

# Are job characteristics associated with patient (de)humanization through the mediation of health providers' well-being?

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## Abstract

Healthcare professionals tend to assign a lower human status to patients. We hypothesized that two mindsets are responsible for this attribution: burnout (emotional exhaustion) and work engagement (vigor, dedication, and absorption in one's work). We predicted that exhaustion is negatively related to patient humanizing perceptions (Hypothesis 1), whereas engagement is positively related to them (Hypothesis 2). In addition, we formulated hypotheses on the relationship between job characteristics and humanity perceptions. Based on the Job Demands-Resources theory, we predicted that resources (e.g., performance feedback) are positively related to humanizing perceptions being positively linked to work engagement (Hypothesis 3a) and negatively linked to exhaustion (Hypothesis 3b). For demands (e.g., work overload), in contrast, they should be negatively related to humanizing perceptions, being positively linked to exhaustion (Hypothesis 4a) and negatively linked to work engagement (Hypothesis 4b). To test the hypotheses, we conducted an online survey. Participants were physicians and nurses ( $N = 302$ ); a questionnaire was used. The mediation model was estimated by applying path analysis with observed variables. Findings supported the prediction that reduced humanizing perceptions are associated with care providers' exhaustion (Hypothesis 1). No association was found between humanity perceptions and work engagement. For job aspects, resources were linked to higher humanizing perceptions through the mediation of lower exhaustion (Hypothesis 3b), whereas demands were linked to lower humanizing perceptions through the mediation of higher exhaustion (Hypothesis 4a). Findings suggest that appropriate manipulations of demands and resources may increase patient humanization and improve the therapeutic relationship.

## 1 | INTRODUCTION

In the present work, we investigate the relationships between contextual factors in health organizations (see the job demands-resources theory; Bakker & Demerouti, 2017; Bakker et al., 2023), healthcare professionals' well-being, and patient dehumanizing perceptions. Our general aim is to clarify the role played by job

characteristics in patient dehumanization, a phenomenon that can negatively impact patients' well-being and patient-medical staff communication. In this introduction, we first present modern theories of dehumanization and then discuss their relevance to healthcare contexts. Before presenting the hypotheses, we report basic concepts of job demands-resources theory (Bakker et al., 2023), an influential explanation of employees' well-being and performance.

## 1.1 | Contemporary approaches to the study of dehumanization

Over the last two decades, the psychosocial literature on dehumanization has grown greatly. The studies generated by the new theories have shown that people are inclined to ascribe a lower human status to other people and groups, this inclination being a widespread phenomenon not limited to episodes of open conflict, wars, and genocides.

Leyens and colleagues (2000; see also Leyens et al., 2007) were the first to propose that dehumanization can be a subtle, often unconscious, phenomenon. They found that people assign fewer uniquely human (secondary) emotions, such as hope, pride, and regret, to outgroups than their ingroup. In contrast, no differences were observed when groups were judged on non-uniquely human (primary) emotions, such as surprise, fear, and anger. The ascription of a lower human status to outgroups, defined as *infrahumanization*, has also been discovered when groups are evaluated on uniquely human (e.g., rationality, morality) and non-uniquely human (e.g., instinct, impulse) traits, rather than emotions (see, e.g., Capozza, Trifiletti, et al., 2013; Hodson & Costello, 2007).

*Infrahumanization* theory defines humanity in contrast to non-human animals. Haslam (2006) enlarged this perspective, proposing that humanity can also be defined in contrast to mechanical entities: machines or robots. In the dual model of dehumanization, Haslam suggested that humanity attributions can be based on two dimensions: human uniqueness, including the distinctive characteristics of the human species (traits or emotions); human nature, including fundamental, essential human proprieties, not necessarily unique to our species. Human nature contains attributes involving emotional responsiveness, interpersonal warmth, and vitality. The denial of uniquely human traits leads to a mode of dehumanization defined as *animalistic* (see, e.g., Capozza et al., 2009; Goff et al., 2008; Morehouse et al., 2023); the denial of human nature leads, in contrast, to assimilating a target to an instrument (see, e.g., Baldissarri et al., 2022) or a robot (e.g., Loughnan & Haslam, 2007) (*mechanistic dehumanization*).

Another dehumanization model was grounded on the theory of mind, in particular, on the two factors in which mind attributions are articulated: agency and experience (Gray et al., 2007). Agency includes qualities like thinking, planning, and self-control; it is similar to the uniquely human dimension. Experience includes capacities like feeling needs and feeling emotions; it is similar to the human nature dimension (for the correspondence of the two factors with human uniqueness and human nature, see Gray et al., 2012). From the mind perception perspective, we can *dementalize* (dehumanize) people who are viewed as instrumental or irrelevant to achieving one's goals (see Waytz & Schroeder, 2014). In the context of work, people assign less mind to workers performing repetitive, fragmented, or other-directed activities (e.g., Andrighetto et al., 2017). Mind is denied to marginalized groups (the homeless and drug addicts), as shown by some neuroscientific studies (e.g., Harris & Fiske, 2006).

In the approaches mentioned above, humanity perceptions are not measured directly, asking people to rate the humanity of the target, but indirectly, using stimuli related to the human category. Therefore, the fact that humanity is denied remains unclear to the respondents themselves.

Recently, measures of blatant dehumanization have been developed, such as the “ascent of humans” scale (Kteily et al., 2015), which is based on the popular diagram of evolutionary progress. Participants are asked to rate a group on a scale ranging from the quadrupedal ancestor to the modern-day human being. Like other measures of blatant dehumanization (e.g., Linden et al., 2016), the ascent scale is a valid tool for detecting humanity attributions in contexts defined by open intergroup conflicts (see Kteily & Bruneau, 2017; Kteily & Landry, 2022, for reviews). It is less valid when humanity attributions are biased by social desirability concerns, as in the case of some marginalized groups such as intellectually disabled.

## 1.2 | Contemporary approaches and patient dehumanization

The dehumanization approaches reported above are the theoretical foundation of most studies developed in medical contexts. Research has shown that patients are generally ascribed a lower human status. For instance, healthcare professionals working in oncology departments perceive patients as less characterized by uniquely human traits, like rationality and capacity for reflection, compared to physicians and nurses (Capozza et al., 2015). Patients are also seen as more qualified by traits that humans share with animals (e.g., instinct, impulse) than by uniquely human traits, whereas healthcare professionals perceive themselves as typically qualified by uniquely human traits. Similar findings were obtained in other hospital departments, such as cardiology, hemodialysis, emergency, and surgery (Falvo et al., 2021; Trifiletti et al., 2014; in these studies, the target outgroup was the general category of patients). Similarly, professionals working in hospices or nursing homes assign uniquely human characteristics more to their group than to patients (Castro et al., 2019). Thus, in medical contexts, patients are viewed as less human than healthcare professionals.

Some works have focused on the perception of people with mental illness. In a study, Pavon and Vaes (2017; Study 2) examined healthcare professionals employed in psychiatric services (e.g., psychiatrists, psychotherapists, and nurses). These authors investigated different conceptualizations of schizophrenia and their relationship with patient dehumanization. Findings showed that the more healthcare professionals ascribed schizophrenia to genetic causes (anatomic anomalies, history of prenatal complications), the less they perceived an imaginary case—a patient diagnosed with schizophrenia—as capable of experiencing uniquely human emotions. Thus, a bio-genetic (vs. psycho-environmental) conception of schizophrenia is associated with the tendency to ascribe a lower human status to schizophrenic patients. Similar findings were observed when

autism was the target (Cage et al., 2019). Autistic people were viewed as less qualified by uniquely human traits than non-autistic people. No difference emerged for human nature traits (participants were high school and university students). Fontesse, Rimez, and Maurage (2021) discovered that nurses dehumanized more people with schizophrenia and severe alcohol use disorder than people with cardiovascular disease (a unitary scale including human uniqueness and human nature items was used).

Patients in a persistent vegetative state (PVS) are also dehumanized. Gray et al. (2011) revealed that mental states—such as remembering the events of one's life and having feelings and emotions—were denied more to PVS patients than to the dead. Probably, PVS people are perceived as mindless bodies while the dead are perceived as disembodied minds (see, however, Gray et al.'s 2007 study, in which experience was assigned more to PVS than to dead people). In Gray et al.'s (2011) study, participants were recruited from MTurk, metro areas, and colleges (in the US); it would be interesting to explore whether and how medical workers assign mind to PVS patients.

### 1.3 | Causes of patient dehumanization

The previous review shows how patient dehumanization is widely spread in medical contexts. But, what are the sources of this phenomenon? Haque and Waytz (2012) distinguished functional and nonfunctional causes. Regarding functional causes, dehumanization is used by health providers to make patient care and clinical problem solving easier. Nonfunctional causes, in contrast, are related to the conditions of being ill or hospitalized; they do not have the immediate role of making the therapeutic task easier.

One nonfunctional cause is intrinsic to the condition of being sick. The lower independence in action and lower capacity to achieve one's goals, due, for instance, to diseases to the motor or respiratory systems or debilitating oncological treatments, may induce the perception that patients are not fully defined by agency, rationality, and self-control. Another nonfunctional cause is related to being hospitalized. In hospital settings, patients are perceived to be similar on several factors, such as suffering or wearing similar clothing. This assimilation may lead to perceiving patients as lacking individuality and being interchangeable, which are characteristics included in mechanistic dehumanization.

