social psychological analysis*. Sage Publications, Inc. https://doi.org/10.4135/9781452204697

Bastian, B., Jetten, J., & Haslam, N. (2014). An interpersonal perspective on dehumanization. In P. G. Bain, J. Vaes, & J.-P. Leyens (Eds.), *Humanness and dehumanization* (pp. 205-224). Psychology Press.

Bernardes, F. S., Tomé-Pires, C., Brandão, T., Campos, L., Teixeira, F., & Goubert, L. (2021). Classism in pain assessment and management: The mediating role of female patient dehumanization and perceived life hardship, *Pain, 162*(12), 2854-2864. https://doi.org/10.1097/j.pain.0000000000002278

Boudjemadi, V., Demoulin, S., & Bastart, J. (2017). Animalistic dehumanization of older people by younger ones: Variations of humanness perceptions as a function of a target's age. *Psychology and Aging, 32*(3), 293-306. https://doi.org/10.1037/pag0000161

Brickman, P., Rabinowitz, V. C., Karuza, J., Coates, D., Cohen, E., & Kidder, L. (1982). Models of helping and coping. *American Psychologist, 37*(4), 368-384. https://doi.org/10.1037/0003-066X.37.4.368

Cameron, C. D., Harris, L. T., & Payne, B. K. (2016). The emotional cost of humanity: Anticipated exhaustion motivates dehumanization of stigmatized targets. *Social Psychological and Personality Science, 7*(2), 105-112. https://doi.org/10.1177/1948550615604453

Carré, A., Stefaniak, N., D'Ambrosio, F., Bensalah, L., & Besche-Richard, C. (2013). The Basic Empathy Scale in Adults (BES-A): Factor structure of a revised form. *Psychological Assessment, 25*(3), 679-691. https://doi.org/10.1037/a0032297

Čehajić, S., Brown, R., & González, R. (2009). What do I care? Perceived ingroup responsibility and dehumanization as predictors of empathy felt for the victim group. *Group Processes & Intergroup Relations, 12*(6), 715-729. https://doi.org/10.1177/136843020934772

Correia, I., Pereira, C. R., & Vala, J. (2018). Under victimization by an outgroup: Belief in a

just world, national identification, and ingroup blame. *Frontiers in Psychology, 9,* Article 1160. https://doi.org/10.3389/fpsyg.2018.01160

Correia, I., & Vala, J. (2003). When will a victim be secondarily victimized? The effect of observer's belief in a just world, victim's innocence and persistence of suffering. *Social Justice Research, 16*, 379-400. https://doi.org/10.1023/A:1026313716185

Cortes, B. P., Demoulin, S., Rodriguez, R. T., Rodriguez, A. P., & Leyens, J.-P. (2005). Infrahumanization or familiarity? Attribution of uniquely human emotions to the self, the ingroup, and the outgroup. *Personality and Social Psychology Bulletin, 31*(2), 243-253. https://doi.org/10.1177/0146167204271421

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology, 92*(4), 631-648. https://doi.org/10.1037/0022-3514.92.4.631

Dalbert, C., Lipkus, I. M., Sallay, H., & Goch, I. (2001). A just and an unjust world: Structure and validity of different world beliefs. *Personality and Individual Differences, 30*(4), 561-577. http://dx.doi.org/10.1016/S0191-8869(00)00055-6

Dalbert, C., Montada, L., & Schmitt, M. (1987). Glaube an eine gerechte Welt als Motiv:Validierungskorrelate zweier Skalen [Belief in a just world: Validation correlates of two scales]. *Psychologische Beitrage, 29*(4), 596-615. https://doi.org/10.23668/psycharchives.11261

Dawtry, R. J., Callan, M. J., Harvey, A. J., & Olson, J. M. (2018). Derogating innocent victims: The effects of relative versus absolute character judgments. *Personality and Social Psychology Bulletin, 44*(2), 186-199. https://doi.org/10.1177/0146167217733078

