Dehumanization in severe alcohol use disorder

Identification of its relations with patients' emotions, cognitions, behaviors, mental health, and clinical prognosis

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“We but mirror the world. All the tendencies present in the outer world are to be found in the world of our body. If we could change ourselves, the tendencies in the world would also change. As a man changes his own nature, so does the attitude of the world change towards him”

Mahatma Gandhi

Table of contents

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General introduction

1. The premises of dehumanization

Social norms dictate the prescribed behaviors during human social interactions. Some interpersonal behaviors are recommended in such interactions; others are not. These prohibited interpersonal behaviors are defined by social constructs as not fitting an interaction between two humans. However, if one fails to perceive someone else's humanity, then normally prohibited behaviors might be deployed in disregard of social norms. This non-consideration of humanity in others is called *dehumanization* and is believed to be a key process in social interactions. These dehumanizing behaviors ─behaviors that convey the perception that one is not human─ need more consideration from research as they can have a massive influence on the victim. Victims of such behaviors can feel treated or perceived as less than human by others, a process called *metadehumanization*. Moreover, one can also consider that he/she is less than human, i.e., *self-dehumaniz*e (see Figure 1 for an illustrative example of dehumanization processes). Arguably, the ability to display adapted behaviors toward others in regard to our shared humanity is at the roots of our society. Exploring dehumanization processes is thus essential, considering their fundamental role in human interactions.

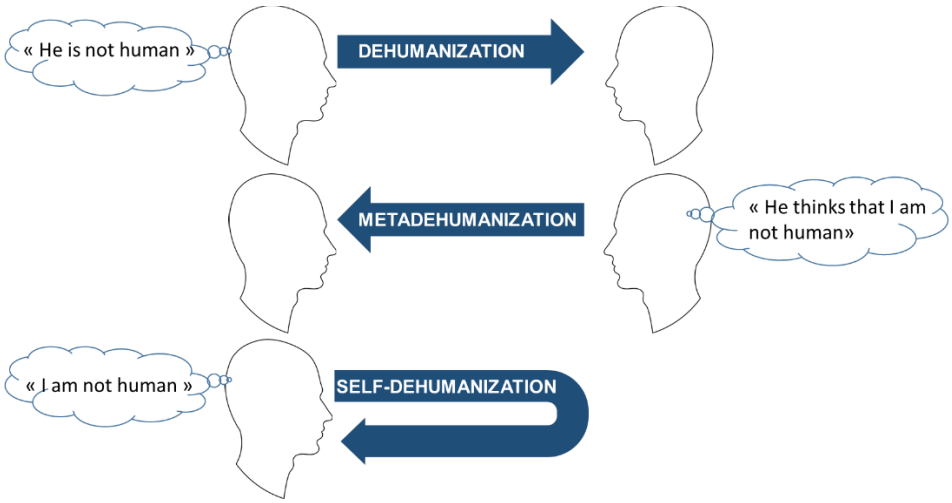

Figure 1. Illustrative examples of dehumanization processes

In order to understand the current operationalization of dehumanization, it is essential to identify its source and original uses. In the mid-20th century, dehumanization was in its early stages, and multiple uses appeared in sociological and philosophical works. These early conceptions of dehumanization will be described and illustrated with direct citations from the authors. These works encompass various fields of research, including economy, technology, social order, intellectual disability, criminality, and war.

Regarding economic disparity, Winthrop (1967) denounced the "economic dehumanization" of inhabitants of the Third World that takes the form of the inequitable appropriation of resources from the Western World. At that time, 13 percent of the world population possessed 55 percent of the world's wealth and resources. The author discussed how improved economic justice could constitute a way to humanize access to planetary resources.

> "To try to preserve the economic status quo by looking upon [the peoples of The Third World] as raw-material "feeders" to the industrially advanced nations of the West is a form of cryptic dehumanization."
> (Winthrop, 1967, p. 81)

In the field of technology, Hacker (1972) proposed that bureaucracy and materialism, fostered by the increased reliance on technology, caused the dehumanization of society. However, its antagonist, new romanticism, which emphasizes *antimachine values* such as impulsiveness, spontaneity, unpredictableness, and subjectivity, can also induce dehumanization. According to his perspective, dehumanization is thus operationalized as a denial of either rationality or emotionality.

> "Man is both a creature of technique and a creature of feeling and emotion. To deny either aspect of man is to dehumanize him."
> (Hacker, 1972, p. 267)

Cock (1974) assimilated dehumanization to a state of alienation provoked by the meaninglessness of life, and individuals' powerlessness and aloneness. In his view, the structure of the social order frustrates the psychosocial needs of humans. Cock (1974) proposed that dehumanization can later become internally self-generated, which he coined *the dehumanization syndrome* (see Figure 2). This dehumanization syndrome might be one of the first theoretical propositions of a form of self-dehumanization, starting from the

social order to the individual's mental life. In this perspective, self-dehumanization is assimilated to a negative mental experience constituted of neurosis, anxiety, and self-estrangement.

> "The meaninglessness of life, the individual's powerlessness and aloneness lead him to become neurotic, anxious, and self-estranged, in short, dehumanized" (Cock, 1974, p. 157).

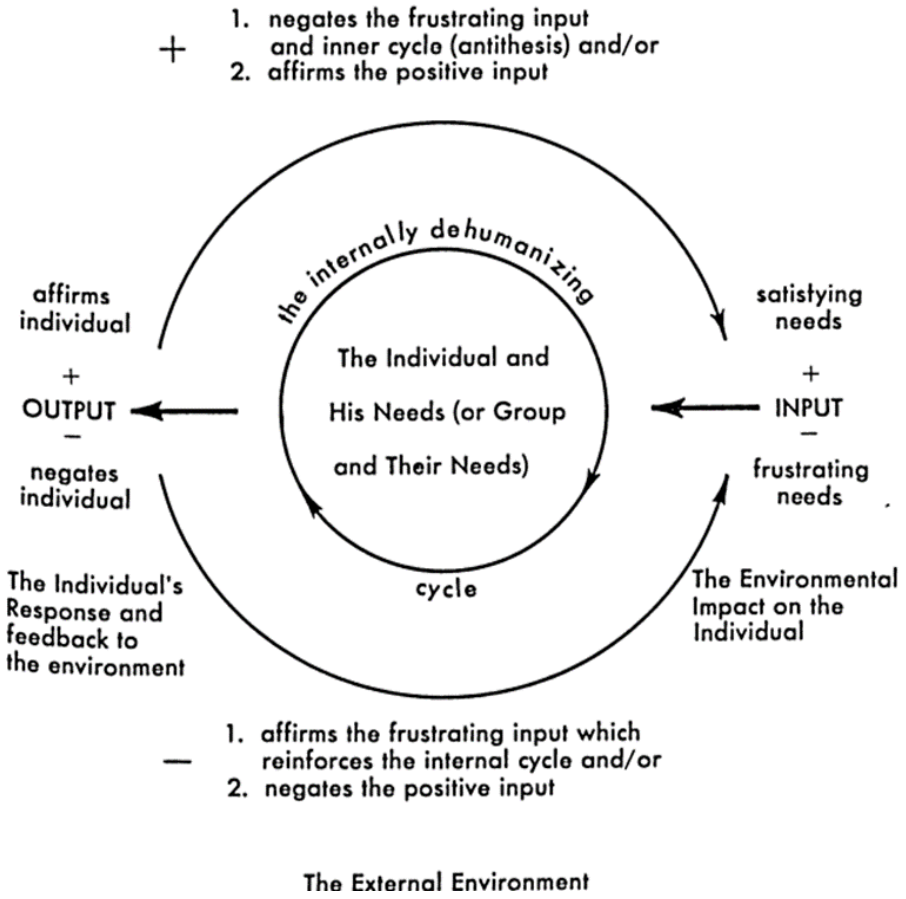

Figure 2. Graphical representation of the dehumanization syndrome (Cock, 1974)

Regarding the societal treatment of people with intellectual disability, White and Wolfensberger (1969) described how society's attitudes started as benevolent toward them but slowly shifted toward their dehumanization. These attitudes evolved from protecting the people with intellectual disability

to their depiction as a source of evil from which society had to be protected. This transformation, which happened in less than 50 years, fostered hostility and fear toward people with intellectual disability, which lead to their isolation, and sterilization.

> "As the small schools grew, their level of success declined. As noble philosophies were abandoned, the dehumanizing process began." (White & Wolfensberger, 1969, p. 7)

Dehumanization has also been studied in relation to adolescent homicide. Specifically, Miller and Looney (1974) hypothesized that the probability that an individual would commit murder was dependent on their capacity to dehumanize others. They distinguished total dehumanization, the complete deprivation of humanization to others, from partial dehumanization, defined as a form of projection toward the dehumanized individual, which hides the identity, and humanity of this individual.

> "In total dehumanization the other individual is seen as a nonperson, merely a thwarting object. In partial dehumanization the unacceptable part of an individual's personality is split off and projected onto the other." (Miller & Looney, 1974, p. 191)

Furthermore, different sources of dehumanization have been identified in some of the most dominant sociological, psychological, and philosophical paradigms (see Table 1; Cock, 1974).

Dehumanization has also been proposed to be one of the mechanisms involved in wars and genocides (Kelman, 1973). As the victims are excluded from humanity, perpetrators' moral principles do not need to be applied to these non-human targets. People can thus have any aversive behavior toward their dehumanized victims without having to pay the moral cost associated with executing these aversive behaviors. Kelman (1973) emphasizes the role of dehumanization in the unfolding of violent behaviors, and specifically in systematic killings.