Regarding functional causes, patient dehumanization may favor clinical problem solving: focusing on one body part, without considering the whole organism and the patient's inner states, may facilitate pathological localization and medical intervention. Some studies on empathy are relevant in this regard. In neuroscientific experiments (Cheng et al., 2007; see also Decety et al., 2010), physicians practicing acupuncture and nonphysician control were examined with functional magnetic resonance imaging (fMRI). Inside the scanner, participants watched videos of needles inserted into a person's body parts. Brain areas involved in empathy for pain were more active among non-physicians than physicians, who, conversely, showed

stronger activation in brain areas involved in emotion cognitive regulation. Physicians learn to inhibit empathy to focus on the clinical task and achieve a good performance. It is worth noting that lower empathy is a precursor of lower humanization, as shown in research about intergroup relationships (see, e.g., Capozza, Falvo, et al., 2013; Capozza, Trifiletti, et al., 2013; Čehajić et al., 2009). The incompatibility between considering patients' mental states and making diagnoses or interventions is also demonstrated by a research program conducted by Jack et al. (2013), based on neuroscientific contexts and tools.

Patients, however, need to be understood and supported by people who care for them. According to Haque and Waytz (2012, p. 181), physicians should shift between empathy and problem solving, depending on the care context, being, for instance, empathetic in their practice and dampening empathy during a medical intervention.

Job burnout is a psychological syndrome in response to chronic stressors on the job. The three dimensions of this response are exhaustion, feelings of cynicism and detachment from the job, and a sense of inefficacy and lack of accomplishment. Exhaustion refers to the perception of being drained of one's emotional and physical resources. The cynicism component represents a negative or overly detached response to various aspects of one's job. The reduced efficacy component includes feelings of incompetence and a lack of fulfillment in one's work (Maslach et al., 2001; see also Schaufeli et al., 1996, 2009). In the workplace, burnout occurrence is generally high; for instance, in a study performed in Sweden, about 18% of the working population was defined by high levels of burnout (Lindblom et al., 2006; for recent data, see Schaufeli, 2018). Regarding health occupations, this syndrome concerns, on average, 26% of emergency nurses (Adriaenssens et al., 2015; Western countries), and, interestingly, up to 56% of medical students (Dyrbye & Shanafelt, 2016; mainly US data).

Among health providers, stress and burnout can originate from organizational factors, such as work overload, role ambiguity, and lack of autonomy in one's work (Edu-Valsania et al., 2022). However, stress feelings may also arise from the continual interaction with suffering people, which generates tension and anxiety. Several strategies can be used to cope with stress, such as searching for social support or problem avoidance (see Arrigoni et al., 2015). Patient dehumanization can also be used: suffering may cause less emotional distress when regarding people perceived as not fully human (Haque & Waytz, 2012).

In a study by Vaes and Muratore (2013), healthcare professionals working in oncologic institutions—for instance, nurses, physicians, and psychologists—were presented with a fictitious scenario, describing a woman suffering from terminal stomach cancer. Their task was to infer the patient's emotional reactions to her condition. Results showed that the expectation of uniquely human emotions (e.g., regret, pessimism) was associated with higher healthcare professionals' burnout. Conversely, the expectation of non-uniquely human emotions (e.g., anger, fear) was associated with lower burnout and higher work engagement: a positive fulfilling, work-related state

of mind, characterized by vigor, dedication, and absorption in one's work (Schaufeli et al., 2002, p. 74).

Trifiletti et al. (2014) obtained similar findings: perceiving patients as characterized by uniquely human traits was related to stronger stress symptoms (e.g., headache, anxiety, memory problems). Conversely, perceiving patients as defined by non-uniquely human features was related to lower distress (respondents were nurses working in different departments). Falvo et al. (2021), examining nurses, found that the attribution of a lower human status to patients was related to higher work engagement. This finding was limited to nurses qualified by low levels of secure attachment (Mikulincer & Shaver, 2016), namely, less capable of coping with demanding work situations. A negative relationship was, in contrast, observed between patient inhumanization and burnout (the exhaustion component).

Thus, perceiving patients as not fully human may be associated with lower burnout. However, the inverse relationship can also be found, in other words, burnout can be an antecedent of lower humanity attributions to patients. Cameron et al. (2016) discovered that anticipating emotional exhaustion, as a consequence of helping a marginalized person (a homeless person with severe mental and physical disorders), may lead to the ascription of less mind to this target. Probably, the whole process starts with burnout feelings (in particular, exhaustion feelings), which lead to the attribution of a lower human status to patients; this attribution may have the function of attenuating exhaustion. In this work, we test the first stage of this process, namely, the hypothesis that burnout (the exhaustion component) is negatively related to the attribution of human characteristics to patients (Hypothesis 1). Our final goal is to single out job conditions that, mitigating exhaustion, may promote patient humanization.

It should be noted that the hypothesis of a relationship between emotional exhaustion and client (patient) dehumanization was proposed by Maslach and colleagues (Maslach & Jackson, 1981; Maslach et al., 2001) in the first systematic conceptualization of burnout. Initially, burnout was regarded as a syndrome specific to professionals working in the human service sector; only by the late 1980s, the concept was extended to all types of occupational groups. Initially, therefore, the response of distancing oneself from one's work, as a way to cope with intense job and emotional demands (the cynicism component of burnout) was conceptualized as depersonalization: an attempt to be less involved in the assistance relationships by perceiving service recipients (e.g., patients) as impersonal objects of one's work. According to burnout theorists (see Maslach et al., 2001), distancing (cynicism or depersonalization) represents an immediate reaction of workers to exhaustion, a sequential link that has been supported by correlational and longitudinal studies (for a longitudinal research, see Taris et al., 2005; for a review, see Edú-Valsania et al., 2022).

Our first hypothesis differs from Maslach and colleagues' (Maslach & Jackson, 1981; Maslach et al., 2001) account of service recipient (patient) depersonalization because it is grounded on modern theories of dehumanization, which propose different types of

human traits and different types of dehumanization (not just objectification). Furthermore, the concept of depersonalization and its measure include both user (patient) dehumanization and self-dehumanization by employees, who deny themselves core features of the human nature dimension (two items included in Maslach Burnout Inventory are: "I have become more callous toward people since I took this job," "I worry that this job is hardening me emotionally" Maslach & Jackson, 1981). In this study, we only focus on patient dehumanization which is a distinct process from healthcare professionals' self-dehumanization (for the distinction between self- and other-dehumanizing perceptions, see the reviews by Bastian & Crimston, 2014 and Kteily & Landry, 2022).

Regarding work engagement, it should be positively related to patient humanizing perceptions (Hypothesis 2). Work engagement is a positive and fulfilling state of mind, associated with resilience, optimism, and self-efficacy (Mazzetti et al., 2023). We can, therefore, expect that engaged employees use job crafting (Tims & Bakker, 2010) rather than patient dehumanization: to deal with work problems and preserve energies and vigor, they probably try to change their job conditions making them more coherent with their abilities and needs (for work engagement as a predictor of job crafting, see Hakanen et al., 2018; Jindal et al., 2023; Tan et al., 2020).

More importantly, research has consistently shown that work engagement is related to creativity and innovation (see, e.g., Asif et al., 2019; Bakker et al., 2020; Hui et al., 2021; Kong & Li, 2018), which, in the field of intergroup relations, are related to lower prejudice and implicit stereotypes (e.g., Groyecka-Bernard et al., 2021; Sassenberg & Moskowitz, 2005), and higher outgroup humanization (Ballan, 2022). These findings support our hypothesis: engaged employees, being prone to exploring alternative paths, may develop a more human perception of patients. The use of patient dehumanization to restore work engagement (Falvo et al., 2021) may only concern certain categories of health providers, such as nurses and physicians with low secure attachment.

## 1.4 | The job demands-resources theory

To identify the organizational factors associated with burnout (the exhaustion component) and work engagement, we referred to the job demands-resources (JD-R) theory by Bakker and Demerouti (2017; Bakker et al., 2023). According to this theory, the two mindsets are generated by job characteristics that can be defined as job demands and job resources. Job demands, such as workload and role ambiguity, are those physical, psychological, social, or organizational aspects of work that require physical, cognitive, and/or emotional effort and are, therefore, associated with physiological and/or psychological costs (Bakker et al., 2023, p. 33). Job demands are the central risk factors for the development of burnout (in particular, emotional exhaustion). In contrast, job resources, such as social support and performance feedback, are the physical, psychological, social, or organizational aspects of work that: (a) have motivating

potential, (b) are functional in achieving work goals, (c) attenuate job demands and the related costs, (d) stimulate learning and personal growth (Bakker et al., 2023, p. 33). Job resources are the primary drivers of work engagement; they may also counteract burnout.

Research has provided ample evidence for the different processes activated by job demands and job resources. In a study performed in Belgium, Van den Broeck et al. (2017) examined representative samples of employees working in different sectors (healthcare, industry, service, and public sector). The findings showed that the four sectors differed in terms of mean levels of job demands and job resources; they did not differ in the degree to which job characteristics were related to well-being. In healthcare, as in the other sectors, work engagement was positively related to resources (e.g., social support), whereas burnout (exhaustion and cynicism) was positively related to demands (e.g., work overload) and negatively related to resources.