Demoulin, S., Leyens, J.-P., Paladino, M.-P., Rodriguez-Torres, R., Rodriguez-Perez, A., & Dovidio, F. (2004). Dimensions of "uniquely" and "non-uniquely" human emotions. *Cognition and Emotion, 18*(1), 71-96. https://doi.org/10.1080/02699930244000444

DeVaul-Fetters, A. N. (2014). *Reactions to refugees: Do stronger believers in a just world compensate, dehumanize, and perceive refugees as more responsible for their status?* [Doctoral dissertation, University of Western Ontario]. Graduate and Postdoctoral Studies' Electronic Theses & Dissertation. https://ir.lib.uwo.ca/etd/2148/

Erreguerena, M. M. (2015). Unpaid carers of persons with disabilities in Africa and Latin America: Gender, human rights and invisibility. *African Disability Rights Yearbook, 3*(1), 91-108. http://dx.doi.org/10.17159/2413-7138/2015/v3n1a4

Esplen, E. (2009) *Gender and care: Overview report*. UK: Institute of Development Studies. https://archive.ids.ac.uk/bridge/bridge-publications/reports/document/A54632.html

Eurocarers. (2019). *Annual report 2018.* https://eurocarers.org/2018-annual-report/

European Social Survey. (2018). *ESS round 9 source questionnaire*. University of London. https://stessrelpubprodwe.blob.core.windows.net/data/round9/fieldwork/source/ESS9_source_questionnaires.pdf

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149-1160. https://doi.org/10.3758/BRM.41.4.1149

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878-902.

https://doi.org/10.1037/0022-3514.82.6.878
Fontesse, S., Rimez, X., & Maurage, P. (2021). Stigmatization and dehumanization perceptions towards psychiatric patients among nurses: A path-analysis approach. *Archives of Psychiatric Nursing, 35*(2), 153-161. https://doi.org/10.1016/j.apnu.2020.12.005
Fousiani, K., Michaelides, M. P., & Dimitropoulou, P. (2019). The effects of ethnic group membership on bullying at school: When do observers dehumanize bullies? *The Journal of Social Psychology, 159*(4), 431-442. https://doi.org/10.1080/00224545.2018.1505709
Gillmor, K., Bernstein, M. J., & Benfield, J. A. (2014). Have you no shame? Infrahumanization of promiscuous sexual assault victims as moderated by dispositional and situational Just World orientation. *Journal of Student Research, 3*(1), 34-45. https://doi.org/10.47611/jsr.v3i1.169
Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. PrenticeHall.
Hafer, C. L., & Bègue, L. (2005). Experimental research on Just-World Theory: Problems, developments, and future challenges. *Psychological Bulletin, 131*(1), 128-167. https://doi.org/10.1037/0033-2909.131.1.128
Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging responses to extreme out-groups. *Psychological Science, 17*(10), 847-853. https://doi.org/10.1111/j.1467-9280.2006.01793.x
Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review, 10*(3), 252-264. https://doi.org/10.1207/s15327957pspr1003_4
Haslam, N. (2021). The social psychology of dehumanization. In M. Kronfeldner (Ed.), *The Routledge Handbook of Dehumanization* (pp. 127-144). Routledge. https://doi.org/10.4324/9780429492464
Haslam, N., & Loughnan, S. (2014). Dehumanization and Infrahumanization. *Annual Review of Psychology, 65(1),* 399-423. https://doi.org/10.1146/annurev-psych-010213-115045
Haslam, N., & Stratemeyer, M. (2016). Recent research on dehumanization. *Current Opinion on Psychology, 11*, 25-29. https://doi.org/10.1016/j.copsyc.2016.03.009
Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis* (2nd ed.). Guilford Press.
Hoffmann, F., & Rodrigues, R. (2010). *Informal carers: Who takes care of them?* (Policy Brief 4/2010). European Centre For Social Welfare Policy and Research. https://www.euro.centre.org/publications/detail/387
Hughes, M., & Kentlyn, S. (2011). Older LGBT people's care networks and communities of practice: A brief note. *International Social Work, 54*(3), 436-444. https://doi.org/10.1177/0020872810396254
Kinnear, S. H., Link, B. G., Ballan, M. S., & Fischbach, R. L. (2016). Understanding the experience of stigma for parents of children with autism spectrum disorder and the role stigma plays in families' live. *Journal of Autism and Developmental Disorders, 45*(3), 942-953. http://dx.doi.org/10.1007/s10803-015-2637-9
Kteily, N., Bruneau, E., Waytz, A., & Cotterill, S. (2015). The ascent of man: Theoretical and empirical evidence for blatant dehumanization. *Journal of Personality and Social Psychology, 109*(5), 901-931. https://doi.org/10.1037/pspp0000048
Lerner, M. J. (1980). *Belief in a Just World: A fundamental delusion.* Springer New York. https://doi.org/10.1007/978-1-4899-0448-5

