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(De)humanizing Metaphors of People in Pain and Their Association with the Perceived Quality of nurse-patient Relationship

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ABSTRACT

Metaphors are central in communication and sense-making processes in health-related contexts. Yet how the metaphors used by health-care-professionals to make sense of their patients and their relations to them are associated to the perceived valence of their clinical encounters is under-explored. Drawing-upon the ABC Model of Dehumanization, this study investigated how the humanizing or dehumanizing metaphors nurses' use for making sense of their pain patients are associated with how they perceived their relationships with them. Fifty female nurses undertook individual narrative-episodic interviews about easy/difficult cases in pain care. A content analysis classified the metaphors, identifying eight classes reflecting different types of patients (de)humanization. A multiple correspondence analysis extracted patterns of metaphors and their association with the perceived characteristics of the patient-nurse relationship. It showed how these patterns were not associated with patient sex or socioeconomic status (SES) but were related to the perceived valence of the clinical relationship. By uncovering how patient metaphors guide nurses' sense-making and potentially modulate interactions in clinical encounters, these findings may contribute to improve quality of pain care.

Introduction

The patient as a *fighter* or *a victim* of a disease: these are common metaphors used to depict people facing illnesses. These metaphors construct the patient in distinct ways: as fighting against the disease *versus* surrendering to it. This illustrates how metaphors are crucial in meaning-making, "central tools of communication and thinking" (Potts & Semino, 2019, p.81), modulating communication processes, influencing opinions and attitudes (Thibodeau, Boroditsky, & Lauwereyns, 2011; White & Landau, 2016). Indeed, metaphors have been shown to play a key-role on health outcomes by helping shape meaning-making processes affecting them (Rossi, 2021; Semino et al., 2015; Sontag, 1978). This association is well demonstrated by a recent study uncovering how war metaphors (e.g., *fight, battle*) used in cancer-care led patients to perceive cancer treatments as more difficult, increasing fatalistic beliefs about prevention (Hauser & Scharwz, 2019). Yet, most of these studies have focused on metaphors of the illnesses, and their implications for patients (Demmen et al., 2015; Landau, Arndt, & Cameron, 2018; Lawn, Delany, Pulvirenti, Smith, & McMillan, 2016), leaving underexplored the metaphors health professionals use to depict patients and their consequences for their interpersonal relationships. Therefore, it remains far from clear how in health-related contexts sense-making and communication may connect to health outcomes via the way they help construct clinical relationships, being important to examine these mediating

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pathways (Street, 2013). This paper will bridge this gap by investigating the metaphors nurses use for making sense of people in pain and exploring their associations with the characteristics they attribute to their clinical relationship.

We focus on nurses' relations with people in pain, given that pain is the main reason for people to seek medical care, and chronic pain one of the most prevalent, disabling and costly conditions worldwide (Gouveia & Augusto, 2011; Mularski et al., 2006). Moreover, pain assessment and management may be a challenging process, particularly when pain lacks a medical explanation (Eccleston, Williams, & Rogers, 1997; Pryma, 2017; Werner & Malterud, 2003). People with medically unexplained pain are often perceived by health professionals as difficult and uncooperative, which hampers interpersonal relations, often decreasing empathy and social proximity (DeRuddere, Goubert, Stevens, Williams, & Crombez, 2013; Eccleston et al., 1997; Malterud, 2000; Paulso, Danielson, & Norberg, 1999). This may be even worse when patients belong to a group with a lower social status, such as women (Malterud, 2000; Samulowitz, Gremyr, Eriksson, & Hensing, 2018) or people of low socioeconomic status (SES; Hollingshead, Matthias, Bair, & Hirsh, 2016; Ryn & Burke, 2000), who are often belittled, received with skepticism, described as demanding, passive toward their pain and lacking knowledge to manage it (Diniz, Castro, Bousfiled, & Bernardes, 2020; DeRuddere et al., 2013; Pryma, 2017). Because metaphors are important tools that help people make sense of complex and sensitive issues (Lakoff & Johnson, 1980; Semino, 2008), analyzing them can provide a better understanding of how nurses make sense of people with pain and whether their descriptions construct them in humanized or dehumanized ways. Examining the metaphors used by nurses caring for people with pain is especially relevant, as these professionals are in frequent, recurrent, and close contact with such patients, playing the role of mediators between them and other health professionals, such as doctors (Kress et al., 2015; Twycross, Quinn, Leegaard, Salvetti, & Gordon, 2018). Analyzing the range and variety of metaphors used by nurses to make sense of their patients with pain may contribute to uncovering how psychosocial processes of meaning-making and interpretation may be associated with the perceived valence of the health professional-patient relationships.

The present study thus aims to investigate how the metaphors nurses use to describe their pain patients are associated with the perceived quality of their relationships. It focuses more specifically on metaphors' potential for humanizing or dehumanizing patients, by drawing upon the *ABC Model of Dehumanization* (Tipler & Ruscher, 2014). This model explores the potential influence of metaphors on interpersonal relations and posits that metaphors may involve offering or denying people different human qualities. Next, we start by presenting a brief overview about the role of metaphors in clinical contexts, followed by the description of the *ABC Model of Dehumanization*, and how dehumanization can be expressed through metaphors.

Metaphors in medical contexts

Metaphors are omnipresent in language and discourse, constantly created and recreated: for this they rely on the association between a target domain, *i.e.*, often abstract, and complex concepts, to more concrete and familiar ones, *i.e.*, a source domain, in a process denominated as mapping (Lakoff & Johnson, 1980). Mapping allows to use the source domain as a "template" to think about the target domain, even if the two categories are barely related (White & Landau, 2016). The classical example "argument is war" communicates the idea that argumentation, like war, is an endeavor where opposing sides seek victory over each other. Yet war involves concrete resources, locations, and material artifacts, whereas argument involves abstract concepts and immaterial resources, like words and meanings. Hence, metaphors permit to interpret and communicate abstract ideas by grounding them in concrete ones, emerging as central components of sense making and human cognition (Lakoff & Johnson, 1980; Landau, Meier, & Keefer, 2010; Semino, 2008). If the target-source association is repeated, this increases the accessibility and speed of the association, decreasing the source aspects irrelevant to the metaphor (Renedo & Jovchelovitch, 2007; Tipler & Ruscher, 2014;

White & Landau, 2016). Through cultural repetition, metaphors become cognitive and social tools, anchored on other-shared cultural resources, and creating new shared ones, to be used to make sense of personal and collective experiences (Landau et al., 2010; Nerlich, Hamilton, & Rowe, 2006).