Table 1. Description of man's nature and dehumanization sources according to different theoretical accounts (Cock, 1974)

DIFFERENT ORIENTATIONS	MAN'S NATURE	SOURCES OF DEHUMANIZATION
Marxism	Man has an essence that is directed toward socially positive interaction.	The frustration and suppression of man's essence by the social order's structure (largely the economic structure). This is largely determined by the control over the means of production and distribution.
Existentialism (J.P. Sartre)	Man is freedom.	By choosing to negate his freedom.
Freudianism	Drives (the Id) are socially destructive.	Derives from inability to live or cope with these destructive drives-the conflict between civilization and Id drives.
Behaviourism or sociologism (B.F. Skinner)	Man is passive, human nature non-existent. Man is merely a recipient and respondent to external stimuli. He learns to be a man.	Due to conflict between different stimuli (e.g., norms) may become normless, or the failure of socialization.
Humanistic (A.H. Maslow)	Similar to Marx. Man has certain needs organized in a hierarchy of relative prepotency. Man seeks to realise his potentialities. Dependent largely on his social physical environment for his need-satisfaction	Due to the frustration of his needs, caused by dehumanizing structures of the social order.

As illustrated by these early conceptions of dehumanization, this concept has been used in various contexts, and multiple definitions have been proposed. These conceptions either define dehumanization as an interpersonal process or as a condition in which individuals fall victim to larger social structures. This Ph.D. thesis will use the modern definition of dehumanization in psychology that is based on dehumanization as an interpersonal process: dehumanization defined as "the denial of full humanness to others" (Haslam, 2006, p. 252). This definition has the benefit of being concise, simple, and precise. Moreover, this definition fits the measures of dehumanization used in contemporary psychological studies (Haslam et al., 2005; Kteily et al., 2015).

2. Dehumanization, aversive interpersonal behaviors, and historical applications

Dehumanization is a major determinant of aversive interpersonal behaviors and is thus proposed to play an important role in violent conflicts and wars (Bandura, 1975; Kelman, 1973; Kteily et al., 2016). Attesting to the presence of dehumanization during wartime, dehumanizing rhetoric can be found in many military and political discourses before and during war periods. The most unequivocal example is undoubtedly Hitler's racist ideology. According to his worldview, multiple populations were considered as subhumans or animals, while the Aryans were considered the true paragon of humanity. The hierarchical representation of humans is characteristic of the dehumanization process. Many metaphors were used to deny victims' humanity, a common and widely documented strategy to dehumanize others (Haslam, 2006; Loughnan et al., 2014; Ong, 2016; see Figure 3 for an example of dehumanizing propaganda). In the Nazi ideology, many categories of people were described as vermin undermining the German people.

Figure 3. Example of dehumanizing propaganda towards Japanese (Courtesy of the National Archives and Records Administration, n.d.)

The Nazi ideology is often used as an iconic example of dehumanization as the Holocaust is the largest genocide to occur in recorded history, considering both the number of victims and the size of the persecution implemented. However, dehumanizing rhetoric can also be found in other genocides. In the 1994 Rwandan genocide, Tutsis have been described as dogs, snakes, or cockroaches (Ong, 2016). In the same vein, depicting outgroups as biological threats (e.g., disease incarnate, virus, microbes, public health hazard) has also been reported in multiple genocides such as the Ukrainian, Cambodian, and Armenian genocides (Savage, 2007). These metaphors are used to reframe killings as simple "work" to cleanse a nation that is perceived as tainted by the presence of the dehumanized ethnic groups. Dehumanization is thus proposed to allow mass killings to be construed as banal or even virtuous duty (Savage, 2007). Nevertheless, while dehumanization has been repeatedly associated with mass killings, no empirical evidence has been provided to demonstrate that dehumanization directly enables to genocides. Alternatively, dehumanization has also been conceptualized as a post hoc justification for past wrongdoings (Castano & Giner-Sorolla, 2006).

Dehumanization is not a thing of the past, and dehumanizing discourses are still plentiful in our times. Donald Trump, the current president of the United States of America, qualified immigrants as animals ("These aren't people. These are animals"). During the Ukrainian revolution and the violent conflicts that followed, dehumanizing metaphors were also used to qualify members of opposing parties (e.g., potato bugs); dehumanizing neologisms were even created (e.g., "*kastryulegoloviye*," i.e., "Panheads" to qualify protestors; Baysha, 2020). Politicians tend to dehumanize political opponents, and this dehumanization is associated with greater social and moral distance perceived with political opponents (Cassese, 2019). Considering the critical effects of dehumanization as an enabler of morally prescribed and often-violent behaviors, any instance of dehumanizing discourse should be identified as a sign of possible upcoming human rights violations.

In addition to these very blatant examples of dehumanization, more subtle day-to-day dehumanizing practices have been reported. Reviews of articles on this topic (Haslam, 2006; Haslam & Stratemeyer, 2016) reveal that dehumanization is present in many different domains such as education, sport, pornography, work, and new technology. For example, concerns have been addressed regarding the use of computers in education as they are

feared to increase standardization, thus neglecting students' individuality (Jennings, 1968). The pervasiveness of dehumanization in diverse domains is congruent with the claim that dehumanization is thought to escape the awareness of the perpetrator and to take implicit forms (Castano & Giner-Sorolla, 2006; Leyens et al., 2000). This form of dehumanization has also been coined passive dehumanization (Waytz et al., 2013), which is an everyday phenomenon, happening each time we subtly fail to recognize others' full mental capacities (Waytz et al., 2013).

Overall, dehumanization is a phenomenon that influences many interpersonal behaviors, that have marked many dark chapters of history, but that is still prevalent in our times. It can also take many forms, from the most subtle to the most blatant. Considering its implications and complexity, dehumanization unarguably deserves researchers' attention.

3. Dehumanization in medicine and alcohol use disorders

In addition to the domains proposed above, dehumanization is also expected to take place in medical settings (Haque & Waytz, 2012). Multiple reports have documented the presence of dehumanization from medical health professionals toward patients (Cameron et al., 2016; Trifiletti et al., 2014; Vaes & Muratore, 2013).

While current evidence points toward the presence of dehumanization in medical settings, dehumanization could be even more potent toward psychiatric patients, and more specifically, toward patients with severe alcohol use disorder (SAUD). Early conceptions of dehumanization already described that some psychiatric populations, such as people with intellectual deficiency, were dehumanized by others and that dehumanization could be found inside psychiatric institutions (White & Wolfensberger, 1969). We argue that patients with SAUD are more dehumanized than other patients because they face strong stigmatization and rejection from the society, which are known antecedents of dehumanization (Cameron et al., 2016; Park & Park, 2015).

While current evidence suggests that patients with SAUD might be dehumanized, empirical investigation of these patients' perception of being dehumanized by others is lacking. Considering the ill effects of dehumanization on how victims are treated by others, research on this topic

in patients with SAUD is urgently needed (Bastian & Haslam, 2011; Zhang et al., 2017). The present Ph.D. thesis will, therefore, answer to this need. Namely, patients with SAUD's metadehumanization, their perception of being dehumanized by others, will be investigated in relation to their emotions, cognitions, behaviors, and clinical prognosis. Chapter 1 will present the theoretical background of this thesis, and Chapter 2 will build upon this background to propose a research agenda as well as clinical implementations regarding dehumanization in SAUD. Chapters 3 to 6 will investigate, for the first time, patients' perception of being dehumanized by others. This perception will be associated with variables covering patients' emotions, behaviors, cognitions, mental health, and clinical prognosis.

This perspective will be complemented with a study of heavy drinkers in chapter 7. This study's goal will be to assess and compare heavy drinkers' metadehumanization to light drinkers' metadehumanization. Differences in emotions, coping strategies, and self-esteem will also be investigated. Chapter 8 will provide another complementary perspective to the other studies by investigating nurses' dehumanization of psychiatric patients. The main goal of this study will be to investigate if psychiatric patients, including patients with SAUD, are more dehumanized and stigmatized than non-psychiatric patients. The results from all these studies will be integrated in the general discussion. Implications, limits, and perspectives will be proposed.

Chapter 1
Theoretical background

In this chapter, the theoretical background of this Ph.D. thesis will be presented. In the first section, the models of dehumanization will be described[1]. In the second section, research on dehumanization from the perspective of the perpetrator will be reviewed. The third section will develop the perspective of the victims. The fourth section will introduce dehumanization in the field of medicine and psychiatry. Finally, in the fifth and last section of this chapter, alcohol use disorders will be presented. More specifically, the specific characteristics of patients with severe alcohol use disorder (SAUD) regarding their cognitive and socio-cognitive deficits will be presented and linked to dehumanization.

1. Modern conceptions of dehumanization

1.1. Infrahumanization theory

Infrahumanization is the process of attributing reduced humanity to others. It is distinct from dehumanization, which is the complete deprivation of humanity to others (Leyens et al., 2007). The infrahumanization theory (Leyens et al., 2001) is based on the psychological essentialism perspective, which states that individuals endow different essences to social groups to explain their differences. These essences are considered as defining features that characterize the very nature of these social groups (Haslam et al., 2000; Leyens et al., 2001). Several characteristics have been found to constitute the human essence: intelligence, reasoning, sentiments (i.e., secondary emotions), and language (Leyens et al., 2000).

[1] This section will present the models of dehumanization that define or redefine dehumanization. Models detailing the relations between dehumanization and other concepts using definitions of dehumanization that are presented elsewhere will not be presented in this section.

In this theory, primary emotions are distinguished from secondary emotions. Primary emotions are shared with primates, appear early in life, and have a quick onset but a short duration (e.g., anger, joy, surprise; Ekman, 1992). Secondary emotions are specific to human beings, appear later in life, and have a longer duration (e.g., sorrow, admiration, contempt). The infrahumanization theory proposes that individuals attribute lesser humanity to outgroups compared to the ingroup. The authors supported that humanity was preferentially attributed to the ingroup by documenting the reduced attribution of secondary emotions to outgroups compared to the ingroup (Leyens et al., 2001). Importantly, this effect was not explained by a simple effect of valence as both primary and secondary emotions contained positive and negative emotions. Moreover, primary emotions were not found to be differently attributed between ingroup and outgroup. Considerable evidence has been provided to support the infrahumanization theory (Castano & Giner-Sorolla, 2006; Cortes et al., 2005; Cuddy et al., 2007; Vezzali et al., 2012).