Similar findings were reported by Kaiser et al. (2020) in Norway. These authors examined healthcare professionals working in public health services for children and their families (e.g., maternity care, child welfare centers). In accordance with the JD-R model, they found that burnout (emotional exhaustion) was positively related to job demands (e.g., work-family conflict) and negatively related to job resources (e.g., autonomy and positive leadership). Work engagement was positively related to job resources; however, a weak negative link with demands was observed as well.

The hypothesis of a dual process (motivational and ill-health) was also supported by Hakanen et al. (2008) using a national sample of Finnish dentists. The authors found that job resources (e.g., professional contacts with colleagues) longitudinally affected work engagement, whereas job demands (e.g., poor physical work environment) longitudinally affected burnout (the Maslach Burnout Inventory was used; Maslach & Jackson, 1981). In addition, job resources had a weak negative impact on burnout and job demands had a weak negative impact on engagement. According to the authors, demands and resources are usually intertwined constructs; it is, therefore, unlikely to find consistent support for a model that fully separates the outcomes of demands and resources when predicting well-being (Halbesleben & Buckley, 2004).

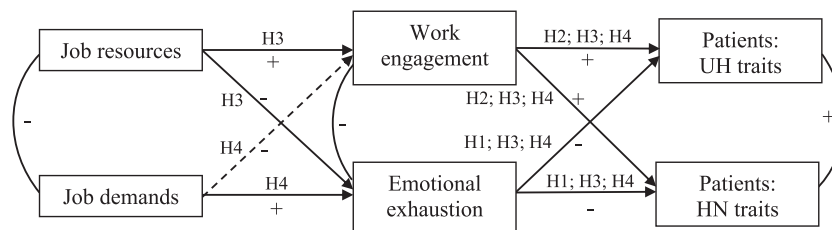
Broetje et al. (2020) examined reviews to detect the most important workplace antecedents of health-related and motivational

outcomes in nursing. They identified three key demands and six key resources. One demand was work overload (e.g., excessive work and time pressure). Resources related to, for instance, leadership, autonomy, and professional goods (e.g., equipments).

In this work, we connect job demands and job resources to patient dehumanizing or humanizing perceptions through the mediation of work engagement and job burnout (the exhaustion component). We proposed the following hypotheses. Resources should be related to patient humanizing perceptions through the mediation of work engagement (Hypothesis 3a; Figure 1); this mindset should, in fact, be associated with new ways of thinking and perceiving patients. In addition, resources, mitigating the costs of demands, should be related to higher patient humanizing perceptions through the mediation of lower exhaustion (Hypothesis 3b; Figure 1). Lower exhaustion, in fact, is likely related to a weaker use of dehumanization as a strategy to cope with stress. A twofold mechanism should therefore relate resources to humanizing evaluations: increased well-being and decreased job strain.

Demands are hypothesized to be related to lower patient humanization through the mediation of higher exhaustion, which is negatively linked to humanizing perceptions (Hypothesis 4a; Figure 1). Research has highlighted a negative—not theory-based—relationship between demands and work engagement (e.g., Hakanen et al., 2008; Kaiser et al., 2020; McVicar, 2016). We, therefore, predict that demands are related to lower patient humanization through the mediation of lower engagement (Hypothesis 4b; Figure 1).

The validation of these hypotheses allows us to single out job aspects that can be manipulated to enhance the patients' human status. This is the first time that, in the context of modern theories of dehumanization, the relationship between job characteristics and patient (de)humanization is investigated. To our knowledge, no studies on dehumanization of human services' clients/users have been performed in the context of JD-R theory, possibly because the core outcome of this theory is employees' performance rather than their evaluations. In the studies concerning dehumanization in the workplace, researchers have mainly analyzed workers' perception of being dehumanized (the concept of organizational dehumanization; e.g., Caesens et al., 2017; Lagios et al., 2023) and workers' self-dehumanizing perceptions (see the review by Baldissarri et al., 2022).



**FIGURE 1** A model explaining the relationship between job demands/resources and patient humanization among healthcare professionals. Curved lines indicate correlations. UH = uniquely human traits assigned to patients; HN = human nature traits assigned to patients. H = Hypothesis (e.g., H1 = Hypothesis 1). The dashed arrow indicates a relationship not based on theory, but on empirical data. The same symbol (H3 or H4) on two connected paths indicates a hypothesized indirect effect.

## 1.5 | Overview of the study

In the current study, participants were physicians and nurses working in several hospitals in Northern Italy. To achieve greater generalizability of findings, we chose departments characterized by different specialties and different levels of burnout. Studies conducted in the US with physicians from over 25 specialties showed that the highest percentages of burnout (emotional exhaustion) occurred in the units of intensive care and emergency medicine (55%), whereas exhaustion was lower in general surgery (50%) and orthopedics (46%) (see data from Peckham, 2015, reported in Gnerre et al., 2017; Shanafelt et al., 2012). We, therefore, decided to focus our analysis on these departments.

As resources, we used autonomy, social support from colleagues, and performance feedback. As reported above, similar resources were investigated by Van den Broeck et al. (2017), in the survey comparing different work sectors (including healthcare), and by Kaiser et al. (2020), who examined workers in public health services (see also Broetje et al., 2020). As demands, we chose work overload (time pressure, heavy shifts, too many patients) (see Brauchli et al., 2015; Broetje et al., 2020; Kaiser et al., 2020; Van den Broeck et al., 2017) and role ambiguity (poorly defined activities) (see Van den Broeck et al., 2017, and the review by Utriainen & Kyngäs, 2009). We, therefore, measured resources and demands that generally affect well-being among health providers.

To assess humanity attributions, we employed uniquely human (e.g., rationality) and human nature (e.g., capable of interpersonal warmth) traits (Figure 1). Participants rated patients first and then the medical-nursing staff (targets were: patients in my department; physicians and nurses in my department). To explore differences between targets, we also measured non-uniquely human traits (e.g., instinct, drive) although, in previous studies, consistent patient dehumanization was not observed in this dimension. We applied the measures of humanity attributions that are generally used when patient dehumanization is studied in the context of inhumanization theory or the dual model of dehumanization (see, e.g., Cage et al., 2019; Castro et al., 2019; Fontesse, Rimez, & Maurage, 2021; Trifiletti et al., 2014; for the use of primary and secondary emotions, see Vaes & Muratore, 2013).

The model in Figure 1 was estimated using path analysis with observed variables. To control whether the associations of burnout and work engagement with humanity perceptions were affected by patient evaluation (patient liking), we introduced this construct as a third mediator in the relationship between job aspects and humanity perceptions. Liking was assessed using traits like agreeable and worthy.

## 2 | METHOD

### 2.1 | Participants and procedure

A total of 302 participants were recruited from different hospitals in Northern Italy. Participants were physicians ( $n = 129$ ) and nurses

( $n = 173$ ) working in four departments: intensive care ( $n = 88$ ), emergency ( $n = 67$ ), general surgery ( $n = 54$ ), and orthopedics ( $n = 93$ ). The sample included 115 men and 187 women, and the majority of respondents had been employed for over 20 years ( $n = 113$ ; up to 5 years,  $n = 71$ ; from 6 to 10 years,  $n = 48$ ; from 11 to 15 years,  $n = 43$ ; from 16 to 20 years,  $n = 27$ ). All respondents filled out an online questionnaire which was e-mailed by the department head or head nurse. Before accessing the questionnaire, participants were required to agree with an electronic informed consent form in which the aims of the study, the task duration, and the possibility of withholding one's consent without penalties were illustrated. The survey was approved by the University Ethics Committee for Psychological Research. It was carried out in 2019, before the start of the Covid emergency.

### 2.2 | Measures

To assess the constructs under investigation, the following measures were applied.

For *job demands* and *job resources*, we used items drawn from different sources (e.g., Fernet et al., 2013; Kaiser et al., 2020; Van den Broeck et al., 2008, 2017). *Work overload* was measured with five items ( $\alpha = .72$ ), which addressed both qualitative (the complexity of tasks to be accomplished) and quantitative (excessive work, time pressure) aspects of work. Sample items are: "What I have to do is often complex," "I have to work under tight time deadlines." As with the other job characteristics, items were scored on a seven-point scale ranging from 1 (*definitely false*) to 7 (*definitely true*; with 4 denoting *neither true nor false*). *Role ambiguity* was assessed with four items, for instance: in my department, "The activities are not clearly defined," "Roles are not clear" ( $\alpha = .67$ ). Concerning resources, three items were chosen for *social support* from colleagues. Sample items are: in my department, "There is at least one colleague I can ask for advice," "There is at least one colleague I can count on if I need advice to make a decision or to cope with a problem" ( $\alpha = .71$ ). Statements measuring *autonomy* were two: in my job, "I have some freedom in the completion of my tasks," "I can make many decisions by myself" ( $r = .68$ ,  $p < .001$ ). For *performance feedback*, four items were used, such as: in my job, "I get feedback on the effectiveness of my performance," "I get feedback, which allows me to improve my performance" ( $\alpha = .84$ ). On the seven-point scale, higher scores indicate that job demands and job resources were perceived as highly present in the work context.