Hence, metaphors are an important tool to make sense of complex and sensitive health experiences, such as pain (Lakoff & Johnson, 1980; Semino, 2008; Semino, Demjén, & Demmen, 2017; Sontag, 1978), helping shape communication processes and interpersonal relations in health contexts. However, in health contexts, most research has focused on how metaphors of illness/health influence public opinion (Ribeiro, Hartley, Nerlich, & Jaspal, 2018; Wallis & Nerlich, 2005), or adherence to health behaviors/recommendations (Diniz, Bernardes, & Castro, 2019; Demmen et al., 2015; Hauser & Scharwz, 2019; Rossi, 2021). Therefore, it remains unclear how metaphors may be used by health professionals to describe the variety of patients with pain with whom they interact daily, and how the use of these metaphors may be related to the perception of quality of their clinical encounters. This is relevant because a good patient-health professional relationship relies on empathy and cooperation (DeRuddere et al., 2013; Malterud, 2000; Paulso et al., 1999; Rossi, 2021), which may be influenced by the latters' perceptions of the patients and the metaphors used to describe them. Therefore, is critical to examine how metaphors are used by health professionals to describe their patients with pain and how they are associated with the quality or valence they perceive their relationships to have. Considering that dehumanization – the psychological process by which people are denied certain human attributes – can influence attitudes and behaviors (Haslam & Loughnan, 2014; Tipler & Ruscher, 2014), it is critical to uncover how metaphors may be more or less dehumanizing of patients, influencing social proximity or distance from their carers (Haslam & Stratemeyer, 2016; Waitz & Schroeder, 2014). The *ABC Model* may shed light into this topic of research by conceptualizing how metaphors may be (de)humanizing by offering or denying people different human qualities.

The ABC model's account of dehumanizing metaphors

Dehumanization is a psychosocial process involving the denial of core characteristics of human beings, equating them to animals or machines, and can vary from subtle to blatant forms (Haslam, 2006; Haslam & Loughnan, 2014; Leyens et al., 2001). However, others have argued that the distinction between metaphors of animals and machines does not fully explain the different paths and intensities of dehumanization processes (see Tipler & Ruscher, 2014). For instance, both wolf and kitten are animals, but they reflect different types of agency -predatory vs. sweet – thus engendering distinct emotions, attitudes and behaviors on the perceiver, e.g., fear and domination for the former vs. liking and nurturing for the latter (Tipler & Ruscher, 2014). As such, the *ABC Model's Account of Dehumanizing Metaphors* (Tipler & Ruscher, 2014) adds to previous models of dehumanization by postulating that dehumanization is a complex psychosocial process that involves the attribution/denial of three distinct components of agency, *i.e.*, the possession of mental states allowing to act upon one's intentions. *Affective* agency refers to the ability to experience feelings and emotions, possess desires, and to feel pain, involving a repertoire of emotional expressions. *Behavioral* agency concerns the capacity to act upon the world, producing effective behavioral actions and may involve both cooperative and competitive behavior. Finally, *Cognitive Agency* refers almost entirely to mental function and specifies the capacity to hold beliefs and think rationally, i.e., possess higher-order cognitions. To be described as a full agent means being attributed these three dimensions. Full agents can experience a range of emotions, effectively act on their environment, and hold higher-order cognitions and beliefs. However, metaphors depicting full humanness are rare in communication and are mainly used to highlight superior characteristics (*e.g., superhumans*; Tipler & Ruscher, 2014).

The three agency dimensions may be differently ascribed/denied, in everyday descriptions of other people – offering eight possible paths toward dehumanizing others through metaphors, according to the *ABC Model* (Tipler & Ruscher, 2014). For example, animalistic metaphors combine affective and behavioral agency, and are typically used to present people as holding desires and behavioral efficacy, but not cognitive states (*e.g., kitten, cougar*); these types of metaphors are often addressed to women. Metaphors ascribing only behavioral agency construct people in ways that, by denying them mental and

affective states, inspire disgust and fear (*e.g., parasite, vermin)*; these types of metaphors are often associated with lower social status groups, *e.g.*, poor immigrants or welfare recipients (Tipler & Ruscher, 2014). Hence, the *ABC Model* theorizes how metaphors may construct dehumanized depictions of others in different ways, influencing perceivers' affections, emotions and behaviors, and hence, modulating interpersonal relationships (Haslam, Loughnan, & Holland, 2013; Tipler & Ruscher, 2014).

The *ABC Model*, by identifying eight different paths toward the dehumanizing depiction of others (Tipler & Ruscher, 2014), allows to uncover the variety of dehumanizing metaphors and their consequences on interpersonal relationships, which has been left unexplored, particularly in health contexts (Bastian et al., 2013; Haslam & Stratemeyer, 2016). Therefore, drawing on the *ABC Model*, we aimed to examine dehumanizing metaphorical depictions occurring in real clinical interpersonal relations in non-guided nurses' descriptions of their patients in real pain situations. Specifically, this study investigated: (1) the variety of metaphors used by nurses to describe different people with pain; (2) how metaphors promote more blatant or subtle patient (de)humanization by ascribing them different types of agency (affective, behavioral, cognitive); (3) the patterns of common (de)humanizing metaphors related to different patient characteristics (e.g. sex, SES) in pain situations presented as "easy" or "difficult"; and (4) how (de)humanizing metaphors are associated with how nurses perceive the quality of their relationships with their patients.

Materials and methods

Participants and procedures

Fifty female nurses from several Portuguese (private and public) hospital services (50% pain units and 50% other units involving pain management, e.g., orthopedics) were invited to take part in a larger research about perceptions of people with pain. Nurses' ages ranged from 28–57 years (M = 40.6; SD = 9.3), and they had at least five years of professional experience (M = 17.4; SD = 8.9; range 5–37 years).