1.2. The bidimensional model of dehumanization

Building on infrahumanization theory, the bidimensional model of dehumanization is proposed to extend it by integrating a second sense of humanness: *human nature* (Haslam et al., 2005). More precisely, Haslam and colleagues (2005) argued that infrahumanization theory only investigated the characteristics that distinguish humans from animals but lacked essentially human characteristics that are not defined by comparison. Their studies distinguished *uniquely human traits* from *human nature traits*. Uniquely human traits were evaluated to appear later in human development and were neutral in valence. Human nature traits were believed to be present early in life, evaluated positively, and shared cross-culturally. One of the main distinctions between uniquely human traits and human nature traits is that uniquely human traits seem to be acquired, whereas human nature traits are perceived as innate. According to this theory, infrahumanization corresponds to denying uniquely human traits to others.

Following this distinction, Haslam (2006) proposed the bidimensional model of dehumanization, which distinguishes two forms of dehumanization: animalistic dehumanization that is based on the denial of uniquely human traits, and mechanistic dehumanization based on the denial of human nature traits (see Figure 4). While this model extends on infrahumanization theory, the author's motive for choosing the term dehumanization instead of

infrahumanization is unclear. Moreover, no evidence was presented to support the transition from their first interpretation of the denial of human nature characteristics, i.e., “the characteristics that are viewed as central to or typical of humans, in a noncomparative sense” (Haslam et al., 2005, p. 938), to their second interpretation, “a view of others as object- or automaton-like” (Haslam, 2006, p. 258), which is inherently comparative. Nevertheless, the bidimensional model of dehumanization has received extensive support in the literature and is one of the most influential models in the field (Bastian & Haslam, 2011; Haslam & Stratemeyer, 2016; Zhang et al., 2017).

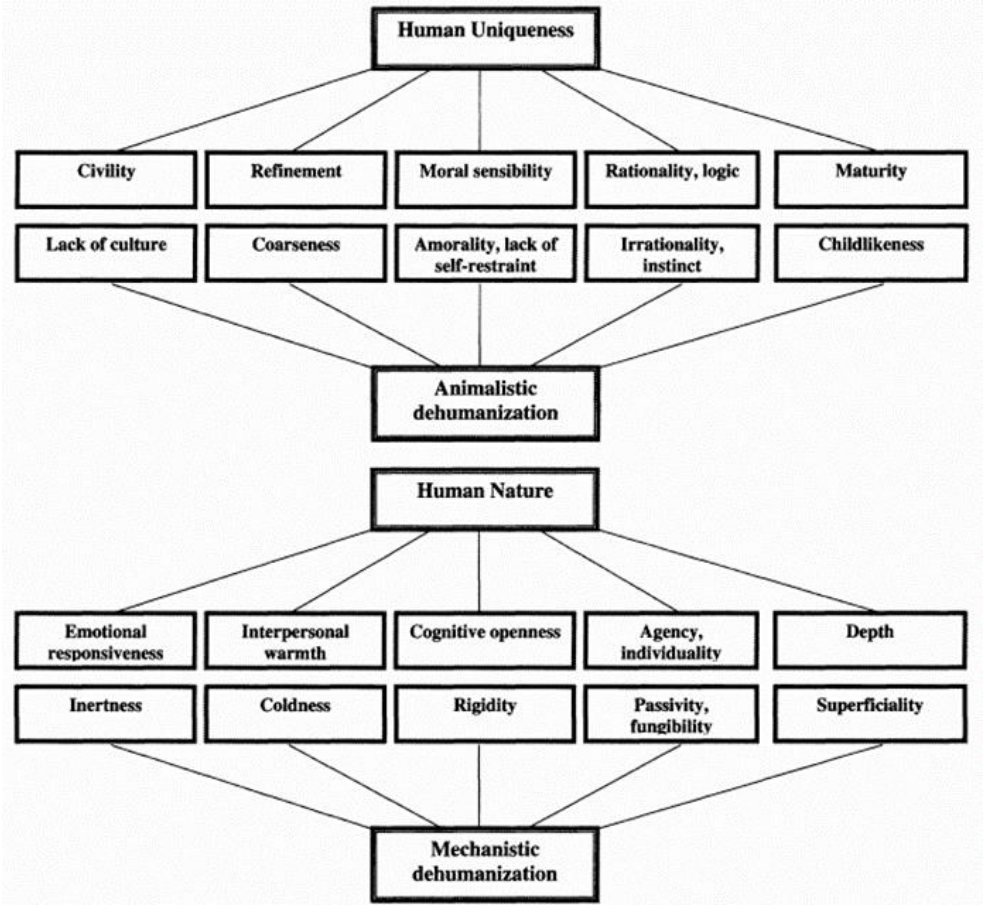

Figure 4. The bidimensional model of dehumanization (Haslam, 2006)

1.3. ABC Model of Dehumanization

More recently, Tipler and Ruscher (2014) argued that current models of dehumanization failed to take into account the wide variety of dehumanizing metaphors (e.g., comatose individuals as vegetables). The authors proposed a broader and more detailed theory encompassing more metaphors than previous models. Their model is based on three distinct components of agency: *affective* (the ability to experience emotions and feel pain), *behavioral* (the ability to act and to affect the environment), and *cognitive* (the ability to think and hold beliefs). According to this model, the attribution and denial of these specific types of agency to targets determine the emotions and behaviors adopted by the perceiver. Moreover, by crossing the attribution or denial of the three types of agency, this model categorizes many metaphors (see Table 2). For example, drug users are denied all three types of agency and are metaphorically assimilated to vegetables. In reaction to this mental association, perceivers are expected to feel discomfort and nervousness, which should lead them to the avoidance of drug users (Tipler & Ruscher, 2014). This model thus provides a detailed theory of dehumanization, which allows for specific predictions regarding emotions and behaviors. However, empirical studies testing this approach are still lacking.

Table 2. The ABC model of dehumanization (Tipler & Ruscher, 2014)

Affective	Behavioral	Cognitive	Target	Emotions	Behavioral Script	Metaphors
+	+	+	In-group	Appreciation	Admire	Superhumans
+	+	–	Sexualized Women: "Temptresses"	Fear	Tame, Dominate	Predators, Wild Animals, Beasts
+	–	+	Primitive Peoples, Elderly	Liking, Pity	Nurture Assist	Children
+	–	–	Children, Women: "Dumb Blondes"	Liking, Disrespect	Nurture Dominate	Prey, Domesticated Animals, Pets
–	+	+	Asians, Jews, Businesspeople	Disliking, Respect, Envy	Challenge, Reprogram	Robots, Automata
–	+	–	Terrorists, Homeless	Disgust, Fear	Exterminate	Vermin, Insects, Zombies
–	–	+	Intellectuals	Disinterest, Disregard	Ignore	Brains
–	–	–	Drug Users, Comatose Individuals	Discomfort, Nervousness	Avoid	Vegetables

1.4. Stereotype content model (SCM)

The stereotype content model (Fiske et al., 2002) distinguishes two fundamental axes of social judgment: *warmth* and *competence*. These axes are major determinants of people's attitudes and emotions toward other groups (see Table 3). While this model is not initially a model of dehumanization, it has been used to identify dehumanized groups. More precisely, groups that are attributed low competence and low warmth (e.g., homeless people and drug addicts) are expected to be dehumanized by others (Harris & Fiske, 2006). These groups elicit dislike and disrespect but also contempt and disgust. Neuroimaging data showed that groups evaluated as low in competence and warmth elicited less neural signature associated with social cognition (decreased medial prefrontal cortex, mPFC, activation). Furthermore, the neural patterns elicited by low-low groups were congruent with feelings of disgust (increased amygdala and insula activations; Harris & Fiske, 2006).

Table 3. Steoretype Content Model (Fiske et al., 2002)

	Competence	
Warmth	Low	High
High	Paternalistic prejudice Low status, not competitive Pity, sympathy (e.g., elderly people, disabled people, housewives)	Admiration High status, not competitive Pride, admiration (e.g., in-group, close allies)
Low	Contemptuous prejudice Low status, competitive Contempt, disgust, anger, resentment (e.g., welfare recipients, poor people)	Envious prejudice High status, competitive Envy, jealousy (e.g., Asians, Jews, rich people, feminists)

1.5. Mind perception theory

Gray and colleagues (2007) proposed that the attribution of mind was determined by two main dimensions: *Agency* and *Experience*. On one side, Agency refers to the capacity for self-control, morality, memory, emotion

recognition, planning, communication, and thought. One the other side, Experience refers to the capacity to feel hunger, fear, pain, pleasure, rage, desire, pride, embarrassment, and joy as well as the ability to have a personality and a consciousness. While this theory was initially designed to investigate the attribution of mind to humans and non-human targets such as animals and other entities (e.g., god, robots), mind attribution is now commonly used to assess dehumanization (Bernard et al., 2020; Cameron et al., 2016; Wollast et al., 2018).

1.6. Flexible Social Cognition

Harris (2017) developed a conceptualization of dehumanization anchored in the concept of flexible social cognition. According to this theory, dehumanization is defined as the "*withholding of social cognition*" (p. X, ten in roman numbers). The central assumption of this model is that social cognition is not a stable process, with people considering rather flexibly the minds of others. Depending on the social context, the behavior of the target, and the personality of the observer, he/she might consider the mind of the target or, at the opposite, might disengage the consideration of the targets' mind (i.e., dehumanize the target). This flexible mind appraisal is proposed to have promoted survival in a period when humans lived in small groups and where migrations between these groups required flexible social cognition because humans can be trustworthy or deceitful (Harris, 2017). Thus, the flexible alternation between dehumanization and humanization allowed for adaptation to various targets and contexts.