Leyens, J.-P., Demoulin, S., Vaes, J., Gaunt, R., Paladino, M.-P. (2007). Infra-humanization: The wall of group differences. *Social Issues and Policy Review, 1*(1), 139-172. https://doi.org/10.1111/j.1751-2409.2007.00006.x

Leyens, J.-P., Paladino, M.-P., Rodriguez-Torres, R., Vaes, J., Demoulin, S., Rodriguez Perez, A., & Gaunt, R. (2000). The emotional side of prejudice: The attribution of secondary Emotions to ingroups and outgroups. *Personality and Social Psychology Review*, *4*(2), 186-197. https://doi.org/10.1207/s15327957pspr0402_06

Leyens, J.-P., Rodriguez-Perez, A., Rodriguez-Torres, R., Gaunt, R., Paladino, M.-P., Vaes, J., & Demoulin, S. (2001). Psychological essentialism and the differential attribution of uniquely human emotions to ingroups and outgroups. *European Journal of Social Psychology, 31*(4), 395-411. https://doi.org/10.1002/ejsp.50

Lindeza, P., Rodrigues, M., Costa, J., Guerreiro, M., & Rosa, M. M. (2020). Impact of dementia on informal care: a systematic review of family caregivers' perceptions. *BMJ Supportive & Palliative Care*. https://doi.org/10.1136/bmjspcare-2020-002242

Loughnan, S., Haslam, N., Sutton, R. M., & Spencer, B. (2014). Dehumanization and social class: Animality in the stereotypes of "White trash," "Chavs," and "Bogans. *Social Psychology, 45*(1), 54-61. https://doi.org/10.1027/1864-9335/a000159

MacGeorge, E. L., Gillihan, S. J., Samter, W., & Clark, R. A. (2003). Skill deficit or differential motivation? *Communication Research, 30*(3), 272-303. https://doi.org/10.1177/0093650203030003002

Martínez, R., Rodríguez-Bailón, R., Moya, M., & Vaes, J. (2017). Interacting with dehumanized others? Only if they are objectified. *Group Processes & Intergroup Relations, 20*(4), 465-482. https://doi.org/10.1177/1368430215612219

Martinez, A. G., Piff, P. K., Mendoza-Denton, R., & Hinshaw, S. P. (2011). The power of a label: Mental illness diagnoses, ascribed humanity, and social rejection. *Journal of Social and Clinical Psychology, 30*(1), 1-23. https://doi.org/10.1521/jscp.2011.30.1.1

McGown, A., & Braithwaite, V. (1992). Stereotypes of emotional caregivers and their capacity to absorb information: The views of nurses, stroke carers and the general public. *Journal of Advanced Nursing, 17*(7), 822-828. https://doi.org/10.1111/j.1365-2648.1992.tb02003.x