Individual narrative-episodic interviews (Flick, 2000) were carried out to obtain detailed narratives of episodes of people in pain. Each interview began with open-ended questions regarding the nurses' professional experience and their pain assessment and management practices. Then, they were asked to freely recall real situations when they had found easy or difficult to understand and/or manage a patient's pain (e.g., *Please remember a situation of your daily practice in which it was easy/difficult to understand a patient's pain*). They were asked to describe in detail the situation and the person in pain, namely his/her physical and psychological attributes. When descriptions were too vague, specific questions were addressed to obtain more details (e.g., *How was the person in pain? How do you describe him/her physically? And psychologically? How did he/she manage his/her pain? Were you able to assess and manage his/her pain? How do you describe the relationship with that person?*). Interviews' average length was around one hour (M = 61.9 minutes; SD = 17.4) and most nurses chose to report clinical cases involving patients with whom they had the chance to interact regularly and over some time (e.g., inpatients)

Interviews were conduct in a private room of the hospitals where the nurses were working, between February and October 2017. Previously, an ethical approval was obtained by the Institutional Review Board of Iscte (ID: 14/2017) and of each hospital. Participants signed an informed consent, where the voluntary nature of their participation and the anonymity and confidentiality of the data was guaranteed.

Data analysis

Step 1: analytical procedure for classifying metaphors drawing on the ABC model

All interviews were audio-recorded and fully transcribed by research assistants. Then verbatim transcriptions were manually analyzed to identify the metaphors nurses used to describe their patients in pain. The identification of words/expressions as metaphors is a challenging task, as the pervasive

metaphorical use of words/expressions is easily overlooked and frequently taken to be literal (e.g., Nerlich, 2014; Pragglejaz Group, 2007). As such, we relied on a four-step metaphor identification technique developed by the Pragglejaz Group (1997): the Metaphor Identification Process (MIP). The MIP guidelines involve the following steps: (1) reading the entire text to establish a general understanding of the meaning and (2) to locate lexical units (words/expressions) that are seen as potential metaphors; (3) examining (a) how these lexical units establish their meaning in the context, *i.e.*, how they apply to an entity, relation, or attribute in the evoked situation; (b) determining if these lexical units have a more basic meaning in other contexts, *i.e.*, a meaning that is more concrete, precise, related to bodily actions or objects and historically older (but not necessarily more frequent); (c) whether the lexical units contextual meaning differs from their basic meaning but is understood in comparison with it; (4) If the response to steps above is yes, the lexical unit is to be considered as metaphorical.

As we aimed to identify the metaphors used by nurses for describing their patients in pain, only metaphors referring to the patient were selected. In this data, and as is always the case, although some expressions were obviously metaphorical – e.g., the patient is a *top class person* – there were others that were much less obvious – e.g., the patients is an *isolated person*. For the latter, and drawing upon the MIP method (Pragglejaz Group, 2007; Nerlich, 2014; Potts & Semino, 2017), we considered whether it had a more basic and concrete meaning in other contexts. For example, "isolated" may indeed have a concrete meaning, describing situations where people or objects are distanced from others. In our data this lexical unit was considered to be a metaphor when employed by nurses to describe patients who were not physically alone or isolated in a remote place, but instead as people who did not engage in relations or communicate with others available and present (Pragglejaz Group, 2007).

After identifying the metaphors, the next step was to conduct a content analysis to categorize them into one of the eight different types of (de)humanizing metaphors defined *a priori* by the the *ABC Model of Dehumanization* (Tipler & Ruscher, 2014; see Table 1). Moreover, the metaphors were also classified regarding their valence (positive *vs.* negative). A content analytic procedure was also followed to categorize nurses' descriptions of (1) the patient's sex (women, men), (2) socioeconomic status (low, middle, or high, following the informations offered in the interviews about the patient's professions), and (3) the perceived quality, or valence, of nurse-patient relationship (good, normal, bad). Perceived nurse-patient relationships were categorized as *good*, when nurses described them as excellent, or special, and as involving trust and/or empathy; as *normal*, when nurses presented them as a regular professional-patient relationship; and as *bad* when nurses described the difficulty to empathize with or trust the patient. This classification system was also defined *a priori*.

Although the MIP establishes guidelines for metaphor identification, it "(. . .) is not just a research tool to reliably judge metaphorically used words in discourse, but also it is an 'intuition-sharpener' to alert scholars to various linguistic and theoretical issues related to questions about metaphoricity in language and thought" (Pragglejaz Group, 2007, p.36). Therefore, the identification of potentially metaphorical expressions in nurses' descriptions of patients was jointly performed by the authors and discussed until consensus was reached. The categorization of the metaphors according to the *ABC model* was initially performed by the first author, to establish the coding system. Afterward, each metaphor was independently classified with the coding system. Disagreements were discussed by the three authors until consensus was reached.

Step 2: multiple correspondence analysis

A Multiple Correspondence Analysis (MCA) was performed to identify different patterns of (de)humanizing metaphors (active variables) and whether these patterns were associated to aspects of people in pain (sex, socioeconomic status), pain situation (easy vs. difficult), and type of relationship (good, regular, or bad). MCA is a statistical method to explore inter-correlations between multiple categorical variables, summarizing its associations in two-dimensional representations of data (Carvalho, 2008; Greenacre, 2007). The interpretation of these dimensions relies on discrimination measures and the contributions of active variables (Carvalho, 2008; Greenacre, 2007). The most relevant active variables for each dimension were

Table 1. Metaphors of *people in pain: Affective, behavioral, cognitive agency and valence.*

	Agency			
Metaphors of people in pain	Affective	Behavioral	Cognitive	Valence
1. Full agent metaphors: Ascribing Affection, Behavior, & Cognition (*n* = 1)				
Top-class	✓	✓	✓	+
2. On animals and fighters' metaphors: Ascribing Affect & Behavior (*n* = 20)				
Feisty	✓	✓	…	+
Catch you out	✓	✓	…	-
Cornered-cat	✓	✓	…	-
Out of control	✓	✓	…	-
Fighter/warrior	✓	✓	…	+
Open	✓	✓	…	+
3. Verticality Metaphors: Ascribing Affect & Cognition (*n* = 21)				
Weighed-down	✓	…	✓	-
Collapsed	✓	…	✓	-
Filled-up with rage	✓	…	✓	-
4. Distance metaphors: Ascribing Behavior & Cognition (*n* = 19)				
Bounce	…	✓	✓	+
Keeps barriers	…	✓	✓	-
Closed-off	…	✓	✓	-
5. Dear or doddering metaphors: Ascribing Affection only (*n* = 12)				
Swetty	✓	…	…	+
Lost	✓	…	…	-
Limmited	✓	…	…	-
6. Standoffish metaphor: Ascribing Behavior only (*n* = 1)				
Standoffish	…	✓	…	-
7. Brainy metaphors: Ascribing Cognition only (*n* = 1)				
Head-on-shoulders	…	…	✓	+
8. Fully dehumanizing metaphors: Denying Affection, Behavior, and Cognition (*n* = 3)				
Defeated	…	…	…	-

Note. ✓ Type of agency ascribed; + positive valence; – negative valence.

the ones that were above inertia value and had the highest discrimination/contribution values (*i.e.* highest explained variance; Carvalho, 2008; Greenacre, 2007). By projecting the categories of the variables as points in bidimensional graphs, MCA provides a graphical display of the associations between the categories allowing to identify the multivariate configuration of dehumanizing metaphors. The spatial proximity between categories allows to identify the number of patterns (Carvalho, 2008; Greenacre, 2007). The results of the content analysis and the MCA will now be presented sequentially.