1.7. Integration of models

Multiple theoretical models have been developed and mobilized to explain dehumanization processes (see Table 4 for a summary of the models). Li, Leidner, and Castano (2014) have developed an integration of the bidimensional model of dehumanization, the stereotype content model, and the mind perception theory. They propose that the dimensions from these models overlap. On one side, Human Nature, Experience, and Warmth are proposed to correspond to one another. On the other side, they propose that Human Uniqueness, Agency, and Competence match as well. Namely, Human Nature traits encompass traits pertaining to Experience (emotional responsiveness and individuality) and Warmth (interpersonal warmth). Uniquely Human traits encompass traits related to Agency (moral sensibility, self-restraint, rationality) and Competence (rationality, logic, maturity). This

proposal is not perfect as they assimilate Agency to a Uniquely Human trait, but Agency is literally a Human Nature trait, not a Human Uniqueness trait. Similarly, some aspects of Experience are secondary emotions (pride, embarrassment), which are perceived as Uniquely Human and could thus be categorized as similar to Human Uniqueness instead of Human Nature. Nevertheless, the authors proposed an innovative conceptualization of the combinations of the two modes of dehumanization in relation to the perception of mind and SCM (see Table 5). By crossing both types of dehumanization, four forms of dehumanization are generated.

Table 4. Summary of the dehumanization models

Model	Operationalization of dehumanization
Infrahumanization theory	Infrahumanization, the reduced attribution of humanity, is indexed by a reduced attribution of uniquely human characteristics such as secondary emotions.
Bidimensional model of dehumanization	Animalistic dehumanization is the denial of uniquely human traits. Mechanistic dehumanization is the denial of human nature traits.
ABC model of dehumanization	Denial of three types of agency: affective, behavioral, and cognitive leads to eight profiles of dehumanization and one of humanization
Stereotype content model	Groups low in competence and warmth are dehumanized
Mind perception theory	Decreased mind attribution is synonymous of dehumanization
Flexible social cognition	Dehumanization is the contextual withholding of social cognition

2. Dehumanization from the perspective of the dehumanizer

The modern models and conceptions of dehumanization offer a sound theoretical background to this thesis. In this section, research on dehumanization from the perspective of the dehumanizer will be developed, starting with the consequences of dehumanization. The types of harm enabled by dehumanization and the reciprocal dehumanization effect will also be presented. The causes of dehumanization will be addressed in the next section.

Table 5. Forms of dehumanization/humanization derived from the crossing of Human Nature and Human Uniqueness (Li, Leidner, and Castano, 2014).

	Human Uniqueness	
Human Nature	High	Low
High	• Humanization (e.g., ingroup members) • Superhumanization (e.g., God, religious authorities)	• Animalistic dehumanization (e.g., artists, disable people, traditional women)
Low	• Mechanistic dehumanization (e.g., businesspeople, technicians, unfamiliar outgroups/others) • Superhumanization (e.g., God) • Demonization (e.g., terrorists; Jews in the Nazi propaganda)	• Double dehumanization: - with no or negative utilities to the perceiver: disgusted dehumanization (e.g., homeless, drug addicts) - with utilities to the perceiver: objectification (e.g., slaves, women in pornography)

2.1. The consequences of dehumanization

The psychological empirical study of dehumanization's role in aversive behaviors and, more specifically, in aggression started in 1975 with a study on the disinhibition of aggression through the dehumanization of the victims (Bandura, 1975; see Table 6).

In this study, participants were made to believe that they would play a supervisor's role and that other participants would presumably play the role of decision-makers (all participants were actually supervisors, not decision-makers). Participants' role was to administer a shock to the decision-makers when they made a mistake. The intensity of the shocks was left to the participants' choice and was the variable of interest. Subjects could be in the humanized condition (decision-makers were described as "a perceptive, understand, and otherwise humanized group"), neutral (no evaluation), or dehumanized condition (decision-makers were described as "an animalistic, rotten bunch"). Such simple manipulation was sufficient to elicit stronger shock deliveries from participants, especially when participants' individual responsibility was dismissed, i.e., when participants were told that shocks provided to decision-makers were averaged from all supervisors (Bandura, 1975; see Figure 5 for the mean shock intensity as a function of dehumanization and responsibility conditions). As absolutely no instruction

was given regarding shock intensity levels, participants were thus free to administer shocks to the lowest intensity; dehumanization was nonetheless enough to make participants deliver painful shocks. Dehumanization thus led to increased unnecessary aggression.

Table 6. Origins, instigators, and regulators of aggression in social learning theory (Bandura, 1975)

ORIGINS OF AGGRESSION	INSTIGATORS OF AGGRESSION	REGULATORS OF AGGRESSION
Observational learning	Modeling influences	External reinforcement
	Dishinbitory	Tangible rewards
Reinforced performance	Facilitative	Social and status rewards
	Stimulis enhancing	Expressions of injury
Structural determinants	Aversive treatments	Alleviations of aversive treatment
	Physical assaults	Punishment
	Verbal threats and insults	Inhibitory
	Adverse reductions in reinforcement thwarting	Informative
	Incentive inducements	Vicarious reinforcement
	Instructional control	Observed reward
	Bizarre symbolic control	Observed punishment
		Self-reinforcement
		Self-reward
		Self-punishement
		Neutralization of self-punishment
		Moral justification
		Palliative comparison
		Euphemistic labeling
		Displacement of responsibility
		Diffusion of responsibility
		Dehumanization of victims
		Attributions of blame to victims
		Misrepresentation of consequences

Other inquiries of the consequences of dehumanization revealed that it led to negative attitudes and behaviors toward the dehumanized (Haslam, 2006; Haslam & Stratemeyer, 2016). Dehumanization is often conceptualized as a mistreatment enabler, as it permits a wide range of behaviors, which are normally inhibited against other human beings (Bevens & Loughnan, 2019). Participants express more verbal abuse toward dehumanized individuals (Albarello & Rubini, 2015). In a study on attitudes toward immigrants, the dehumanization of refugees led to a lack of admiration and greater contempt toward them, which were, in turn, associated with more negative attitudes toward refugees and national refugee policies (Esses et al., 2008). Participants higher in *social dominance orientation* (SDO, i.e., the tendency to perceive the dominance of inferior groups by superior groups as legitimate and to support group-based hierarchies) were especially likely to dehumanize refugees (Esses et al., 2008). Dehumanization of African-Americans has been shown to aggravate the shooter bias toward them (Mekawi et al., 2019). Similarly, the historical representation of Black

individuals as apelike has been shown to persist and to contribute to the greater endorsement of violence against Black suspects compared to White suspects (Goff et al., 2008). Furthermore, the use of dehumanizing metaphors to describe Black defendants in the media has been linked to the frequency of capital punishment even when controlling for many variables such as crime severity, socioeconomic status, and aggravating circumstances (Goff et al., 2008). Dehumanization of Muslims has also been linked to support for torture of Muslim prisoners of war, this relation being moderated by the perception Muslims as a threat (Viki et al., 2013). While most studies focused on ethnic or national groups, dehumanization processes are also relevant in the perception and treatment of groups not based on ethnicity, or nationality. Indeed, cyclists were found to be dehumanized by participants, and this dehumanization was linked to participants' self-reported aggressive behaviors toward them (Delbosc et al., 2019).

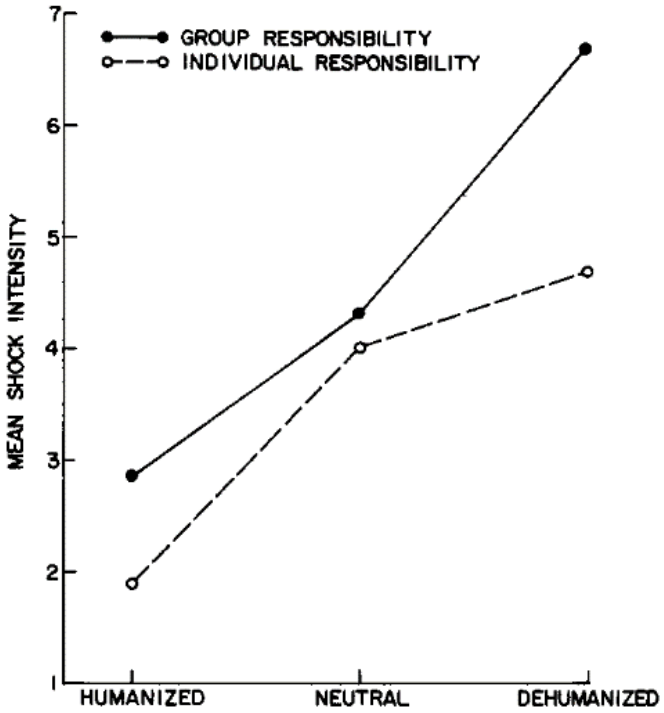

Figure 5. Mean intensity of shocks administered by participants as a function of the diffusion of responsibility and the dehumanization of targets (Bandura, 1975)

2.1.1. Types of harm caused by dehumanization

Other research aimed at determining the type of harm that dehumanization can cause. Rai, Valdesolo, and Graham (2017) found that dehumanization leads to an increase in *instrumental violence* (i.e., violence that benefits the perpetrator) but does not cause *moral violence* (i.e., violence aimed at punishing someone for wrongdoing; Rai, Valdesolo, & Graham, 2017). The authors also showed the reverse relations: participants imagining maltreatments dehumanized their victims if they hurt them to gain money but humanized their victims if they hurt them to punish them for immoral behavior (Rai et al., 2017). The interpretation proposed was that the dehumanization of victims is motivated by the willingness to escape the guilt coming from committing wrongdoing to personally benefit from the violence. In contrast, they were motivated to humanize their victims if the violence was based on moral grounds because this violence needs to be targeted at someone deserving blame and capable of understanding its meaning (Rai et al., 2017). However, in the context of wealth redistribution, people's animalistic dehumanization of groups with low socio-economic status was linked to more blame of these groups, which in turn was linked to opposition to wealth redistribution (Sainz et al., 2019). Contradicting results have been found regarding dehumanization and blame: in one study (Rai et al., 2017), blame was proposed to be linked to increased humanization, whereas in the other (Sainz et al., 2019), blame was linked to increased animalistic dehumanization. More research is needed to explain the differences between these papers.