To measure the *emotional exhaustion* component of burnout, the Italian version (Borgogni et al., 2005) of the Maslach Burnout Inventory General Survey (MBI-GS; Schaufeli et al., 1996) was applied (five items). Sample items are: "I feel exhausted by my work," "Working all day is truly an effort for me" ( $\alpha = .92$ ). Participants had to indicate how often they experienced the feelings described by the items on a seven-point scale anchored by *never* (1) and *daily* (7) (2 = *rarely/a few times a year or less*, 3 = *occasionally/once a month or less*, 4 = *regularly/a few times a month*, 5 = *frequently/once a week*,

6 = very frequently/a few times a week). Higher scores denote higher feelings of exhaustion.

Work engagement was assessed with the Italian version (Balducci et al., 2010) of the shortened Utrecht Work Engagement Scale (UWES-9; Schaufeli et al., 2006), which captures the three facets of the construct: vigor, dedication, and absorption. Examples of the nine items are: "At my job, I feel strong and vigorous," "My job inspires me," "I feel happy when I am working intensely" ( $\alpha = .92$ ). Answers were given on the same seven-point scale used for measuring exhaustion. Higher scores denote higher work engagement.

Concerning *humanity perceptions*, four items measured the *uniquely human dimension* and four the *non-uniquely human dimension* (see Capozza, Trifiletti, et al., 2013). Uniquely human items were, for instance, rationality and reasoning; non-uniquely human items were, for instance, instinct and drive. In pretests, it was found that the two sets of traits do not differ in valence, both being slightly positive. *Human nature* was assessed with six items (three positive and three negative), drawn from Bastian and Haslam (2010); sample items are: interpersonal warmth; mechanical and cold as robots (reverse coded). The introductory sentence was: "Patients in my department are characterized by the following traits." For each trait, the response scale ranged from *definitely false* (1) to *definitely true* (7), with 4 being *neither true nor false*. After patients, participants judged the medical and nursing staff of their department ("the medical/nursing staff of my department"). Alphas ranged from .75 to .84 for patients, and from .79 to .88 for the medical and nursing staff. Participants also expressed their attitude (*liking*) toward the two targets; three items were used: pleasant, agreeable, and worthy ( $\alpha = .95$ , for both targets); evaluations were expressed on the seven-point scale from *false to true*.

## 2.3 | Data analyses

For each construct, the mean of the respective items was computed (composite scores). To verify whether patients were assigned a not fully human status, ANOVA was applied using a two-factor within-participants design: target group (patients vs. healthcare professionals) and humanity dimensions (uniquely human vs. non-uniquely human vs. human nature traits).

The network of hypothesized relationships (Figure 1) was tested using the two demands and three resources as exogenous variables, exhaustion and work engagement as mediators, and uniquely human and human nature traits, assigned to patients, as the outcomes (Figure 2). Patient liking was added as a further mediator to control for the effects of attitude when the relationship between well-being (emotional exhaustion, work engagement) and humanity perceptions was estimated. Three demographic variables (covariates) were added to the exogenous variables: gender (men vs. women), professional role (nurses vs. physicians), departments (lower exhaustion: orthopedics and general surgery vs. higher exhaustion: emergency and intensive care). These variables were introduced in the analyses because they may be correlated with demands/resources and the

mediators, especially with emotional exhaustion; it has been found, in fact, that exhaustion is more common among women than men (see Edú-Valsania et al., 2022, p. 9), among nurses than physicians (see Papazian et al., 2023; see also Gualano et al., 2021, for general burnout), in emergency and intensive care than the two other units (Peckham, 2015). We need, therefore, to control their effects.

All the exogenous variables were modeled as predictors of both mediators and outcomes. A saturated model was therefore verified (chi-square equal to zero; zero degrees of freedom). To test the path analysis model, macro Mplus 7 was applied (Muthén & Muthén, 1998–2015); maximum likelihood was used as the estimator. The significance of indirect effects was evaluated by applying bootstrapping (5000 resamples) and the 95% bias-corrected confidence interval.

With respect to the number of participants, we considered the most complex multiple regression equation in the mediation model, namely the equation in which uniquely human or human nature traits were used as the dependent variable, and mediators (exhaustion, work engagement, liking) with the exogenous variables (job aspects and demographic attributes) were the predictors. With .05 as the probability level, 11 predictors, and an anticipated effect size of  $f^2 = .08$  (between small and medium), a sample of at least 220 respondents is needed to reach a power of .80 (Soper, 2024).

## 3 | RESULTS

### 3.1 | Humanity attributions

ANOVA applied to humanity attributions highlighted significant results. Both the main effects and the interaction were significant:  $F(2, 602) = 32.73, p < .001, \eta_p^2 = .10$ , for the humanity dimension;  $F(1, 301) = 211.51, p < .001, \eta_p^2 = .41$ , for the target group;  $F(2, 602) = 143.73, p < .001, \eta_p^2 = .32$ , for the interaction.

The analysis of simple effects showed that both uniquely human and human nature traits were assigned more to nurses and physicians than to patients. Concerning uniquely human traits, the means were:  $M = 5.34$  ( $SD = 0.94$ ), when the healthcare staff was the target, and  $M = 3.91$  ( $SD = 1.09$ ), when patients were the target,  $F(1, 301) = 300.56, p < .001, \eta_p^2 = .54$ . With respect to human nature, the means were:  $M = 5.30$  ( $SD = 1.02$ ), when healthcare professionals were the target, and  $M = 4.63$  ( $SD = 0.89$ ), when patients were the target,  $F(1, 301) = 116.34, p < .001, \eta_p^2 = .16$ . In contrast, the two groups were not perceived as different on the non-uniquely human dimension:  $M = 4.52$  ( $SD = 0.92$ ), for nurses and physicians, and  $M = 4.61$  ( $SD = 1.04$ ), for patients,  $F(1, 301) = 2.00, p = .158, \eta_p^2 = .01$ . The traits least assigned to healthcare professionals were those included in the non-uniquely human factor ( $ps < .001$ ); the traits least assigned to patients were those included in the uniquely human factor ( $ps < .001$ ).

Thus, replicating previous studies (e.g., Capozza et al., 2015; Trifiletti et al., 2014), findings show that a lower human status was ascribed to patients. Interestingly, patients were not assigned the distinctive traits of the human category: for uniquely human traits, the mean was not different from the scale midpoint,  $t(301) = 1.46, p = .144^1$ .

### 3.2 | Test of the mediation model

Correlations between the main variables included in the mediation model (Figure 2) are reported in Table 1. They show that resources were positively related to work engagement and negatively related to emotional exhaustion. Resources were, in addition, positively related to a favorable evaluation of patients (patient liking) and their perception as characterized by human traits, especially human nature traits.

Regarding demands, they were positively related to exhaustion and negatively related to work engagement. In addition, demands

were negatively linked to patient liking and patient perception as qualified by human traits, especially human nature traits.

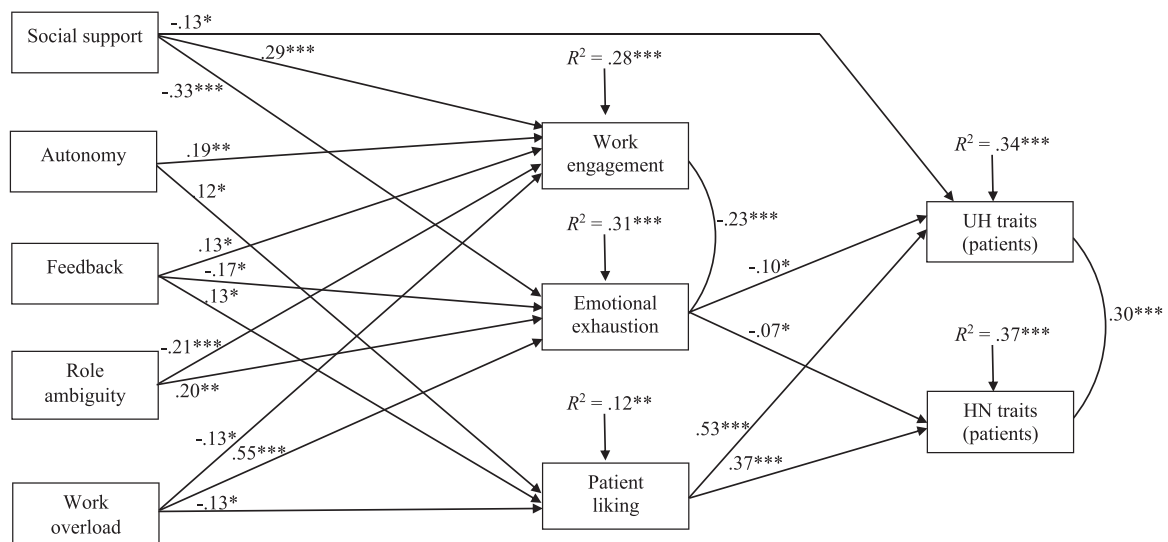
Finally, exhaustion was negatively related and work engagement was positively related to liking and the attribution of human traits to patients. Thus, correlations were generally in the expected direction (Figure 2).