Results

Step 1: Metaphor classification drawing on the ABC Model of Dehumanization

Table 1 presents the variety and valence of metaphors used by nurses to describe people in pain. Metaphors were grouped under the same category depending on the types of agency that they ascribed. The identified metaphors covered the eight dimensions originally proposed by the *ABC Model*. Next, we will provide a detailed account of each one of these dimensions, aiming to describe and illustrate how metaphors with different valences were used to (de)humanize patients by ascribing or denying them the three types of agency.

(1) *Full agents: Ascribing affective, behavioral, and cognitive agency.*

Metaphors involving full agency (*i.e.*, affective, behavioral and cognitive agency) are rare in communication (Tipler & Ruscher, 2014) and, as such, they were also barely mentioned by the participants. Only one of such metaphors was identified, which was employed to describe people

in extreme pain/illness conditions, highlighting their exceptional capacities to overcome pain limitations: ***He* [the patient] *was a top-class person***. *Despite his diagnosis, he was funny, he did what he could by himself, he was autonomous (. . .). I have a special affection for him* (ID13_H3; man; middle-SES). This metaphor described a patient who was stoic, kept his sense of humor despite the adversities of the situation (cognitive agency), was capable of emotional self-regulation (affective agency), and of remaining functionally autonomous (behavioral agency). This metaphor engendered perceivers' admiration and appreciation, as it often is the case of other metaphors involving full agency (Tipler & Ruscher, 2014; Waytz & Schoroeder, 2014), and it was associated to descriptions of positive and close nurse-patient relationships.

(2) *Animals, fighters, and object properties: Ascribing affective and behavioral agency*

Three types of metaphors were used to construct patients as holding affective and behavioral agency, while bracketing their cognitive mental states. As described in the literature this set of metaphors mainly appeal to animal characteristics (Tipler & Ruscher, 2014). In addition, a set of military/war-related metaphors, which are commonly used in health, also emerged, as well as metaphors involving object properties.

The first type of metaphors appealed to characteristics of animals, *e.g., "the patient has claws," "the patient is a cornered-cat*," constructing patients' behavior as mostly driven by affect and impulse rather than rationality, thus implicitly likening them to (wild) animals (Haslam, Loughnan, Kashima, & Bain, 2008; Tipler & Ruscher, 2014). These metaphors could be used either to praise or to criticize individuals, with distinct consequences on interpersonal relationships. For instance, the "*patient has claws"* metaphor was used to praise a woman's vitality and determination to overcome life challenges through her affective and behavioral agency (which according to Haslam et al., 2013 is a sign of human nature): *She was a woman with claws, working all day long, facing life. (. . .) We established a very good relationship, a relationship involving true empathy* (ID33_H3; woman; low-SES).

Nevertheless, animalistic metaphors were also used to criticize patients, emphasizing their lack of cognitive agency, reflected on their reduced ability to regulate the detrimental impact of emotions on behaviors (Haslam, 2006; Tipler & Ruscher, 2014). These metaphors illustrated what the nurses perceived as the dominance of negative emotional states (affective agency) and underlying uncooperative or impulsive behaviors (behavioral agency), justifying nurses' distrust and their perceptions of a negative nurse-patient relationship, as in the example below:

> *We know that after that we were not able to be close to her (. . .)* ***she was a cornered cat****. Sometimes it was a very difficult relationship, she did not accept our suggestions. She wanted to keep the control and sometimes we felt that we were being manipulated by her* (ID29_H2; woman; middle-SES).

The metaphors "[patients is]*out of control"* and "*patient who catches you out"* emphasized negative affective agency, sustaining the nurses' construction of the behaviors of these pain patients as impulsive and misadjusted and as limiting for interpersonal relationships. The depictions appeal to the characteristics of wild animals, emphazing their dangerous and uncontrollable behaviors and, henceforth, the need to be dominated or to be kept at a distance to avoid danger:

> *The* ***patient seemed completely out of control because*** *he was afraid of the procedures (. . .), it seemed that he would run the ward down. (. . .) It was a bittersweet relationship (. . .). I mean, I needed to scold him but also to be calm to convince him to do the procedures . . . he was a very difficult patient"* (ID41_H1; man; low-SES).

> *I have some friction with her. I don't like to be very close to her, because* ***she will easily catch you out, she will catch you out*** *and when she does, she will not stop demanding . . . that's why now I keep some distance from her* (ID16_H2; woman; low-SES).

The second type were military/war-related metaphors, which are commonly used to talk about health topics (Potts & Semino, 2017; Semino et al., 2017; Sontag, 1978) and, in this study, were also frequently used by nurses to describe their patients. Nurses resorted to positive-valenced military metaphors to

illustrate patients' affective and behavioral agency, emphasizing patients' strong desires and vigorous actions to recover their health or to prolong their lives (Potts & Semino, 2017; Semino et al., 2017). Although these metaphors did not bring to the fore patients' cognitive agency (e.g., ability to think abstractly or hold beliefs), they emphasized their ability to be effective agents regarding their illness situation by acknowledging their adaptive behavioral skills, such as persisting in recovery exercises (i.e., their behavioral agency). The recognition of these characteristics seemed to be associated by the nurses to what they saw as satisfactory interpersonal relationships:

> ***He was a person who fought***. *For instance, despite having only 15 minutes of physioterapy per day, he learned the exercises and did them by himself. He wanted to become active again (. . .). He was not an easy patient with everyone, but with me it was automatic, we had a very good relationship, it was a click, I don't know why, it was an automatic empathy* (ID9_H2; man; middle-SES).

> ***She was a woman that had fought*** *over her life and she kept* ***fighting*** *until the end. She had a very hard life but she remained fighting. She always fought. She fought until she died. (. . .) It was a very special relationship, a mutual relationship. I was on her side during all the illness process, since almost the beginning, until the end. I met her children, her family. I kept on her side until the end* (ID14_H1; woman; low-SES).