Nagar, R., & Maoz, I. (2017). Predicting Jewish-Israeli recognition of Palestinian pain and suffering. *Journal of Conflict Resolution, 61*(2), 372-397. https://doi.org/10.1177/0022002715590875

Paladino, M.-P., Leyens, J.-P., Rodriguez, R. T., Rodriguez, A. P., Gaunt, R., & Demoulin, S. (2002). Differential association of uniquely and non uniquely human emotions with the ingroup and the outgroup. *Group Processes & Intergroup Relations*, *5*(2), 105-117. https://doi.org/10.1177/1368430202005002539

Paladino, M.-P., Vaes, J., Castano, E., Demoulin, S., & Leyens, J.-P. (2004). Emotional infra-humanization in intergroup relations: The role of national identification in the attribution of primary and secondary emotions to Italians and Germans. *Cahiers de Psychologie Cognitive/Current Psychology of Cognition, 22*(4-5), 519-536.

Peña-Longobardo, L. M., & Oliva-Moreno, J. (2022). The economic value of non-professional care: A Europe-Wide analysis. *International Journal of Health Policy and*

Management, 11(10), 2272-2286. https://doi.org/10.34172/IJHPM.2021.149
Pirlott, A. G., & MacKinnon, D. P. (2016). Design approaches to experimental mediation. *Journal of Experimental Social Psychology, 66,* 29-38. https://doi.org/10.1016/j.jesp.2015.09.012
Poole, M., & Isaacs, D. (1997). Caring: A gendered concept. *Women's Studies International Forum, 20*(4), 529-536. https://doi.org/10.1016/S0277-5395(97)00041-1
Rodrigues, D. L., Fasoli, F., Huic, A., & Lopes, D. (2018). Which partners are more human? Monogamy matters more than sexual orientation for dehumanization in three European countries. *Sexuality Research and Social Policy, 15*(4), 504-515. https://doi.org/10.1007/s13178-017-0290-0
Rodríguez, V. B., Mateo, E. A., Rodríguez-Pérez, A., & Rodríguez, N. D. (2016). Do they feel the same as us? The infrahumanization of individuals with Down syndrome. *Psicothema, 28*(3), 311-317. https://doi.org/10.7334/psicothema2016.10
Rohmann, A., Niedenthal, P. M., Brauer, M., Castano, E., & Leyens, J. P. (2009). The attribution of primary and secondary emotions to the in-group and to the out-group: The case of equal status countries. *The Journal of Social Psychology, 149*(6), 709-730. https://doi.org/10.1080/00224540903348253
Rosenblatt, P. C. (2017). Why people might be reluctant to alleviate the suffering of others. In R. E. Anderson (Ed.), *Alleviating world suffering* (pp. 181-195). Springer. https://doi.org/10.1007/978-3-319-51391-1_11
Sainz, M., Loughan, S., Martínez, R., Moya, M., & Rodríguez-Bailón, R. (2020). Dehumanization of socioeconomically disadvantaged groups decreases support for welfare policies via perceived wastefulness. *International Review of Social Psychology, 33*(1), 12. https://doi.org/10.5334/irsp.414
Sakalaki, M., Richardson, C., & Fousiani, K. (2017). Is suffering less human? Distressing situations' effects on dehumanizing the self and others. *Hellenic Journal of Psychology, 14*(1), 39-63.
Sebastian, J., Richards, D., & Bilgin, A. (2017). Education and contact strategies to reduce stigmatising attitudes towards anorexia nervosa among university students. *Health Education Journal, 76*(8), 906-922. https://doi.org/10.1177/0017896917724181
Scatolon, A., Sharvit, K., Huici, C., Hernandez, A. A., Glazer, G., Sánchez, E. L., & Michna, M. (2023). Focusing on the self to humanize others: The role of empathy and morality. *Current Opinion in Behavioral Sciences, 51*, Article 101264. https://doi.org/10.1016/j.cobeha.2023.101264
Schulz, R., Beach, R., S., Czaja, S., J., Martire, L. M., & Monin, J. K. (2020). Family caregiving for older adults. *Annual Review of Psychology, 71*(1), 635-659. https://doi.org/10.1146/annurev-psych-010419-050754
Sutton, R. M., & Douglas, K. M. (2005). Justice for all, or just for me? More evidence of the importance of the self-other distinction in just-world beliefs. *Personality and Individual Differences, 39*(3), 637-645. https://doi.org/10.1016/j.paid.2005.02.010
Tipler, C. N., & Ruscher, J. B. (2019). Dehumanizing representations of women: The shaping of hostile sexist attitudes through animalistic metaphors. *Journal of Gender Studies, 28*(1), 109-118. https://doi.org/10.1080/09589236.2017.1411790
Trifiletti, E., Di Bernardo, G. A., Falvo, R., & Capozza, D. (2014). Patients are not fully