2.1.2. Reciprocal dehumanization

Dehumanization's wide range of negative consequences on the dehumanizer's attitudes and behaviors towards the victims have been largely documented. Most studies have focused on *subtle dehumanization*, where dehumanization is assessed by decreased attribution of traits or emotions that are perceived as uniquely human or as part of human nature (Demoulin, Torres, et al., 2004; Haslam, 2006). Nevertheless, dehumanization can also take blatant forms in which the victim is openly dehumanized by others through metaphors or open denial of his/her humanity (Kteily & Bruneau, 2017b).

In his work on blatant dehumanization using the Ascent of Man Scale (see Figure 6), Kteily investigated dehumanization in many modern conflicts and emphasized the role of blatant dehumanization in the maintenance of these conflicts (Bruneau & Kteily, 2017; Kteily et al., 2015, 2016; Kteily & Bruneau, 2017a, 2017b). His works showed convincing evidence for the reciprocal dehumanization effect (Kteily et al., 2016). American participants who were experimentally manipulated to increase their perception of being blatantly dehumanized by Arabs or Muslims expressed more dehumanization toward Arabs and Muslims in return compared to controls (Kteily et al., 2016). Moreover, participants' perception of being blatant dehumanized by Arabs (i.e., metadehumanization) was indirectly associated with their support for aggressive policies toward Arabs such as torture, which was explained by stronger dehumanization of Arabs (Kteily et al., 2016). In a sample of Israelis, feeling dehumanized by Palestinians was associated with dehumanizing Palestinians, which in turn was linked to participants' emotional hostility toward Palestinians and support for aggressive policies such as torturing Palestinians or firing real bullets at Palestinians protestors to disperse them (Kteily et al., 2016). Moreover, metadehumanization and dehumanization of Palestinians were also directly linked to participants' decreased support for a two-state solution to the conflict, and they increased support to hostile solutions such as "Absorbing the West Bank and Gaza into Israel without giving Palestinians a right to vote" (Kteily et al., 2016, p. 354). All these effects were controlled for *metaprejudice*, the perception of being disliked by Palestinians; feeling dehumanized thus has effects distinct from feeling disliked by the outgroup.

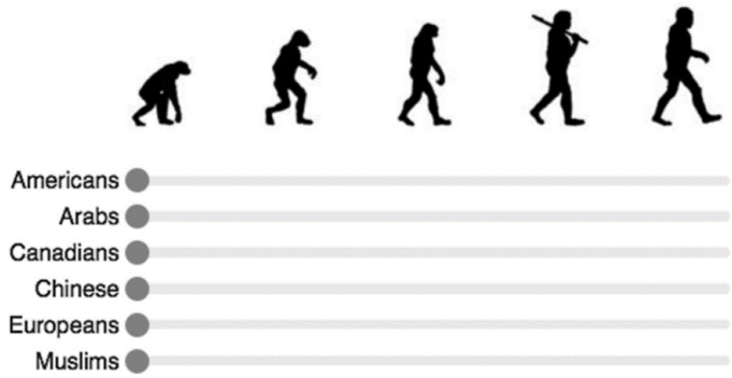

Figure 6. Ascent of Man Scale (Kteily, et al., 2016)

Similar results were found using a manipulation of the perception of the dehumanization of Westerners by ISIS in American participants. Controlling for metaprejudice and prejudice, metadehumanization was linked to support for drone strikes, opposition to terrorism, punishment of Muslims, and support for militaristic counterterrorism (e.g., using enhanced interrogation techniques, i.e., torture; Kteily et al., 2016). Another research in the context of the asymmetric conflict between Israelis and Palestinians showed that both groups had extreme levels of dehumanization toward the other group (i.e., the other group was deemed closer to the less evolved primate than to the fully evolved humans; Bruneau & Kteily, 2017).

In support of the proposition that dehumanization must have played an important role in past conflicts and genocides, the extreme levels of dehumanization reported in this study were also linked to support for extreme military operations. For example, on average, Israelis participants indicated that in order to save the life of one Israeli soldier, they would be willing to kill 575 Palestinian civilians (49,9% of the sample chose the maximum value: 1000 Palestinian civilians; Bruneau & Kteily, 2017). This illustrates how severe dehumanizing processes can be regarding the evaluation of others' lives. While their research focused solely on blatant animalistic dehumanization, feeling dehumanized by others consistently caused the dehumanization of these others, which, in turn, increased the support for violations of human rights.

2.2. Developmental dehumanization

Dehumanization seems to start as soon as infancy. Indeed, white-skinned children between the ages of 6 and 10 tended to dehumanize black-skinned children (Costello & Hodson, 2014). A model was proposed based on the interspecies model of prejudice (Costello & Hodson, 2010). According to this model, children's dehumanization of outgroups is determined by parents' social dominance orientation. Indeed, children with high social dominance orientation parents reported greater human-animal divides, which, in turn, predicted higher dehumanization tendencies (see Figure 7 for the graphical representation of their model). Finally, dehumanization predicted stronger racial prejudice (Costello & Hodson, 2014). Other studies also attested to the presence of dehumanization in infancy. Children dehumanize their non-friends more than their friends (Van Noorden et al., 2014). Six-year-olds were

already shown to humanize their ingroup more than outgroups (McLoughlin & Over, 2017). In another study, children as young as five-year-olds were found to attribute less humanness to faces from outgroups compared to ingroup faces (McLoughlin et al., 2018). Cumulative evidence supports the presence of dehumanization in children. Nevertheless, no study documents the developmental stage at which dehumanization starts or if dehumanization is an innate or learned process.

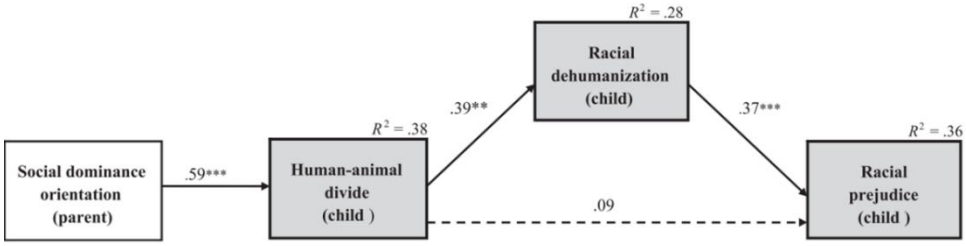

*Figure 7. Interspecies model of prejudice tested in children (grey) with parent SDO as an exogenous variable. **p < .01; ***p < .001 (Costello & Hodson, 2014, study 2)*

2.3. The causes of dehumanization

2.3.1. Characteristics and perceptions of the victims

Group membership and physical characteristics

Most studies on dehumanization were conducted in the field of intergroup relations. Group membership has been closely associated with dehumanizing tendencies and was the main driver of infrahumanization initially investigated (Leyens et al., 2000, 2001). Most dehumanization research focused on social and ethnic groups (Goff et al., 2014; Hagan & Rymond-Richmond, 2008; Prati & Loughnan, 2018). Other research has suggested that characteristics such as age and height of the target can also influence humanity attribution. Indeed, young people tend to animalistically dehumanize older people; however, this effect could be a group effect or an effect driven by stereotypes against older people (Boudjemadi et al., 2017). It is often difficult to disentangle the group effect from the effects of perceived differences in physical, mental, or cultural characteristics. However, minimal grouping (i.e., the categorization of participants in artificially created groups, e.g., “Comets” vs. “Asteroids”) was sufficient to elicit infrahumanization of members of the outgroup (Simon & Gutsell, 2019). Moreover, Kunst, Kteily, and Thomsen (2017) revealed that height influences dehumanization so that groups with shorter members are more dehumanized, the effect is particularly strong for participants with high levels of social dominance

orientation. Dehumanization is thus driven by both the group membership and the physical characteristics of the target.

Work occupation

Work occupation can also trigger dehumanization (Valtorta et al., 2019). A study investigating laypeople's perception of multiple jobs conducted a cluster analysis of participants' judgment of these jobs' physical, moral, and social taints. These clusters generated three main groups and one work occupation isolated from the others. The first group (e.g., janitors, garbage collectors) was characterized by the physical taint and was assimilated to a virus by participants. The second group (e.g., blue-collar workers, leaflet distributors) was characterized by the social taint and was mechanistically dehumanized, i.e., they were associated with objects. The last group (e.g., politicians, lawyers) was characterized by moral taint and was animalistically dehumanized, i.e., associated with animals. Finally, prostitutes did not enter any cluster and were perceived as having more physical, social, and moral taint than the three other groups (Valtorta et al., 2019). People's dehumanizing attitudes are thus also driven by their perception of work occupation, and different work occupations engender different metaphors-based dehumanization types.

Accordingly, another study created a labor market composed of real participants (the players) who could be bought by another set of participants (the buyers; Harris et al., 2014). The players were evaluated based on their performance on a time estimation task, and their price was set accordingly. Buyers could buy up to five players with real money provided by the experimenters. A set of bought and non-bought players' trials were shown to buyers, who were asked to reevaluate the price of these players. Buyers' brain activity was examined during reevaluation. Buyers showed reduced activations of brain regions involved in social cognition when evaluating bought players compared to non-bought players (Harris et al., 2014). Ownerships of others in the context of an economic market thus seems favorable to the dehumanization of these individuals. A similar process could be at play in the employer-employee relationship as well as in the sports domain where players can be bought and sold depending on both performance and economic goals.