A third type of metaphor recalls to object properties – *i.e.*, open – to describe people's ability to express positive emotions and establish interactions, behaving properly. This metaphor emphasizing affective and behavioral agency, and also conveying a positive view of the patient, were the metaphors of the "*open patient*," who were those willing and able to allow others to "enter" in contact with them by exchanging affects and actions, while also following the clinical recommendations:

> ***She*** **[the patient]** ***was a very open person***, *with whom it was easy to interact. She was easy, she liked to talk, and she was open, she was open to dialogue, it was easy to establish a productive relationship* (ID35_H3; woman; middle-SES).

> ***He*** **[the patient]** ***was an open*** *person, (. . .) he was a positive person, managing his [pain] limitations* (. . .). [The relationship] *was great, great, not only with me, but with all of us* (ID27_H1; man; middle-SES).

In sum, although these three sets of metaphors all specifically emphasized the affective and behavioral agency of the people in pain, their different valences communicated distinct aspects of the person. Positive metaphors illustrated the positive outcomes of their affective and behavioral capacities, underlying positive desires and actions, e.g., the persistence to overcome life challenges, and associated by nurses with what they described as positive relations. Conversely, negative metaphors presented individuals as driven by negative emotions and behaviors, and as justifying caregivers' fear, suspicion, and distance (Eccleston et al., 1997; Waytz & Schroieder, 2014). This ambivalence is also present in descriptions of (wild) animals: they are admired for their strength and power but feared for their unpredictability and aggressiveness (Tipler & Ruscher, 2014).

(3) *Metaphors of verticality: Ascribing affective and cognitive agency.*

Metaphors in this category were mainly used to highlight patients' negative affective and mental states while de-emphasizing their behavioral agency. Most of these metaphors were anchored on characteristics of the material world, appealing to concrete physical/objectifying states, e.g., "*patient is collapsed,*" "*patient is weighed-down.*" This set of metaphors was used to depict patients as limited on their life achievements due to their illness. Indeed, negative emotional states and powerlessness are often associated with downward verticality (Landau et al., 2010; Schnall, 2014; White & Landau, 2016). This is depicted in the following metaphors that illustrate people's awareness and capacity for higher-order thinking regarding their situation (i.e., cognitive agency), but overwhelmed by negative emotional states (affective agency) that block their behavioral achievements:

> *She is a person who had a working life, therefore, who liked to go to work and now* ***she is collapsed***. *Sometimes,* ***people collapse*** *(. . .), we see that because they care less about themselves and are frustrated because of the life they left behind* (. . .). *Initially, it was just a professional relationship, but as time goes by it became a much closer relationship, involving personal details, a deeper empathy* (ID22_H2; woman; middle-SES).

Physically, there ***was weight*** *on her body,* ***she was weighed down****, as if she was carrying a burden on her shoulders, (. . .) she enters the room slowly, with a guarding movement, but also of discouragement (. . .), she had on her eyes that discouragement (. . .). It was a first-time appointment, so my attitude was to enhance her confidence in us, to listen to her, to clarify possible expectations, always validating her feelings* (ID25_H3; woman; low-SES).

These metaphors illustrate individuals' limited ability to sustain their physical needs, namely, to carry-out their professional activities, *i.e.*, uniquely human attributes (Haslam, 2006; Tipler & Ruscher, 2014falta ref). This type of metaphors is often related to others' condescendence, appealing to observers' pity and caretaking (Schnall, 2014; Tipler & Ruscher, 2014; White & Landau, 2016).

The metaphor of the "*patient filled-up with rage,*" also emerged to describe a person limited by extreme (negative) emotions (*i.e.*, rage) and thoughts (*i.e.*, concern, worry):

Currently, ***he is filled-up with rage****, he is young, he is 68 years-old and thinks "who is going to help me?". He is worried about his situation (. . .). It is a normal relationship, a professional one. There are patients that are special to us, and that was not the case. It was a normal nurse-patient relationship* (ID9_H1; man; low-SES).

She is filled-up with rage*, I know she brings it inside her. (. . .) We have a very good relationship (. . .) it is not friendship, but it is a special relationship that we built together over time* (ID29_H1; woman; low-SES).

She is filled-up with rage*, it is easy to understand that . . . she has a very short life, it is not easy . . . she has no solutions, with young daughters to raise (. . .). Very good, very good [*the relationship], *but I felt completely helpless, I had nothing to offer her . . .* (ID50_H1; woman; middle-SES).

Overall, this set of metaphors communicated individuals' negative mental states, underlying their (psychological) suffering. Despite the negative valence of these metaphors, by highlighting people's affective and cognitive agency, nurses seemed to connect with patients' suffering, by feeling pity and fondness (Tipler & Ruscher, 2014).

(4) *Distance metaphors: Ascribing behavioral and cognitive agency.*

A wide range of metaphors, with positive and negative valence, was used to illustrate people's behavioral and cognitive agency, often appealing to spatial orientation, *e.g.* "*patient bounced-back.*" Spatial orientation metaphors were typically used to highlight patients' positive attitudes toward difficult situations, their endurance, resilience and cooperation – cognitive agency (White & Landau, 2016) – associated to effective actions to overcome illness limitations – behavioral agency. Although Tipler and Ruscher (2014) theorized that individuals holding behavioral and cognitive agency tend to engender envy or suspicion on the perceiver, this was not the case. Positive metaphors were used to depict patients' ability to overcome the limitations brough about by their problems and diseases, and their awareness of the adjustments to life activities and goals that were needed to adapt to their environment (Tipler & Ruscher, 2014). These metaphors were related to social proximity (Waitz & Schroeder, 2014):

She was a nurse, very young, very active, but she accepted [illness limitations] *and moved on. She realized there were plenty of options and* ***she bounced back*** *(. . .). It was a close relationship, she was young, she also was a nurse and because of that, sometimes, these types of situations have a different impact on us* (ID5_H3, woman, midlle-SES).

She came back to work; ***she was bouncing back*** *over her limitations.* [The relationship] *is very close, very close. I can see that by the way she talks with me, by the nice way she deals with me, always updating me about her new achievements and life projects* (ID20_H3; woman; middle-SES).