The findings of path analysis are displayed in Figure 2.<sup>2</sup> They show that emotional exhaustion was negatively related to patient humanizing perceptions, whereas work engagement was not related to these perceptions. Therefore, findings supported Hypothesis 1, but not Hypothesis 2. As to the indirect effects, their reliability is

**TABLE 1** Means, standard deviations, and correlations between the study variables (Figure 2; N = 302).

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Social support	6.33	0.88	-									
2. Autonomy	5.60	1.15	.30***	-								
3. Performance feedback	4.70	1.34	.24***	.34***	-							
4. Role ambiguity	3.64	1.26	-.23***	-.25***	-.40***	-						
5. Work overload	5.35	1.03	.07	.01	-.18**	.17**	-					
6. Emotional exhaustion	3.59	1.55	-.25***	-.19***	-.34***	.34***	.40***	-				
7. Work engagement	4.76	1.23	.32***	.34***	.37***	-.37***	-.16**	-.41***	-			
8. Patient liking	4.41	1.06	.15**	.20***	.26***	-.18**	-.16**	-.17**	.24***	-		
9. Uniquely Human (UH) (patients)	3.91	1.09	.00	.08	.19***	-.09	-.20***	-.23***	.18**	.53***	-	
10. Human Nature (HN) (patients)	4.63	0.89	.12*	.23***	.30***	-.24***	-.24***	-.29***	.25*	.52***	.52***	-

Note. M and SD represent mean and standard deviation. To simplify the table, the correlations of the demographic covariates are not displayed. \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .



**FIGURE 2** The mediation effects of emotional exhaustion and work engagement in the relationship between job demands/resources and patient humanization, unstandardized coefficients (N = 302). Only significant regression coefficients are reported. Curved lines indicate significant correlations between constructs. UH = uniquely human traits assigned to patients; HN = human nature traits assigned to patients. The effect size was close to medium ( $f^2 = .14$ ), for patient liking; it was large (from  $f^2 = .39$  to  $f^2 = .58$ ), for the other mediators and the outcomes. The correlations between the exogenous variables are reported in Table 1. To simplify the representation, the effects of the demographic covariates are not displayed. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p \leq .001$ .



reported in Table 2. Data indicate that job resources were related to higher patient humanization through the mediation of lower levels of exhaustion. Demands, in contrast, were related to lower patient humanization through the mediation of stronger exhaustion. All the indirect effects involving emotional exhaustion were significant: the 95% bias-corrected bootstrap confidence interval did not include zero (Table 2). No reliable mediation effects were present for work engagement. Results, therefore, supported Hypotheses 3b and 4a, relating to exhaustion; they did not support Hypotheses 3a and 4b, relating to work engagement. Regarding patient liking, it significantly mediated the relationship of resources (performance feedback) and demands (work overload) with humanity attributions (Figure 2); the confidence interval for autonomy → patient liking → HN traits was nonsignificant.

Interestingly, two demographic covariates (departments and professional role) were related to humanity attributions: patients were less humanized by healthcare professionals working in emergency and intensive care departments than by healthcare professionals working in orthopedics and general surgery. Patients were less humanized by nurses than by physicians. These relationships were direct, not mediated by work engagement or exhaustion.

## 4 | DISCUSSION

In this study, we found that emotional exhaustion was a significant predictor of the attribution of a lower human status to patients; in contrast, work engagement—the dedication to one's work and enthusiasm for its performance—was not uniquely associated with patient humanizing or dehumanizing perceptions. The findings, therefore, support Hypothesis 1, but not Hypothesis 2. We also identified work conditions that, being positively or negatively related to exhaustion, were related to dehumanizing (job demands) or

humanizing (job resources) perceptions of patients. Findings, therefore, support Hypotheses 3b and 4a, concerning exhaustion; they do not support Hypotheses 3a and 4b, concerning work engagement. Heavy workloads and ill-defined tasks are associated with feelings of exhaustion which, in turn, are associated with the ascription of lower humanity to patients. Seeing patients and their suffering as not fully human is likely used to lower emotional involvement in care tasks and the related exhaustion (for exhaustion as an antecedent of dehumanizing perceptions, see Cameron et al., 2016; for dehumanizing perceptions as antecedents of lower stress or exhaustion, see Falvo et al., 2021; Trifiletti et al., 2014). This is the first time that the relationship between job factors and patient dehumanization—with the intervening role of exhaustion—is observed.

As noted before, the concept that patient depersonalization (dehumanization) may be a strategy used by healthcare professionals to cope with emotional exhaustion was also proposed by Maslach and colleagues (see Maslach & Jackson, 1981; Maslach et al., 2001) since the first systematic formulation of the burnout theory. However, the construct of depersonalization was limited to objectification, namely, it did not include the different nuances and dimensions proposed by dehumanization scholars. Furthermore, in the burnout theory, the relationship between exhaustion and depersonalization was not theoretically linked to job demands and resources, a link that has significant practical implications.

In the network of relationships identified in Figure 2, resources (in particular, social support and performance feedback) play the role of attenuating the costs of demands; they are associated with lower exhaustion and, through lower exhaustion, to more humanizing patient perceptions. The finding that resources are linked to lower strain supports a basic assumption of the JD-R model (Bakker & Demerouti, 2017; Bakker et al., 2023). Also, the positive link between resources and work engagement (Figure 2) is a central concept in the JD-R theory (for care contexts, see Kaiser et al., 2020; Van den

**TABLE 2** The indirect effects of demands and resources on patient humanizing perceptions through the mediation of emotional exhaustion ( $N = 302$ ).

Indirect Effect	Point Estimate	95% BC Confidence Interval
UH (patients)		
Social support → Exhaustion → UH (patients)	0.034	[0.006, 0.085]
Performance feedback → Exhaustion → UH (patients)	0.017	[0.002, 0.048]
Role ambiguity → Exhaustion → UH (patients)	-0.020	[-0.053, -0.003]
Work overload → Exhaustion → UH (patients)	-0.056	[-0.115, -0.009]
HN (patients)		
Social support → Exhaustion → HN (patients)	0.023	[0.003, 0.057]
Performance feedback → Exhaustion → HN (patients)	0.012	[0.001, 0.034]
Role ambiguity → Exhaustion → HN (patients)	-0.014	[-0.038, -0.001]
Work overload → Exhaustion → HN (patients)	-0.038	[-0.085, -0.003]

Note. UH, uniquely human traits assigned to patients; HN, human nature traits assigned to patients; BC confidence interval, bias-corrected bootstrap confidence interval.

Broeck et al., 2017). The negative association of demands with work engagement, not specified in the JD-R theory, has been found in other investigations in medical settings (see, e.g., Hakanen et al., 2008; McVicar, 2016). Altogether, data support basic tenets of Bakker and Demerouti's theory.

But, why is work engagement unrelated to humanity attributions (Figure 2)? Work engagement is a positive mindset, characterized by vigor and energy. Probably, this mindset impacts behavior more than evaluations. To make their work more meaningful and achieve higher levels of performance, engaged health employees likely use job crafting (Tims & Bakker, 2010), that is, they take initiatives to align demands and resources to their personal abilities and preferences (for the longitudinal relationship between engagement and job crafting, see Hakanen et al., 2018). In our review above, we reported findings showing that the ascription of a lower human status to patients may predict higher levels of engagement (Falvo et al., 2021; Vaes & Muratore, 2013). These findings, however, are not general, but limited to some categories of health employees. Longitudinal studies are needed to establish the direction of the causal relationship—if any—between work engagement and humanity attributions. It would also be interesting to explore whether the relationship between work engagement and patient humanization is found when creativity—an ability associated with work engagement (e.g., Asif et al., 2019; Bakker et al., 2020)—is used as mediator.

Interestingly, in the path analysis model, the emergency and intensive care departments were directly related to more dehumanizing perceptions compared to the other departments (on both human nature and uniquely human traits). This relationship, not mediated by exhaustion, may depend on the fact that the patients treated in these departments are generally unable of independent action, sometimes inanimate, or lack interpersonal skills (see the nonfunctional causes of patient dehumanization; Haque & Waytz, 2012). Different departments may, therefore, be characterized by different levels of patient dehumanization.

The professional role is also directly related to humanity attributions on human nature, with nurses assigning a lower human status to patients compared to physicians. The prolonged contact with people with diminished relational capacities may be responsible for the perception of patients as less endowed with human nature traits. Interestingly, it has been found that patients' aggression, expressing lower relational skills, is experienced more by nurses than by physicians (see, e.g., Kowalczyk & Krajewska-Kułak, 2017; Swain et al., 2014; for Italy, Viottini et al., 2020).

Findings concerning the demographic covariates can explain why exhaustion absorbs a limited portion of variance in patient dehumanizing perceptions. Dehumanization, in fact, in addition to being functional in reducing exhaustion, can be associated with patients' physical and mental conditions which can vary depending on the department. It can also be associated with patients' relational behavior, which can vary depending on health providers' professional role (nonfunctional causes of patient dehumanization; Haque & Waytz, 2012).

The attribution of a lower human status to patients may serve the function of reducing healthcare professionals' exhaustion. However, what may be the effects of this attribution on patients? Research findings show that feeling dehumanized is, in general, related to both avoidant (e.g., numbness, sadness) and approach (e.g., anger) negative emotions (Bastian & Haslam, 2011). In addition, feeling dehumanized may lead to less adherence to recommended treatments (see Adams et al., 2017). Being the target of dehumanization can also induce self-dehumanizing perceptions (e.g., Fontesse, Demoulin, et al., 2021), which can be related to negative affect and anxiety feelings (see Sakalaki et al., 2017). In work settings, self-dehumanization may lead to the perception of not being totally in charge of one's behavior (see the review by Baldissari et al., 2022). Dehumanization can, therefore, damage patients' mental health and impair the therapeutic relationship. Future research should evaluate the long-term negative effects of this stress-coping strategy.