Disgust

Dehumanization can also be caused by the media portrayal of certain groups (Dalsklev & Kunst, 2015)[2]. More precisely, texts eliciting disgust toward a group have been shown to increase participants' dehumanization of this group. In this study, forged news articles were presented to the participants. Two conditions were compared; an unhygienic condition depicting dirty eating practices was compared to a control condition, depicting normal eating practices. The unhygienic condition elicited more disgust in participants, and disgust was, in turn, associated with dehumanization. Additionally, this condition also elicited more support for the deportation of Roma, the group depicted in the article (Dalsklev & Kunst, 2015). Contemporary media portrayal can thus induce dehumanizing tendencies toward certain groups, just as past war propaganda once did.

This study, in addition to emphasizing how media can shape individuals' dehumanizing attitudes toward certain groups such as Roma, also emphasizes disgust' close relation with dehumanization (Dalsklev & Kunst, 2015). Indeed, Dalsklev and Kunst showed that disgust mediated the relation between their manipulation of hygiene perception and dehumanization of the outgroup.

Similarly, in another study, attitudes toward immigrants were also found to be determined by dehumanization and disgust (Utych, 2018). In two studies comparing the effects of a text dehumanizing immigrants to a text with negative but non-dehumanizing material toward immigrants, Utych (2018) found that dehumanization of immigrants was associated with increased disgust toward them, which in turn was associated with negative attitudes toward immigration (similar results were found with anger in their second study). Namely, dehumanization and disgust predicted less support for an

[2] Another study (Esses et al., 2008) proposed a manipulation involving the use of a journal article to dehumanize refugees and could thus have been discussed to highlight other causes of dehumanization. However, this manipulation did not seem to alter dehumanization directly, instead dehumanization seems to be an indirect consequence of this manipulation. Indeed, this manipulation depict refugees as liars, cheaters who profit from the systems. There is no metaphor, no human traits, nor direct reference to humanity in their manipulation. This manipulation is thus not discussed in the main text.

amnesty program granting legal status to illegal immigrants, less belief that the number of legal immigrants should be increased, and more support for increased border security (Utych, 2018). The link between dehumanization and disgust is also supported in neuroimaging studies as the groups categorized as low in warmth and low in competence elicited a brain activation pattern congruent with both a dehumanizing perception and disgust in observers (Harris & Fiske, 2006, 2007).

While these studies focused on how dehumanization toward individuals or groups was predicted by disgust toward these same individuals or groups, other studies reported that feeling non-directed disgust might be enough to trigger dehumanizing attitudes (Buckels & Trapnell, 2013). Using an emotion induction procedure comparing disgust, sadness, and neutrality revealed that making participants feel disgusted induced more dehumanization of an artificially created outgroup compared to the two other emotions (Buckels & Trapnell, 2013). In accordance with these findings, disgust sensitivity was also found to be associated with increased dehumanization tendency (Stevenson et al., 2015). This study used a fictive case of juvenile sex offenders and found that disgust sensitivity was associated with both dehumanization and reduced empathy, which in turn predicted increased support for registration of juvenile sex offenders (Stevenson et al., 2015). Similar findings were found regarding *interpersonal-disgust sensitivity* (i.e., the tendency to feel disgusted by indirect contact with others, such as when wearing used clothes). Indeed, the dehumanization of immigrants was predicted by interpersonal disgust, both directly and indirectly, through social dominance orientation (Hodson & Costello, 2007). Overall, these studies indicate that disgust and dehumanization are closely and bidirectionally interconnected and linked together to harsher treatment towards others.

Influence of others' treatment of the target

In addition to how victims are described, dehumanization can also be derived from witnessing how victims are treated by others. Participants observing a Cyberball game in which one player was excluded expressed more dehumanizing attitudes toward the excluded player compared to a control player or one of the perpetrators (Park & Park, 2015). Moreover, mechanistic dehumanization of the victims was related to perceived vulnerability to exploitation. However, the victim still elicited more positive attitudes from the participants; he/she was perceived as more agentic, competent, moral,

agreeable, conscientious, and warmer than perpetrators (Park & Park, 2015).

2.3.2. Characteristics of the perpetrator

A large part of the literature on dehumanization investigated which characteristics of the victims caused the perpetrator to dehumanize him/her. This approach only highlighted a part of the dehumanization process as other variables related to the perpetrator can also influence its tendency to dehumanize others. These variables can relate to perpetrators' personality traits, beliefs, and needs but also to situational factors and environmental factors.

Personal beliefs and personality traits

Personal beliefs and personality traits have been highlighted as predictors of dehumanization. First, people with higher *right-wing authoritarianism* (i.e., higher submission toward authorities and acceptance of violent behaviors sanctioned by authorities) have more positive attitudes toward torture, which is explained by higher levels of dehumanization (Lindén et al., 2016). The same goes for social dominance orientation; people who score higher on this orientation have more positive attitudes toward torture, which is explained by higher dehumanization of the outgroup (Lindén et al., 2016). Both right-wing authoritarianism and social dominance orientation are part of the same cluster of beliefs that seems to make people more prone to dehumanization.

Furthermore, more price-conscious (i.e., who know the prices of things and avoid expensive items) people tend to attribute less humanity to employees (Henkel et al., 2018). Studies in objectification, which has been linked to mechanistic dehumanization, previously exposed that the love of money caused objectification, even when controlling for power and status (Wang & Krumhuber, 2017). Even temporarily manipulating the motivation for money was sufficient to make participants deprive mental capacities to other humans, and this mental deprivation ─a form of dehumanization─ mediated the effects of money prioritization on immoral behaviors (Wang & Krumhuber, 2017). It thus seems that prioritizing money facilitates the dehumanization and maltreatment of others (Henkel et al., 2018; Wang & Krumhuber, 2017). On a side note, this is particularly interesting as frequent outrages are denouncing that capitalistic goals lead to the inhumane treatment of others in our societies. Dehumanization might thus play a role in the growing economic disparities that are observed in our times, as higher focus on

moneymaking leads to higher dehumanization of others, which can lead to lower support for wealth distribution toward others (Henkel et al., 2018; Sainz et al., 2019; Wang & Krumhuber, 2017).

Situational variables

Situational variables can also influence people's tendency to dehumanize others. People in a powerful position tend to dehumanize others more, especially if they have to make decisions that can have hurtful consequences for the powerless (Lammers & Stapel, 2010). However, the investigation of situational variables in the literature is currently limited to this power induction. The mechanisms involved in the effect of power on dehumanization are also currently unknown. The relation between personal beliefs and situational variables in determining the dehumanization of others should be investigated as the effect of situational variables might be explained by the alteration of personal beliefs.

Fundamental needs

Dehumanization tendency might also be supported by people's needs. Indeed, people who feel more socially connected show less humanization of others, especially those who are more distant (Waytz & Epley, 2012). Interestingly, another study in the field of anthropomorphism provides a complementary perspective. Indeed, researchers have shown that people who felt less socially connected tended to more easily anthropomorphize non-human agents (Epley et al., 2007, 2008). Dehumanization and anthropomorphism are defined as inverse processes as the former is the denial of human characteristics to humans, whereas the latter is the attribution of human characteristics to non-humans (Waytz et al., 2010). The studies mentioned above showed that their feeling of social connectedness influences people's tendency to perceive humanity in other humans and non-humans. The underlying motivation behind these effects could be their need for belongingness. Nevertheless, no direct evidence was provided regarding the links between fundamental needs threat and dehumanization beyond their co-occurrence as a consequence of social ostracism (Bastian & Haslam, 2010). Dehumanization's possible relation with fundamental needs should thus be clarified.

3. Dehumanization from the victims' perspective

Most research on dehumanization has traditionally focused on perpetrators of dehumanization. Ironically, victims have thus been neglected. However, this is not surprising as victims of dehumanization might also be somewhat dehumanized by researchers as there is no reason to expect that researchers' humanity attribution differs strongly from laypeople; this could have led to involuntary neglect. Fortunately, some research has still been conducted on metadehumanization, the perception of being dehumanized by others. This line of research unveils what causes metadehumanization and how victims react to this metadehumanization. These aspects will be developed in the next section.

3.1. Causes of metadehumanization

The investigation of causes of metadehumanization has mainly orbited around the treatment received from others. Most studies directly investigated how others' treatment of the participants influenced their metadehumanization. Other studies focused on others' opinions. Finally, environments have also been linked to metadehumanization.

3.1.1. Others' behaviors as causes of metadehumanization

In their attempt to identify the factors leading people to feel dehumanized by others, researchers have induced several of these factors in participants to check which ones would result in increased metadehumanization. Multiple methods have been used to induce metadehumanization in research participants. Vignettes describing interpersonal dehumanizing maltreatments were presented to participants instructed to imagine themselves experiencing these maltreatments, to evaluate the cognitive and emotional effects of metadehumanization (Bastian & Haslam, 2011). Authors classified vignettes as belonging to animalistic or mechanistic forms of dehumanization. However, the classification was not reported in the paper and thus appears obscure considering the maltreatment proposed (e.g., is "being treated as peculiar" mechanistic or animalistic dehumanization? The list of maltreatment is reported in Table 7).

The second part of their study investigated participants' autobiographical recall of similar dehumanizing situations. These situations could, again, be either animalistically dehumanizing or mechanistically dehumanizing. The animalistic metadehumanization recall was based on a situation where

participants had been treated as "incompetent, unintelligent, unsophisticated, and uncivilized" (traits extracted from the Human Uniqueness dimension of dehumanization; Haslam, 2006). In the mechanistic metadehumanization recall, participants had to recall a situation where they had been treated as "a means to an end, as if they were an object, and as if they had no feelings" (Bastian & Haslam, 2011). Their work showed that either imagining or recalling maltreatments was efficacious in eliciting metadehumanization.