Conversely, metaphors of the patient as *closed-off* and *distant* emphasized people's higher-order cognitive capacities, such as those revealed by specific interests, *e.g.*, reading or crosswords (cognitive agency). The behavioral agency was expressed by their ability to choose in which activities they would be involved. Yet this was often associated to descriptions of patients as uncooperative and lacking

emotional and experiential depth. As such, they were equated to machines, and described as unable to cooperate and to establish interpersonal relationships, engendering suspicion on others. (Tipler & Ruscher, 2014; White & Landau, 2016):

> ***He always keeps the distance, he was closed-off****, only talked when he felt pain (. . .). A normal relationship. He was an older person, focused on his world, so we did not establish a significant relationship. It was that normal professional-patient relationship* (ID40_H1; man; low-SES).

> ***He is closed-off*** *inside himself, who does not connect with the external world,* ***closed-off*** *on him. (. . .) Hum, my relationship with him was normal, the normal nurse-patient relationship, involving care and mutual respect* (ID35_H2; man; middle-SES).

Sometimes, the descriptions go further suggesting individuals actively chosing to sabotage the relationship, being depicted as unable to express needs, desires, and to trust others, increasing fear and suspicion (Tipler & Ruscher, 2014). It is important to bear in mind that these metaphors did not describe individuals' physical states but their attitudes and behaviors toward others:

> *It was a difficult relationship because clearly and deliberately [***he was*** **setting a barrier there****, when interacting with me and I assumed it was not the time, I didn't have any advantage in trying to break those* ***barriers*** *(. . .). It was difficult* [the relationship], *difficult in the way he was not interested to be connected, he just wants an answer from us* (ID25_H2; man; middle-SES).

> *He does not allow us to be close to him,* ***he keeps the distance****, focused on his books, on his crosswords, avoiding the relationship. Even with others* ***he remains always isolated. He actively isolated himself*** *from everything. (. . .) It was a difficult relationship, a relationship that does not flow . . . and it was impossible to go further* (ID29_H2; man; middle-SES).

Overall, metaphors in this category highlight how the ascription of agentic beliefs and attitudes may be used to praise individuals' efforts with positive metaphors (e.g. *bounce-back*), or to criticize them with metaphors illustrating the lack of cooperation (e.g. *closed-off*), or even actively sabotaging communication (e.g. *distance, barriers*), which may have distinct consequences on interpersonal relations.

(5) *Dear but doddering metaphors: Ascribing affective agency only.*

This set of metaphors highlighted patients' affective agency only, emphasizing their ability to feel and to experience emotions. Yet, because they did not ascribe them behavioral or cognitive agency, affective experiences were restricted to primitive desires and emotions (Tipler & Ruscher, 2014), which again may be communicated in positive or negative metaphors. The "*patient as sweety*" was used to stress patients' positive affects and emotions, but without ascribing reasoning and action – i.e. denial of cognitive and behavioral agency – they were reduced to affective states (Haslam, 2006; Haslam et al., 2008; Tipler & Ruscher, 2014), which may appeal to others' attitudes of nurturing and guidance (Tipler & Ruscher, 2014):

> ***She is always a sweety****. Even with pain she always keeps a smile. (. . .) A good and easy relationship. She was an easy person, it was easy to establish a relationship with her, despite difficulties related to pain management* (ID48_H1; woman; middle-SES).

> ***He was always sweet*** *to us (. . .). A professional relationship, but already with some personal components. Sometimes, it is impossible to keep a professional relationship only* (ID39_H1; man; low-SES).

Conversely, the metaphor of *being lost* illustrated individuals as filled with negative affect (affective agency), but no ability to think or act, which may inspire liking and assistance scripts, but also disrespect (Tipler & Ruscher, 2014):

> ***A woman that is currently lost****, completely depressed, always crying. (. . .) My relationship with her changed . . . In general, it was a good relationship, of trust. But currently she is really depressed, avoiding me and avoiding all of us, and it became a more challenging relationship* (ID20_H1; woman; middle-SES).

> ***She is a lady that currently is lost*** *(. . .), when she starts talking [*about the illness situation], *she just starts crying. I need to confess. I don't feel that I have a true relationship with her (. . .). Sometimes, I can't believe her suffering . . .* (ID43_H2; woman; low-SES).

> *She came in a deep suffering,* ***she is completely lost*** *(. . .). She was just starting a new professional achievement and was not able to have it . . . she was blocked by an accident! (. . .) A good relationship. An empathic relationship. These patients that come in weekly, it is normal to establish more personal relationships* (ID49_H1; woman; middle-SES).

In sum, metaphors ascribing only affective agency share the description of the target as uncapable of cognitive and behavioral agency, i.e., not being able to share decision-making processes and manage complex tasks (Tipler & Ruscher, 2014). As a consequence, people to whom these metaphors are addressed are often targets of prescriptive actions rather than shared decisions (Tipler & Ruscher, 2014), reinforcing social role asymmetries in health-care (Haque & Waitz, 2014), which may be related to subtle forms of dehumanization (Haslam, 2006; Haslam et al., 2013).

(6) *Standoffish: Ascribing behavioral agency only*

Only one metaphor exclusively reflecting behavioral agency- "patient is *standoffish*"- was used to illustrate that the patient was unable to be agentic on affections and cognitions (Tipler & Ruscher, 2014)*:* ***She is a standoffish*** *person. When we try to arouse her emotions, she runs away (. . .). It is a normal patient-nurse relation* (ID46_H1; woman; low-SES). Because behavioral agency was perceived as not regulated by emotions or reasoning, patients inspire suspicion and fear on others, which may limit the desire of proximity and care (Tipler & Ruscher, 2014; Waytz & Schroeder, 2014).

(7) *Brainy metaphors: Ascribing cognitive agency only.*

Brainy metaphors only ascribed cognitive agency, with the brains being "likely utilized (. . .) to metaphorically express mental experience" (Tipler & Ruscher, 2014, p. 223). The metaphor of the patient with the *head-on-shoulders* stressed patients' ability to hold higher-order cognitions, explicitly locating them in the brain (Tipler & Ruscher, 2014):

> ***She has her head-on-shoulders****, right? She was aware of the problem and its limitations (. . .). We became a little attached, she came in every week . . . and she was a health professional, so we were really aware of her limitations* (ID49_H1; woman; middle-SES).

This metaphor emphasized a conscious ability to make choices, which may promote cooperation from others (Tipler & Ruscher, 2014).