Recent work in the intergroup field has shown that the perception of being dehumanized is associated with the dehumanization of the offending outgroup (Kteily & Bruneau, 2017; Kteily et al., 2016). The perception of not being seen as fully human may lead patients to assign lower humanity to the care staff with the consequence of reducing trust and degrading the care relationship. Future studies should explore patients' humanity attributions to nurses and physicians, a topic that has been rarely investigated (for an exception, see Schroeder & Fishbach, 2015).

Is it possible to attenuate the inclination to dehumanize patients and its aversive consequences? Our findings show that a core strategy to follow is to mitigate exhaustion. In hospital departments, work should be designed in effective ways: head nurses and department heads should provide feedback on job performance; roles and tasks should be clearly defined; and, above all, work overload should be reduced. As to autonomy, it predicts work engagement, but it is not related to emotional exhaustion (for a similar finding, see Van den Broeck et al., 2017).

Other job aspects, not included in this study, but effective in reducing exhaustion, could be: skill utilization (Van den Broeck et al., 2017), effective leadership (Kaiser et al., 2020), lower work-family conflict, lower conflicts between professional roles (Kaiser et al., 2020). In hospital settings, better conditions should be created so that employees may be less exhausted and more inclined to recognize patients' human dignity (see Busch et al., 2019; see also Hoogendoorn & Rodríguez, 2023). Results show that, contrary to the hypotheses, work engagement is not uniquely linked to humanity attributions. Therefore, no specific plans seem to be needed to enhance this mindset, for obtaining higher patient humanization. Research should, however, be done to replicate the null effect of work engagement.

Another strategy may be used to favor patient humanization. Care providers should be made aware that they assign a lower human status to patients, the underlying mechanism being the attenuation of job-related exhaustion. In training courses, they should be informed of the coping strategy they use and its adverse consequences.

Imagination tasks, in which healthcare professionals are invited to take the perspective of patients, could also be applied. It has been found, in fact, that perspective-taking increases empathy (Herrera et al., 2018), which is a consistent predictor of other people's humanization (e.g., Capozza et al., 2022; see also Vezzali et al., 2021).

#### 4.1 | Limitations and conclusion

This work presents some limitations. First of all, it is grounded on cross-sectional data. Hence, we cannot make causal inferences based on our results. Nevertheless, our theoretical assumptions are in line with evidence showing that demands and resources predict exhaustion (burnout) and work engagement rather than the other way around (see Schaufeli & Taris, 2014). Longitudinal studies are needed also to test the hypothesis that exhaustion leads to patient dehumanization which, in turn, leads to lower exhaustion.

Additionally, we exclusively relied on self-report measures, which are associated with common method biases (Podsakoff et al., 2003). Future research may benefit from the integration of different techniques, including observers' rating of demands and resources, objective evaluations of ill-being, such as biological indicators of stress (for hair cortisol, see Wendsche et al., 2020), implicit measures of humanity attributions (see, e.g., Kteily et al., 2015). A further limitation is that we did not check the response rate of the staff interviewed.

We proposed interventions that concern the objective characteristics of the work, although findings were obtained from the perception of these characteristics. However, there should be a strong link between real and perceived job aspects and, in the context of JD-R theory, demands/resources are typically detected as perceived—not real—characteristics.

A final consideration is related to the measures of humanity attributions used. The theoretical bases of our choice were the modern dehumanization theories, in particular, the inhumanization theory (e.g., Leyens et al., 2007), from which the uniquely human and non-uniquely human traits were derived, and the dual model of dehumanization (Haslam, 2006), from which the human nature traits were obtained. As mentioned above, the selected items are frequently applied in the healthcare context (see, e.g., Castro et al., 2019; Fontesse, Rimez, & Maurage, 2021; Trifiletti et al., 2014). In future studies, findings should be replicated using other scales, for instance, items detecting the two factors of mind perception: agency and experience (see Gray et al., 2007, 2011). Agency traits, such as autonomy, self-control, and planning abilities, may be mental skills that are often denied to patients.

Overall, our study demonstrates that patient dehumanization is associated with the perceived characteristics of the organizational setting. Hospitals and departments should adopt practices aimed to affect those work aspects that are connected to exhaustion. The potential outcomes of managerial interventions will be improved therapeutic relationships and greater well-being of patients and health providers alike.

#### ETHICS APPROVAL

The project has been approved by the Ethical Committee for the Psychological Research of the University of Padova. Reference Number: 8AB7CECCD241D45F936058B87E77D0B5.

#### DATA AVAILABILITY STATEMENT

The data set analyzed during the current study is available from the corresponding author upon request.

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#### ENDNOTES

<sup>1</sup> Regarding liking, healthcare professionals were evaluated more positively than patients:  $M = 5.15$  ( $SD = 1.10$ ), for physicians and nurses,  $M = 4.41$  ( $SD = 1.06$ ), for patients,  $t(301) = 10.58$ ,  $p < .001$ ,  $d = 0.61$ .

<sup>2</sup> In the figure, to simplify the representation, the effects of the three demographic variables are not displayed.

#### REFERENCES

- Adams, S. M., Case, T. I., Fitness, J., & Stevenson, R. J. (2017). Dehumanizing but competent: The impact of gender, illness type, and emotional expressiveness on patient perceptions of doctors. *Journal of Applied Social Psychology*, 47(5), 247–255. <https://doi.org/10.1111/jasp.12433>
- Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Determinants and prevalence of burnout in emergency nurses: A systematic review of 25 years of research. *International Journal of Nursing Studies*, 52(2), 649–661. <https://doi.org/10.1016/j.ijnurstu.2014.11.004>
- Andrighetto, L., Baldissarri, C., & Volpato, C. (2017). Still modern times: Objectification at work. *European Journal of Social Psychology*, 47(1), 25–35. <https://doi.org/10.1002/ejsp.2190>
- Arrigoni, C., Caruso, R., Campanella, F., Berzolari, F. G., Miazza, D., & Pelissero, G. (2015). Investigating burnout situations, nurses' stress perception and effect of a post-graduate education program in health care organizations of northern Italy: A multicenter study. *Giornale Italiano di Medicina del Lavoro ed Ergonomia*, 37(1), 39–45.
- Asif, M., Qing, M., Hwang, J., & Shi, H. (2019). Ethical leadership, affective commitment, work engagement, and creativity: Testing a multiple mediation approach. *Sustainability*, 11(16), 4489. <https://doi.org/10.3390/su11164489>
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023). Job demands–resources theory: Ten years later. *Annual Review of Organizational Psychology and Organizational Behavior*, 10, 25–53. <https://doi.org/10.1146/annurev-orgpsych-120920-053933>
- Bakker, A. B., Petrou, P., Op den Kamp, E. M., & Tims, M. (2020). Proactive vitality management, work engagement, and creativity: The role of goal orientation. *Applied Psychology*, 69(2), 351–378. <https://doi.org/10.1111/apps.12173>
- Baldissarri, C., Andrighetto, L., & Volpato, C. (2022). The longstanding view of workers as objects: Antecedents and consequences of working objectification. *European Review of Social Psychology*, 33(1), 81–130. <https://doi.org/10.1080/10463283.2021.1956778>

- Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric properties of the Italian version of the Utrecht Work Engagement Scale (UWES-9): A cross-cultural analysis. *European Journal of Psychological Assessment, 26*, 143–149. <https://doi.org/10.1027/1015-5759/a000020>
- Ballan, M. (2022). Contatto immaginato, liberalizzazione cognitiva e umanizzazione dell'outgroup: Uno studio sul rapporto Italiani e Cinesi [Imagined contact, cognitive liberalization, and outgroup humanization: A study on the Italians-Chinese relationship] [Master's thesis, University of Padova].
- Bastian, B., & Crimston, D. (2014). Self-dehumanization. *TPM-Testing, Psychometrics, Methodology in Applied Psychology, 21*(3), 241–250. <https://doi.org/10.4473/TPM21.3.1>
- Bastian, B., & Haslam, N. (2010). Excluded from humanity: The dehumanizing effects of social ostracism. *Journal of Experimental Social Psychology, 46*(1), 107–113. <https://doi.org/10.1016/j.jesp.2009.06.022>
- Bastian, B., & Haslam, N. (2011). Experiencing dehumanization: Cognitive and emotional effects of everyday dehumanization. *Basic and Applied Social Psychology, 33*(4), 295–303. <https://doi.org/10.1080/01973533.2011.614132>
- Borgogni, L., Galati, D., Petitta, L., & Schweitzer Formation Center. (2005). Questionario di Check-up Organizzativo: Manuale [Organizational Check-up Questionnaire: Manual]. Organizzazioni Speciali.
- Brauchli, R., Jenny, G. J., Füllemann, D., & Bauer, G. F. (2015). Towards a job demands-resources health model: Empirical testing with generalizable indicators of job demands, job resources, and comprehensive health outcomes. *BioMed Research International, 2015*, 959621. <https://doi.org/10.1155/2015/959621>
- Broetje, S., Jenny, G. J., & Bauer, G. F. (2020). The key job demands and resources of nursing staff: An integrative review of reviews. *Frontiers in Psychology, 11*, 84. <https://doi.org/10.3389/fpsyg.2020.00084>
- Busch, I. M., Moretti, F., Travaini, G., Wu, A. W., & Rimondini, M. (2019). Humanization of care: Key elements identified by patients, caregivers, and healthcare providers. A systematic review. *The Patient-Patient-Centered Outcomes Research, 12*, 461–474. <https://doi.org/10.1007/s40271-019-00370-1>
- Caesens, G., Stinglhamber, F., Demoulin, S., & De Wilde, M. (2017). Perceived organizational support and employees' well-being: The mediating role of organizational dehumanization. *European Journal of Work and Organizational Psychology, 26*(4), 527–540. <https://doi.org/10.1080/1359432X.2017.1319817>
- Cage, E., Di Monaco, J., & Newell, V. (2019). Understanding, attitudes and dehumanization towards autistic people. *Autism, 23*(6), 1373–1383. <https://doi.org/10.1177/1362361318811290>
- 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>
- Capozza, D., Boccato, G., Andrighetto, L., & Falvo, R. (2009). Categorization of ambiguous human/ape faces: Protection of ingroup but not outgroup humanity. *Group Processes & Intergroup Relations, 12*(6), 777–787. <https://doi.org/10.1177/1368430211426733>
- Capozza, D., Falvo, R., & Di Bernardo, G. A. (2022). Priming attachment security and outgroup humanization: The mediation role of intergroup emotions. *PLoS One, 17*, e0265714. <https://doi.org/10.1371/journal.pone.0265714>
- Capozza, D., Falvo, R., Favara, I., & Trifiletti, E. (2013). The relationship between direct and indirect cross-group friendships and outgroup humanization: Emotional and cognitive mediators. *TPM-Testing, Psychometrics, Methodology in Applied Psychology, 20*(4), 383–398. <https://doi.org/10.4473/TPM20.4.6>
- Capozza, D., Trifiletti, E., Vezzali, L., & Favara, I. (2013). Can intergroup contact improve humanity attributions? *International Journal of Psychology, 48*(4), 527–541. <https://doi.org/10.1080/00207594.2012.688132>
- Capozza, D., Visintin, E. P., Falvo, R., & Testoni, I. (2015). Deumanizzazione del paziente oncologico nei contesti medici [Dehumanization of the oncological patient in medical contexts]. *Salute e Società, 14*, 74–86. <https://doi.org/10.3280/SES2015-002006>
- Castro, A., Testoni, I., Zamperini, A., Ronconi, L., Galantin, L. P., & Caraceni, A. (2019). The implicit soul: Factors between the representation of death and dehumanization of patients. *Health Psychology Open, 6*(1), 205510291985466. <https://doi.org/10.1177/2055102919854666>
- 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/10.1177/1368430209347727>
- Cheng, Y., Lin, C. P., Liu, H. L., Hsu, Y. Y., Lim, K. E., Hung, D., & Decety, J. (2007). Expertise modulates the perception of pain in others. *Current Biology, 17*(19), 1708–1713. <https://doi.org/10.1016/j.cub.2007.09.020>
- Decety, J., Yang, C. Y., & Cheng, Y. (2010). Physicians down-regulate their pain empathy response: An event-related brain potential study. *NeuroImage, 50*(4), 1676–1682. <https://doi.org/10.1016/j.neuroimage.2010.01.025>
- Dyrbye, L., & Shanafelt, T. (2016). A narrative review on burnout experienced by medical students and residents. *Medical Education, 50*(1), 132–149. <https://doi.org/10.1111/medu.12927>
- Edú-Valsania, S., Laguía, A., & Moriano, J. A. (2022). Burnout: A review of theory and measurement. *International Journal of Environmental Research and Public Health, 19*(3), 1780. <https://doi.org/10.3390/ijerph19031780>
- Falvo, R., Colledani, D., & Capozza, D. (2021). Denying full humanity to patients and nurses' well-being: The moderating role of attachment security. *TPM-Testing, Psychometrics, Methodology in Applied Psychology, 28*(3), 329–342. <https://doi.org/10.4473/TPM28.3.4>
- Fernet, C., Austin, S., Trépanier, S. G., & Dussault, M. (2013). How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness. *European Journal of Work and Organizational Psychology, 22*(2), 123–137. <https://doi.org/10.1080/1359432X.2011.632161>
- Fontesse, S., Demoulin, S., Stinglhamber, F., de Timary, P., & Maurage, P. (2021). Metadehumanization and self-dehumanization are linked to reduced drinking refusal self-efficacy and increased anxiety and depression symptoms in patients with severe alcohol use disorder. *Psychologica Belgica, 61*(1), 238–247. <https://doi.org/10.5334/pb.1058>
- 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>
- Gnerre, P., Rivetti, C., Rossi, A. P., Tesesi, L., Montemurro, D., & Nardi, R. (2017). Work stress and burnout among physicians and nurses in Internal and Emergency Departments. *Italian Journal of Medicine, 11*(2), 151–158. <https://doi.org/10.4081/ijm.2017.740>
- Goff, P. A., Eberhardt, J. L., Williams, M. J., & Jackson, M. C. (2008). Not yet human: Implicit knowledge, historical dehumanization, and contemporary consequences. *Journal of Personality and Social Psychology, 94*(2), 292–306. <https://doi.org/10.1037/0022-3514.94.2.292>
- Gray, H. M., Gray, K., & Wegner, D. M. (2007). Dimensions of mind perception. *Science, 315*, 619. <https://doi.org/10.1126/science.1134475>
- Gray, K., Anne Knickman, T., & Wegner, D. M. (2011). More dead than dead: Perceptions of persons in the persistent vegetative state. *Cognition, 121*(2), 275–280. <https://doi.org/10.1016/j.cognition.2011.06.014>
- Gray, K., Waytz, A., & Young, L. (2012). The moral dyad: A fundamental template unifying moral judgment. *Psychological Inquiry, 23*(2), 206–215. <https://doi.org/10.1080/1047840X.2012.686247>
- Groyecka-Bernard, A., Karwowski, M., & Sorokowski, P. (2021). Creative thinking components as tools for reducing prejudice: Evidence from experimental studies on adolescents. *Thinking Skills and Creativity, 39*, 100779. <https://doi.org/10.1016/j.tsc.2020.100779>