human: A nurse's coping response to stress. *Journal of Applied Social Psychology, 44*(12), 768-777. https://doi.org/10.1111/jasp.12267

United Nations, Department of Economic and Social Affairs, Population division. (2019). *World Population Ageing 2019: Highlights*. (Report No. ST/ESA/SER.A/430). https://digitallibrary.un.org/record/3846855

United Nations, Entity for Gender Equality and the Empowerment of women. (2018). *Turning promises into action: Gender equality in the 2030 agenda for sustainable development*. https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Pubçications/2018/SDG-report-Gender-equality-in-the-2030-Agenda-for-Sustainable Development-2018-en.pdf

Vaes, J., & Muratore, M. (2013). Defensive dehumanization in the medical practice: A cross sectional study from a health care worker's perspective. *British Journal of Social Psychology, 52*(1), 180-190. https://doi.org/10.1111/bjso.12008

Vaes, J., Leyens, J.-P., Paladino, M.-P., & Miranda, M. P. (2012). We are human, they are not: Driving forces behind outgroup dehumanisation and the humanisation of the ingroup. *European Review of Social Psychology, 23*(1), 64-106. https://doi.org/10.1080/10463283.2012.665250

Verbakel, E., Tamlagsrønning, S., Winstone, L., Fjær, E. L., & Eikemo, T. A. (2017). Informal care in Europe: findings from the European Social Survey (2014) special module on the social determinants of health. *European Journal of Public Health, 27*(Suppl. 1), S90-S95. https://doi.org/10.1093/eurpub/ckw229

Viki, G. T., Fullerton, I., Raggett, H., Tait, F., & Wilthsire, S. (2012). The role of dehumanization in attitudes toward the social exclusion and rehabilitation of sex offenders. *Journal of Applied Social Psychology, 42*(10), 2349-2367. https://doi.org/10.1111/j.1559-1816.2012.00944.x

Viki, G. T., & Calitri, R. (2008). Infrahuman outgroup or suprahuman ingroup: The role of nationalism and patriotism in the infrahumanization of outgroups. *The European Journal of Social Psychology, 38*(6), 1054-1061. https://doi.org/10.1002/ejsp.495

Volpato, C., Andrighetto, L., & Baldissarri, C. (2017). Perceptions of low-status workers and the maintenance of the social class status quo. *Journal of Social Issues, 73*(1), 192-210. https://doi.org/10.1111/josi.12211

Yip, H., C. C., & Chan, S., K., K. (2022). Longitudinal impact of public stigma and courtesy stigma on parents of children with autism spectrum disorder: The moderating role of trait mindfulness. *Research in Developmental Disabilities, 127*, Article 104243. https://doi.org/10.1016/j.ridd.2022.104243

Zwar, L., M. C. Angermeyer, H. Matschinger, S. G. Riedel-Heller, H.-H. König, & A. Hajek. (2020). Public stigma towards informal caregiving in Germany: A descriptive study. *Aging & Mental Health, 25*(8), 1515-1524. https://doi.org/10.1080/13607863.2020.1758913