(8) *Fully dehumanizing metaphors: Denying agency overall.*

Metaphors which illustrate the denial of the three types of agency were not frequent in nurses' descriptions. This category was exclusively composed by a military metaphor, *"the patient was defeated,"* which illustrates capitulation to illness, failing to ascribe affective, behavioral and cognitive agency, i.e., fully dehumanized: *I believe* ***she was defeated*** *by her illness. She could have had a different attitude but* ***she simply decided to be defeated*** (ID46_H1; woman; low-SES). This metaphor by communicating others as presenting little value, may be associated to others' avoidance and disregard (Tipler & Ruscher, 2014).

Step 2: Multiple Correspondence Analysis

An MCA was performed to identify patterns of patient metaphors and their association to patient characteristics and quality of nurse-patient relationship. The categories with $n > 1$ depicting different types of metaphors were imputed as active variables. Only variables that discriminated more in one of the two selected dimensions (*i.e.*, value above inertia) were included in the final model (Table 2). Patient's SES, sex, the description of pain assessment by nurses as easy or difficult, and the quality of nurse-patient relationship (good, normal, bad) were included in the analysis as supplementary variables.

Table 2. Discrimination measures and contributions of the variables in the MCA model.

	Dimension 1 Positive metaphors		Dimension 2 Negative metaphors	
Metaphor dehumanization dimensions	Discrimination	Contribution (%)	Discrimination	Contribution (%)
Affection & Behavior + *(e.g. feisty, fighter)*	**.736**	3.079	.008	.037
Affection & Cognition – *(e.g. filled-up with rage)*	**.323**	1.351	.181	.834
Behavior & Cognition+ (e.g. *bounce-back)*	**.232**	0.971	.002	.009
Affection & Behavior – (e.g. *cornered-cat*)	.050	.209	**.363**	1.673
Behavior & Cognition – (e.g. *barriers*)	.228	.954	**.267**	1.230
Affection only – (e.g. *lost*)	.094	.393	**.362**	1.668
Fully dehumanized - (e.g. *defeated*)	.009	.038	**.339**	1.562
Total	1.672		1.522	
Inertia	.239		.217	
Explained variance	23.889%		21.741%	

The MCA identified two distinct and relevant dimensions providing an understanding of the multidimensional representation of (de)humanization patterns. Table 2 presents the metaphor categories more important to discriminate each dimension.

The two dimensions identified in the MCA account for 23.9% and 21.7% of the total variance, respectively. Both dimensions differentiated the types of agency ascribed, mainly related to the valence of the metaphors. Dimension 1 is mostly related to positive attributes, highlighting the role of positive affective agency and its combination with positive behavioral (e.g. *patient is a fighter*) and cognitive agency (e.g. *patient bounces-back*). It is important to note, however, that metaphors ascribing negative affection and cognition (e.g. *she was weighed-down*) are also in dimension 1. This makes sense considering that these metaphors were not used to criticize individuals but to present them as emotional creatures, unable to achieve their life goals, appealing to feelings of pity and caretaking (Tipler & Ruscher, 2014). In opposition, the dimension 2, reflected the negative valence of metaphors ascribing affective, behavioral and cognitive agency (Table 2).

The intersection of the two dimensions allowed to identify three patterns of dehumanizing metaphors and their association with patients' pain and nurse-patient relationship characteristics (i.e. supplementary variables; Figure 1).

According to Figure 1, pattern 1 gathers positive metaphors attributing to patients affective and behavioral agency (e.g., *she is a fighter*), or cognitive and behavioral agency (e.g., *she bounce-back*). In sum, it gathers metaphors of positive valence that always include *behavioral* agency. This pattern was associated with the supplementary variables involving a perception of "good" patient-nurse relationship and "easy" pain-related clinical situations. Hence, pattern 1 suggests that people whose pain was easily assessed and managed were typically depicted by nurses as trustful, reliable and in control of their own behavior, as well as effective communicators, which promotes closeness and satisfaction in relationships. Metaphors included in this pattern emphasize individuals' humanity by focusing on traits associated with their ability to establish interpersonal communication and relationships, appealing to social proximity and empathy. These are typical aspects of "easy" pain-related clinical situations (DeRuddere et al., 2011; Malterud, 2000; Williams & Bargh, 2008).

Pattern 2 included metaphors attributing negative behavioral agency combined with: (1) negative affective agency and the absence of cognition to mediate affections and behaviors (e.g. *patient is a cornered-cat*); or (2) negative cognitive agency used to actively sabotage the relation (e.g. *he is closed off*). These metaphors presented people as either unable to behave properly, communicate, and express emotions – *i.e.* behavioral and affective agencies. This pattern of metaphors was associated with patient-nurse relationships that were perceived as "bad."

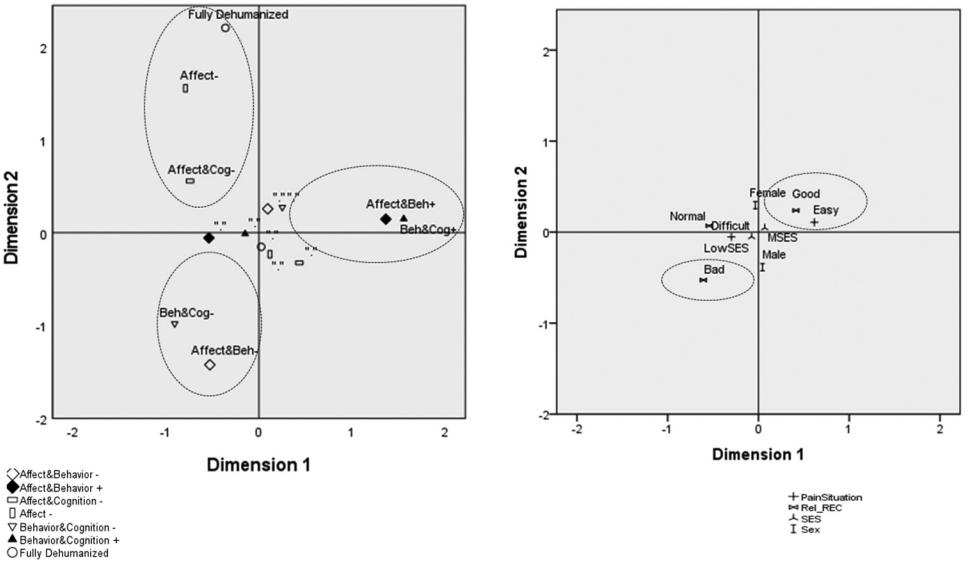

Figure 1. Topological configuration of (de)humanizing metaphors in association with individuals' characteristics.