Table 7. Types of maltreatment proposed to be dehumanizing by Bastian & Haslam 2011

Betrayed	Treated with disgust
Denied autonomy	Treated as embarrassing
Disrespect for identity	Treated as hopeless/stupid
Disrespect for physical space	Treated as immoral
Embarrassed	Treated as inconsequential
Envied	Treated as peculiar
Exploited	Treated as shameful
Fearful	Treated cruelly
Humiliated	Treated hypocritically
Invalidated	Treated instrumentally
Ostracized	Treated with condescension
Denial of intrinsic motivation	Treated with conditional regard
Treated as aversive	Treated with contempt/anger

Social ostracism was also found to cause metadehumanization (Bastian & Haslam, 2010). The authors proposed that metadehumanization might be the consequence of the threat of participants' fundamental needs (belonging, control, self-esteem, and meaning existence). Their results supported that participants' needs were more threatened in the exclusion condition than in the other conditions (Bastian & Haslam, 2010). However, no association between fundamental needs threat and metadehumanization was found.

The respect received from others also defines one's sense of being treated as a human. Being disrespected leads participants to feel that they were not treated as humans (Renger et al., 2016). Similar results were found in organizational psychology. Indeed, the attitudes and behaviors of superiors also affect employees' feelings of being dehumanized by their organization (Caesens et al., 2019; Nguyen & Stinglhamber, 2018). For example, experiencing abusive supervision leads to organizational

metadehumanization[3], the perception of being dehumanized by the organization in which one works (Caesens et al., 2019).

3.1.2. Others' perception as causes of metadehumanization

In another study, the participants received dehumanizing evaluations that were presented as originating from other participants (Zhang et al., 2017). In this study, mechanistic dehumanizing feedbacks were compared to negative feedback. Mechanistically dehumanizing feedbacks were directly based on Haslam's (2006) bidimensional model of dehumanization. Participants thus received that they were described as "submissive, cold, inert, passive, timid, mechanical, unemotional, simple-minded, irresponsive, and even-tempered" (Zhang et al., 2017, p. 22). The negative evaluation was based on other non-dehumanizing but negative terms: "frivolous, impulsive, shy, impatient, nervous, disorganized, high-strung, irritable, insecure, and reserved" (Zhang et al., 2017, p. 22). Finally, another control group did not receive any feedback. Mechanistically dehumanized participants reported more cognitive deconstruction and feelings of sadness than participants in the two other groups (Zhang et al., 2017).

The same authors conducted a second study where the manipulation was adapted to induce animalistic instead of mechanistic metadehumanization. The feedbacks words were thus modified to reflect characteristics of animalistic metadehumanization: "impulsive, immature, irrational, lack of self-restraint, and uncivilized" (Zhang et al., 2017, p. 28). Participants in the animalistic metadehumanization condition reported higher levels of shame than participants in the two other conditions (Zhang et al., 2017).

3.1.3. Dehumanizing environments

Past findings showed that our humanity is mainly defined in the eyes of others; individuals' perception of being humanized or dehumanized mainly depends on how they are treated and perceived by others (Bastian & Crimston, 2014). Nevertheless, other people's attitudes and behaviors are

[3] In the original article, the authors used the "organizational dehumanization" but as their scale measured employees' feelings of being dehumanized by the organization, the term "organizational metadehumanization" will be used for clarity and coherence purposes.

not the sole sources of metadehumanization. Indeed, research on metadehumanization in organizational psychology found that metadehumanization can also be linked to office designs such as open-plan or flex offices (Taskin et al., 2019). The authors identified the injunction to adopt a modern behavior as well as feelings of dispossession and abandon as mechanisms implicated in the development of metadehumanization resulting from office designs. However, little is known on this subject. More research should thus be conducted to identify the dehumanizing environments and unveil the mechanisms implicated in the relation between environments and metadehumanization.

3.2. Consequences of metadehumanization

The investigation of the consequences of metadehumanization lead to the identification of various consequences regarding victims' emotions, cognitions, behaviors, self-perceptions, and perception of others. In the first study on the identification of the consequences of metadehumanization, animalistic metadehumanization, operationalized as the denial of uniquely human traits, was associated with aversive self-awareness and feelings of shame and guilt (Bastian & Haslam, 2011). On the other hand, mechanistic metadehumanization, operationalized as the denial of human nature characteristics, was associated with cognitive deconstruction (Bastian & Haslam, 2011), a mental state characterized by numbing, apathy, reduced emotions, focalization on the present, and lack of abstract thoughts (Twenge et al., 2003). Mechanistic metadehumanization was also associated with feelings of sadness and anger (Bastian & Haslam, 2011; Zhang et al., 2017).

Participants reported higher levels of cognitive deconstruction as well as more anger and sadness in the mechanistic metadehumanization condition compared to the animalistic metadehumanization (Bastian & Haslam, 2011). On the other hand, participants reported higher aversive self-awareness in the animalistic metadehumanization condition compared to mechanistic metadehumanization (Bastian & Haslam, 2011). In the animalistic metadehumanization condition, the increased levels of shame and guilt were only marginal (Bastian & Haslam, 2011)l. This study thus reports the differential effects of animalistic and mechanistic metadehumanization (Bastian & Haslam, 2011).

Moreover, we already stated that social ostracism could lead to metadehumanization; however, dehumanizing metaphors seems to

aggravate the negative effects of social ostracism through increased metadehumanization. Indeed, insults based on animalistic metaphors provoked more aggression toward the ostracizing perpetrators than non-dehumanizing insults (Andrighetto et al., 2016). The relation between the conditions and increased aggression was mediated by participants' increased perception of being dehumanized animalistically (Andrighetto et al., 2016).

In the field of organizational psychology, employees' organizational metadehumanization has been associated with poorer job satisfaction (Nguyen & Stinglhamber, 2018). Moreover, the authors found that experiencing organizational metadehumanization leads workers to do more surface acting (i.e., faking unfelt emotions to meet work requirements; Nguyen & Stinglhamber, 2018). In turn, surface acting had deleterious effects on employees' self-esteem, generalized self-efficacy, locus of control, and neuroticism, which are all part of employees' core self-evaluations (Nguyen & Stinglhamber, 2018). Their model thus featured an effect of organizational metadehumanization on job satisfaction that was mediated successively by surface acting and core self-evaluations (see Figure 8). Feeling dehumanized can also lead employees to be less committed to their organization, to have lower job satisfaction (Taskin et al., 2019). Moreover, organizational metadehumanization is also associated with employees' turnover intentions and psychological strains (Taskin et al., 2019).

Finally, as we have shown earlier, metadehumanization can provoke the dehumanization of others in return, which can lead to vicious cycles of increasing violence (Bruneau & Kteily, 2017; Kteily et al., 2016). In summary, metadehumanization has many consequences for its victims. These consequences can affect victims' emotions (sadness, shame, anger, guilt), cognitions (aversive self-awareness, cognitive deconstructive state), behaviors (surface acting), self-perceptions (self-esteem, self-dehumanization), and perceptions of others (reciprocal dehumanization; Bastian & Haslam, 2011; Caesens et al., 2019; Kteily et al., 2016; Zhang et al., 2017).

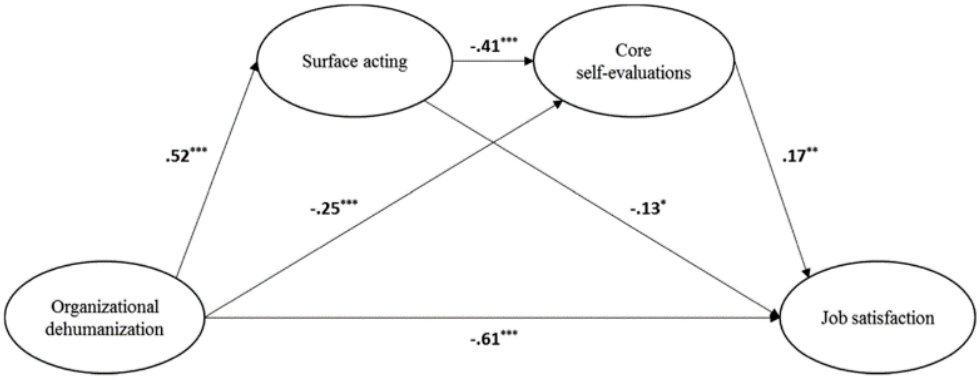

Figure 8. The associations between organizational metadehumanization and job satisfaction mediated by surface acting and core self-evaluations; the authors used the "organizational dehumanization," but their scale measured employees' feelings of being dehumanized by the organization, i.e., metadehumanization ; *p < .05; **p < .01; ***p < .0001 (Nguyen & Stinglhamber, 2018)

3.3. Self-dehumanization

Few studies have investigated the topic of self-dehumanization, i.e., the tendency to dehumanize oneself. Self-dehumanization is directly derived from dehumanization except that the source and target of the dehumanization process are the same person. Namely, in self-dehumanization, a person perceives him/herself as less human than others. It differs from metadehumanization, which is the individual's perception that they are perceived as less than human by others. It also differs from dehumanization, which is the perception that someone else is less than human. Self-dehumanization has been mostly studied as a consequence of the individuals' behaviors or others' treatment, but the role of motivations and situations in eliciting self-dehumanization has also recently started being explored.

3.3.1. Causes of self-dehumanization

Immoral behaviors can lead people to self-dehumanize (Bastian & Crimston, 2014). Similarly, one of the first studies on self-dehumanization unveiled that playing a violent video game lead to the dehumanization of the other player and of oneself (Bastian et al., 2012). However, this effect is not driven by harming the other player as playing a violent video game in collaboration still leads to self-dehumanization. This effect cannot be accounted for by variations in self-esteem or mood either (Bastian et al., 2012). Ostracizing someone else also leads participants to self-dehumanize more compared to

a non-aversive interpersonal interaction, an effect explained by self-perceived immorality (Bastian et al., 2013). The authors also found that self-dehumanization was associated with increased prosocial behavior, as attested by participants' increased willingness to volunteer to another subsequent experiment (Bastian et al., 2013).