- Gualano, M. R., Sinigaglia, T., Lo Moro, G., Rousset, S., Cremona, A., Bert, F., & Siliquini, R. (2021). The burden of burnout among healthcare professionals of intensive care units and emergency departments during the COVID-19 pandemic: A systematic review. *International Journal of Environmental Research and Public Health*, 18(15), 8172.
- Hakanen, J. J., Peeters, M. C. W., & Schaufeli, W. B. (2018). Different types of employee well-being across time and their relationships with job crafting. *Journal of Occupational Health Psychology*, 23(2), 289–301. <https://doi.org/10.1037/ocp0000081>
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The job demands-resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22(3), 224–241. <https://doi.org/10.1080/02678370802379432>
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30(6), 859–879. <https://doi.org/10.1016/j.jm.2004.06.004>
- Haque, O. S., & Waytz, A. (2012). Dehumanization in medicine: Causes, solutions, and functions. *Perspectives on Psychological Science*, 7(2), 176–186. <https://doi.org/10.1177/1745691611429706>
- Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging responses to extreme outgroups. *Psychological Science*, 17, 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](https://doi.org/10.1207/s15327957pspr1003_4)
- Herrera, F., Bailenson, J., Weisz, E., Ogle, E., & Zaki, J. (2018). Building long-term empathy: A large-scale comparison of traditional and virtual reality perspective-taking. *PLoS One*, 13, e0204494. <https://doi.org/10.1371/journal.pone.0204494>
- Hodson, G., & Costello, K. (2007). Interpersonal disgust, ideological orientations, and dehumanization as predictors of intergroup attitudes. *Psychological Science*, 18(8), 691–698. <https://doi.org/10.1111/j.1467-9280.2007.01962.x>
- Hoogendoorn, C. J., & Rodríguez, N. D. (2023). Rethinking dehumanization, empathy, and burnout in healthcare contexts. *Current Opinion in Behavioral Sciences*, 52, 101285. <https://doi.org/10.1016/j.cobeha.2023.101285>
- Hui, L., Qun, W., Nazir, S., Mengyu, Z., Asadullah, M. A., & Khadim, S. (2021). Organizational identification perceptions and millennials' creativity: Testing the mediating role of work engagement and the moderating role of work values. *European Journal of Innovation Management*, 24(5), 1653–1678. <https://doi.org/10.1108/EJIM-04-2020-0165>
- Jack, A. I., Dawson, A. J., & Norr, M. E. (2013). Seeing human: Distinct and overlapping neural signatures associated with two forms of dehumanization. *NeuroImage*, 79, 313–328. <https://doi.org/10.1016/j.neuroimage.2013.04.109>
- Jindal, D., Boxall, P., Cheung, G. W., & Hutchison, A. (2023). How do work engagement and work autonomy affect job crafting and performance? An analysis in an Indian manufacturer. *Personnel Review*, 52(8), 2008–2024. <https://doi.org/10.1108/PR-11-2019-0646>
- Kaiser, S., Patras, J., Adolfsen, F., Richardsen, A. M., & Martinussen, M. (2020). Using the job demands-resources model to evaluate work-related outcomes among Norwegian health care workers. *Sage Open*, 10(3), 2158244020947436. <https://doi.org/10.1177/2158244020947436>
- Kong, Y., & Li, M. (2018). Proactive personality and innovative behavior: The mediating roles of job-related affect and work engagement. *Social Behavior and Personality: An International Journal*, 46(3), 431–446. <https://doi.org/10.2224/sbp.6618>
- Kowalczyk, K., & Krajewska-Kułak, E. (2017). Patient aggression towards different professional groups of healthcare workers. *Annals of Agricultural and Environmental Medicine*, 24(1), 113–116. <https://doi.org/10.5604/12321966.1228395>
- 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>
- Kteily, N., Hodson, G., & Bruneau, E. (2016). They see us as less than human: Metadehumanization predicts intergroup conflict via reciprocal dehumanization. *Journal of Personality and Social Psychology*, 110(3), 343–370. <https://doi.org/10.1037/pspa0000044>
- Kteily, N. S., & Bruneau, E. (2017). Darker demons of our nature: The need to (re)focus attention on blatant forms of dehumanization. *Current Directions in Psychological Science*, 26(6), 487–494. <https://doi.org/10.1177/0963721417708230>
- Kteily, N. S., & Landry, A. P. (2022). Dehumanization: Trends, insights, and challenges. *Trends in Cognitive Sciences*, 26(3), 222–240. <https://doi.org/10.1016/j.tics.2021.12.003>
- Lagios, C., Nguyen, N., Stinglhamber, F., & Caesens, G. (2023). Dysfunctional rules in organizations: The mediating role of organizational dehumanization in the relationship between red tape and employees' outcomes. *European Management Journal*, 41(5), 802–813. <https://doi.org/10.1016/j.emj.2022.06.002>
- 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.
- Lindblom, K. M., Linton, S. J., Fedeli, C., & Bryngelsson, I. L. (2006). Burnout in the working population: Relations to psychosocial work factors. *International journal of behavioral medicine*, 13, 51–59. [https://doi.org/10.1207/s15327558ijbm1301\\_7](https://doi.org/10.1207/s15327558ijbm1301_7)
- Lindén, M., Björklund, F., & Bäckström, M. (2016). What makes authoritarian and socially dominant people more positive to using torture in the war on terrorism. *Personality and Individual Differences*, 91, 98–101. <https://doi.org/10.1016/j.paid.2015.11.058>
- Loughnan, S., & Haslam, N. (2007). Animals and androids: Implicit associations between social categories and nonhumans. *Psychological Science*, 18(2), 116–121. <https://doi.org/10.1111/j.1467-9280.2007.01858.x>
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, 2(2), 99–113. <https://doi.org/10.1002/job.4030020205>
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397–422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Mazzetti, G., Robledo, E., Vignoli, M., Topa, G., Guglielmi, D., & Schaufeli, W. B. (2023). Work engagement: A meta-analysis using the job demands-resources model. *Psychological Reports*, 126(3), 1069–1107. <https://doi.org/10.1177/00332941211051988>
- McVicar, A. (2016). Scoping the common antecedents of job stress and job satisfaction for nurses (2000–2013) using the job demands-resources model of stress. *Journal of Nursing Management*, 24, 112–136. <https://doi.org/10.1111/jonm.12326>
- Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). Guilford Press.
- Morehouse, K. N., Maddox, K., & Banaji, M. R. (2023). All human social groups are human, but some are more human than others: A comprehensive investigation of the implicit association of “Human” to US racial/ethnic groups. *Proceedings of the National Academy of Sciences*, 120(22), e2300995120. <https://doi.org/10.1073/pnas.2300995120>

- Muthén, L. K., & Muthén, B. O. (1998–2015). *Mplus user's guide* (7th ed). Muthén & Muthén.
- Papazian, L., Hraiech, S., Loundou, A., Herridge, M. S., & Boyer, L. (2023). High-level burnout in physicians and nurses working in adult ICUs: A systematic review and meta-analysis. *Intensive Care Medicine*, 49(4), 387–400. <https://doi.org/10.1007/s00134-023-07025-8>.
- Pavon, G., & Vaes, J. (2017). Bio-genetic vs. psycho-environmental conceptions of schizophrenia and their role in perceiving patients in human terms. *Psychosis*, 9(3), 245–253. <https://doi.org/10.1080/17522439.2017.1311359>
- Peckham, C. (2015). Medscape internist lifestyle report 2015. <http://www.medscape.com/features/slideshow/lifestyle/2015/internalmedicine#1>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- 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.
- Sassenberg, K., & Moskowitz, G. B. (2005). Don't stereotype, think different! Overcoming automatic stereotype activation by mindset priming. *Journal of Experimental Social Psychology*, 41(5), 506–514. <https://doi.org/10.1016/j.jesp.2004.10.002>
- Schaufeli, W. B. (2018). Burnout in Europe. Relations with national economy, governance and culture. <https://www.wilmarschaufeli.nl/publications/Schaufeli/500.pdf>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701–716. <https://doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Leiter, M. P., & Maslach, C. (2009). Burnout: 35 years of research and practice. *Career Development International*, 14(3), 204–220. <https://doi.org/10.1108/13620430910966406>
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The Maslach Burnout Inventory- General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach Burnout Inventory* (3rd ed., pp. 19–26). Consulting Psychologists Press.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71–92. <https://doi.org/10.1023/A:1015630930326>
- Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health. In G. Bauer, & O. Hämmig (Eds.), *Bridging occupational, organizational and public health* (pp. 43–68). Springer. [https://doi.org/10.1007/978-94-007-5640-3\\_4](https://doi.org/10.1007/978-94-007-5640-3_4)
- Schroeder, J., & Fishbach, A. (2015). The “empty vessel” physician: Physicians' instrumentality makes them seem personally empty. *Social Psychological and Personality Science*, 6(8), 940–949. <https://doi.org/10.1177/1948550615597976>
- Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., West, C. P., Sloan, J., & Oreskovich, M. R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, 172(18), 1377–1385. <https://doi.org/10.1001/archinternmed.2012.3199>
- Soper, D. S. (2024). A-priori sample size calculator for multiple regression [Software]. <https://www.danielsoper.com/statcalc>
- Swain, N., Gale, C., & Greenwood, R. (2014). Patient aggression experienced by staff in a New Zealand public hospital setting. *The New Zealand Medical Journal*, 127(1394), 10–18. <http://journal.nzma.org.nz/journal/127-1394/6125/>
- Tan, L., Wang, Y., Qian, W., & Lu, H. (2020). Leader humor and employee job crafting: The role of employee-perceived organizational support and work engagement. *Frontiers in Psychology*, 11, 499849. <https://doi.org/10.3389/fpsyg.2020.499849>
- Taris, T. W., Le Blanc, P. M., Schaufeli, W. B., & Schreurs, P. J. (2005). Are there causal relationships between the dimensions of the Maslach Burnout Inventory? A review and two longitudinal tests. *Work & Stress*, 19(3), 238–255. <https://doi.org/10.1080/02678370500270453>
- Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of individual job redesign. *South Africa Journal of Industrial Psychology*, 36(2), 1–9. <https://doi.org/10.4102/sajip.v36i2.84>
- 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>
- Utriainen, K., & Kyngäs, H. (2009). Hospital nurses' job satisfaction: A literature review: Hospital nurses' job satisfaction. *Journal of Nursing Management*, 17(8), 1002–1010. <https://doi.org/10.1111/j.1365-2834.2009.01028.x>
- 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>
- Van den Broeck, A., Elst, T. V., Baillien, E., Sercu, M., Schouteden, M., De Witte, H., & Godderis, L. (2017). Job demands, job resources, burnout, work engagement, and their relationships: An analysis across sectors. *Journal of Occupational & Environmental Medicine*, 59(4), 369–376. <https://doi.org/10.1097/JOM.0000000000000964>
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22(3), 277–294. <https://doi.org/10.1080/02678370802393672>
- Vezzali, L., Capozza, D., Di Bernardo, G. A., Falvo, R., Stathi, S., & Hodson, G. (2021). Strategies for the promotion of humanity attribution to outgroups. *European Review of Social Psychology*, 33(2), 215–254. <https://doi.org/10.1080/10463283.2021.1963156>
- Viottini, E., Politano, G., Fornero, G., Pavanelli, P. L., Borelli, P., Bonaudo, M., & Gianino, M. M. (2020). Determinants of aggression against all health care workers in a large-sized university hospital. *BMC Health Services Research*, 20, 215. <https://doi.org/10.1186/s12913-020-05084-x>
- Waytz, A., & Schroeder, J. (2014). Overlooking others: Dehumanization by commission and omission. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, 21(3), 251–266. <https://doi.org/10.4473/TPM21.3.2>
- Wendsche, J., Ihle, A., Wegge, J., Penz, M. S., Kirschbaum, C., & Kliegel, M. (2020). Prospective associations between burnout symptomatology and hair cortisol. *International Archives of Occupational and Environmental Health*, 93, 779–788. <https://doi.org/10.1007/s00420-020-01528-3>

**How to cite this article:** Capozza, D., Colledani, D., & Falvo, R. (2024). Are job characteristics associated with patient (de)humanization through the mediation of health providers' well-being? *Journal of Applied Social Psychology*, 1–14. <https://doi.org/10.1111/jasp.13060>