Finally, pattern 3 gathers metaphors denying behavioral agency; metaphors convey negative valence ascribing affective agency (e.g., *patient is lost*), affective and cognitive agency (e.g., patient is *weighed-down*), or fully dehumanizing metaphors (e.g., patient is *defeated*). The fact that pattern 3 was not associated with characteristics of the patient, pain situation, or patient-nurse relationship, suggests that behavioral agency plays an important role on the quality of interpersonal relations in health contexts. Behavioral agency emerged as a central characteristic differentiating nurse-patient relationships perceived as good from those seen as bad (Figure 1). On the one hand, pattern 3 describes people depicted as holding affections and ability to reason, but as unable to keep their life moving forward, dominated by negative affections, which prevent them to be successful on life achievements and illness/pain management. These metaphors involve the recognition of suffering, appealing to nurses' pity and caretaking (Tipler & Ruscher, 2014). They may also suggest nurses' inability to effectively manage the patient's pain, thus, to be successful on their role as professionals (Eccleston et al., 1997; Malterud, 2000; Paulso et al., 1999), which may account for the lack of association with the quality of professional-patient relationship. On the other hand, fully dehumanizing metaphors seem to elicit discomfort on others, prompting their distance and disregard (Tipler & Ruscher, 2014), also accounting for the lack of association with the quality of nurse-patient relationship.

Discussion

The goal of this study was to qualitatively investigate which metaphors were used by nurses to make sense of people in clinical real pain situations, by examining the extent to which such metaphors were (de)humanizing by reflecting different type(s) of agency (affective, behavioral, cognitive). It also examined how the patterns of dehumanizing metaphors were associated with the perceived quality of nurse-patient relationship, namely by addressing social proximity or distance.

Overall, the qualitative approach provides a relevant way of understanding how metaphors were used in nurses' descriptions of people in pain. Findings corroborated the literature by uncovering how metaphors are an important cognitive tool to make sense of complex and subjective topics, such as pain (Lakoff & Johnson, 1980; Semino, 2008; Wallis & Nerlich, 2005). Moreover, we detail the extent to which these metaphors may differently (de)humanize patients, highlighting their distinct attributes (i.e. affective, behavioral, and cognitive agency; Tipler & Ruscher, 2014).

Additionally, the MCA results uncovered the association between patient metaphors and the quality of interpersonal relationships in clinical encounters (Lakoff & Johnson, 1980; Landau et al., 2010; Semino, 2008, p. 2010). It is suggested that nurses felt closer to patients to whom they associated metaphors ascribing positive types of agency, e.g., *person as fighter*, as these were the ones more related to "good" patient-nurse relations. Conversely, findings suggested that patients depicted by negative metaphors stressing behavioral agency, e.g. *collapsed person, closed-off person*, were associated with perceived "bad" nurse-patient relationships. This may be due to the nurses interpreting instances of negative behavioral agengy as meaning patients will be uncooperative, generating suspicion, lack of empathy and potentially decreasing social proximity (Eccleton et al. 1997; Tipler & Ruscher, 2014; Waytz & Schroeder, 2014).

However, these processes do not seem associated with patient's sex or SES. Previous research suggests that social class and gender shared-belief systems influence meaning-making processes (Lott, 2002; Samulowitz et al., 2018), leading to dehumanized representations of members of lower status groups (e.g. women, low-SES people), namely in pain assessment and management contexts (AUTHORS, 2020; Hollingshead et al., 2016). The present findings, however, did not find these associations. This may suggest that metaphors in medical contexts are more related to dynamic aspects of the person, such as his/her ability to communicate or be effective on the environment, than his/her belonging to certain social categories (Fuller, 2017; Rossi, 2021; Street, 2013). Results also uncover the role of behavioral agency in interpersonal relationships, suggesting that the valence of ascribed behavior influences the perceived quality of the relationship: people depicted by metaphors ascribing positive affections, cognitions and/or behaviors were associated to good nurse-patient relationship; whereas people presented with metaphors illustrating negative behaviors, often involving active sabotage of interpersonal relations seemed associated with bad nurse-patient relationship. As such, the perception of patient's behavior seems to play a key-role in health communication, potentially influencing interpersonal relationships (Cuddy et al., 2007; Tipler & Ruscher, 2014).

The joint analysis of the dehumanizing role of metaphors and their potential association with the perceived quality of interpersonal (and interdependent) relationships, such as those between nurses and their patients, provides significant theoretical and applied contributions to health and social psychology. Firstly, our findings clarify how nurses make sense of patients with pain complaints, going beyond the current literature, which has mainly examined metaphors of illness/health (AUTHORS, 2019; Demmen et al., 2015; Landau et al., 2018; Lawn et al., 2016). Secondly, grounded on a theoretical framework, the *ABC Model*, we have contributed to shed some light into how health professionals describe their patients and the possible implications for the quality of clinical encounters. This is also a relevant contribution as most studies have mainly examined how patients feel dehumanized by health professionals (*e.g.*, Werner & Malterud, 2004; Pryma, 2017), but disregarding the communication processes potentially associated to patients' experiences.

Our study also extends current applications of the *ABC Model*, which has mainly been used to understand how metaphors may be used to differently (de)humanize distinct social groups, mostly overlooking its implications for interpersonal processes in clinical context. This is meaningful given the lack of information about how language may account the quality of patient-clinician relation and its consequences to health outcomes (Rossi, 2021; Street, 2013).

Despite its contributions, some limitations of the current study need to be addressed. First, the qualitative design, relying on a relatively homogeneous small sample of female Portuguese nurses, limits generalizations. Second, since only female nurses were interviewed, results might have been different if male nurses and/or other health professionals were invited to describe people in pain. Third, given the study's design most of the nurses described episodes with patients with whom they had the chance to interact regularly and over some time. Hence, it is unknown whether nurses' metaphors influenced the quality of the relationship, or the latter influenced the choice of their metaphors. Fourth, by focusing on nurses' descriptions of their patients in pain we were not able to assess the relationship between metaphors and feelings of dehumanization by patients. Still, the results are meaningful as they uncover how metaphors are an important cognition tool, used to communicate

distinct characteristics of people in pain and how they may potentially influence pain assessment/management processes and the quality of clinical encounters. As such, more studies examining how metaphors influence health professionals' practices are required, namely, exploring how dehumanizing metaphors may mediate the association between the quality of health professional-patient relationship and pain management. This is relevant to better understand how language in general, and metaphors, in particular, may contribute to improve pain care.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, [Blind], upon reasonable request.

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