Moreover, immoral behaviors and self-dehumanization seem to have bidirectional causal associations (Kouchaki et al., 2018). Indeed, acting immorally causes people to self-dehumanize, and self-dehumanization also causes people to act immorally and to behave antisocially (Kouchaki et al., 2018). Self-dehumanization could thus play a role in the perpetration of immoral behaviors. However, these results seem to be in contradiction with Bastian et al. (2013) results of prosocial behaviors caused by self-dehumanization. One important distinction between the two studies is that in Bastian et al. (2013), participants' prosocial behavior was visible to the researchers, whereas, in the other study (Kouchaki et al., 2018), the experiment was designed to allow participants to cheat privately during the task in order to gain more money. Indeed, in one of their experiment, Kouchaki et al. (2018) presented participants with four anagrams that participants had to solve in order to gain money. Importantly, the last anagram was unsolvable, but participants did not have to report the answer; they only had to announce which anagrams they solved. Completion of the fourth anagram was thus used as a measure of immoral behavior, namely cheating, which the participants thought they did unbeknownst to the researchers. Thus, self-dehumanization might make people behave prosocially in order to rehumanize themselves in the eyes of others (Bastian et al., 2013), but might make them more immoral and antisocial when hidden from others (Kouchaki et al., 2018). However, in both cases, self-dehumanization made people act in their best interest. Self-dehumanization might thus favor more egoistic tendencies. Future studies should try to disentangle prosocial/antisocial behaviors, immoral/moral behaviors, and behaviors driven by self/other interests as consequences of self-dehumanization as current findings confound them.

Self-dehumanization has also been associated with motivations, such as the prioritization of money (Ruttan & Lucas, 2018). People who prioritize money self-dehumanize more and distance themselves from others (Ruttan & Lucas, 2018). The authors argued that the prioritization of one goal entails the de-prioritization of other goals and their associated values. Prioritizing

money might de-prioritize other, more humanistic goals, thus influencing people's self-perception. Material and social goals might thus share an antagonistic relation.

Furthermore, interpersonal and situational factors can also lead to self-dehumanization as recalling an experience of workplace objectification caused by someone or by an activity made participants feel less human during these objectifying experiences (Loughnan et al., 2017). Being ostracized also led participants to self-dehumanize (Bastian & Haslam, 2010). Being in a low power position was also found to make participants self-dehumanize (Yang et al., 2015). Similarly, being disrespected increases self-dehumanization and endorsement of unethical behaviors (Renger et al., 2016). Self-dehumanization can thus not only arise from one's judgment of their own behaviors but also from others' treatment.

4. Dehumanization in medicine, and psychiatry

4.1. Dehumanization in the field of medicine

Considering the negative impact of dehumanization on authors' attitudes and behaviors toward their victims, and the impact of metadehumanization on victims, dehumanization's presence in medical contexts could constitute a crucial societal issue. Multiple researchers have argued that dehumanization was indeed observed in medical settings as many features of modern-day medical systems are proposed to cause dehumanization (Cole & Carlin, 2009; Haque & Waytz, 2012; Krakowski, 1979; Robbins, 2018). Haque and Waytz developed a proposal listing of functional and dysfunctional causes of dehumanization in medicine (Haque & Waytz, 2012). These causes will be used to structure the presentation of dehumanization in medicine and will be complemented with findings from other articles.

4.1.1. Functional causes of dehumanization in medicine

First, diagnosing and treating patients requires that the medical staff decompose the patients in many interacting parts to identify the dysfunction causing their illness. This process, called *mechanization*, is proposed to be functional because decomposing people into systems and subsystems benefits their treatment and diagnosis (Haque & Waytz, 2012). However, entering such mechanistic thinking often has the side effect of neglecting patients' rich inner mental life and experiences (Haque & Waytz, 2012).

The second cause of dehumanization in medical settings highlighted by Haque and Waytz (2012) is the *reduction of empathy*. Functional magnetic resonance imaging (fMRI) reveals that physicians have decreased activity related to empathy to pain than non-physicians when watching videos of needles being inserted in body parts (Cheng et al., 2007). Moreover, increased activations related to self-regulation, executive control, and theory of mind was also found in physicians, which has been interpreted as an increased cognitive regulation aimed at downregulating the emotional response that should be elicited from sharing others' pain (Cheng et al., 2007).

Similar results have been found in an event-related potentials (ERP) study showing that physicians presented an electrophysiological activity pattern largely different from matched controls in observation of painful stimuli (Decety et al., 2010). Physicians did not show a distinction between painful and non-painful stimuli that was observed in control participants (Decety et al., 2010). The authors praised physicians' efficient and very early downregulation of pain responses, which dampens their negative arousal response (Decety et al., 2010). However, one could wonder if this interpretation is correct as no differentiation between painful and non-painful stimuli was found in physicians. The paper did not report activity related to increased cognitive demand from the observation of painful stimuli in physicians. Alternatively, while physicians might have downregulated their responses to painful stimuli earlier on during their formation, habituation to such stimuli might have erased the need to use this strategy as observing painful stimuli was not found to elicit anything different from observing non-painful stimuli. Haque and Waytz (2012) arrived at a similar conclusion: "The physicians had apparently become so successful at empathy regulation that they did not have an empathic response requiring cognitive reappraisal" (p. 179).

This reduction of empathy seems to be the consequence of learning medicine as students in medicine empathy levels have been shown to decline during their studies (Neumann et al., 2011). More specifically, it was shown that the decline of empathy happens during clinical practice when contacts with patients are frequent (Hojat et al., 2009). It is proposed that this reduction of empathy is beneficial for cognitively demanding tasks such as operating a patient (Haque & Waytz, 2012). This is congruent with the task-positive network's reciprocal inhibiting relation with the default mode network

(Jack, Dawson, & Norr, 2013; Jack & Robbins, 2012). However, while everybody will agree that surgeons should be completely focused on operating the organs of their patients, this reduction on empathy might spill on contacts with patients that should require empathy (e.g., announcing a serious disease).

The third functional cause of dehumanization in medicine proposed by Haque and Waytz (2012) is *moral disengagement*. Indeed, dehumanization is proposed to enable the moral disengagement that is needed to harm others or to justify past harm (Kelman, 1973). Rare are the interventions that do not require any harm done to the patients. Many medical procedures require to cut, to prescribe medicine with side effects, to sting, to irradiate, or to restrain. While these behaviors are conducted with the best intentions, the medical staff still has to cope with harming patients. Moral disengagement is thus proposed to be necessary for the medical staff to operate effectively (Haque & Waytz, 2012). Multiple studies supported dehumanization's role as a moral disengagement mechanism used to cope with harming others by demonstrating that dehumanization levels are higher after harming someone else (Bastian et al., 2013; Lammers & Stapel, 2010; Osofsky et al., 2005). For example, prison guards reported the highest levels of dehumanization of inmates after being directly involved in their executions (Osofsky et al., 2005). In their study of power status' role on dehumanization, Lammers and Stapel (2010) also revealed that participants reported higher levels of dehumanization after having to make tough decisions involving inflicting pain to others. The reverse relationship also found empirical support; dehumanization facilitates harming others (Bandura, 1975).

Research conducted in the field of medicine provided support to the proposal that dehumanization and moral disengagement are used by healthcare workers to face patients' suffering. Dehumanization is proposed to be a coping strategy used by healthcare workers to face the emotional burden induced by daily witnessing of patients' suffering (Cameron et al., 2016; Vaes & Muratore, 2013). Indeed, health care workers who showed increased humanization of patients' suffering tended to show more burnout symptoms, this relation being especially strong among nurses with high levels of contact with patients (Vaes & Muratore, 2013). Further supporting the defensive role of dehumanization, nurses who use more dehumanization of patients have been shown to present fewer stress symptoms (Trifiletti et al., 2014). The relation between dehumanization and decreased stress symptoms is present

only in nurses with high levels of organizational and affective commitment (Trifiletti et al., 2014). The conditional appearance of the protective effects of dehumanization in highly committed nurses is logical as less committed nurses are already more distanced from their patients and organization.

4.1.2. Dysfunctional causes of dehumanization

In addition to these three functional causes of dehumanization, Haque and Waytz (2010) also proposed three non-functional causes: *deindividuating practices*, *impaired patient agency*, and *dissimilarity*.

Deindividuating practices relate to institutional rules and methods that tend to anonymize an individual or to make him indistinguishable from other group members (Reicher et al., 1995). Deindividuation processes can operate on two different targets in medical settings: patients and medical staff.

Deindividuating patients happen through standardized procedures such as dressing patients in hospital gowns (Haque & Waytz, 2012). Deindividuating patients makes them less identifiable, which has been proposed to reduce medical staff' engagement. For example, when doctors are asked to make decisions about groups of patients instead of individual patients, the time spent assessing problems is reduced, and they tend to order less additional tests (Redelmeier & Tversky, 1990). The process of deindividuation has been proposed to be particularly damaging for members of a minority because outgroups are perceived as more homogenous than the ingroup (Ostrom & Sedikides, 1992). In other words, outgroups members are perceived as more similar to one another and less individuated. The disparities of care and its reduced quality toward ethnic minorities have been largely documented (Kimball et al., 2014; Profit et al., 2017; Sharma et al., 2016). For example, doctors are less likely to recommend thrombolytic therapy to black people (A. R. Green et al., 2007). These disparities could be partly explained by dehumanization and deindividuation. Note that in addition to deindividuation, other factors such as implicit attitudes toward ethnic groups have also been linked to a lesser quality of care, such as evaluated by patients (L. A. Cooper et al., 2012).

Deindividuating practices can also target medical staff: matching uniforms reduce medical staff individuation and diffuse their individual responsibilities (Haque & Waytz, 2012). When such practices reduce individual

responsibilities, people are less accountable for their behaviors, and deviant behaviors are thus favored (Reicher et al., 1995).

The second proposed dysfunctional cause of dehumanization in medicine is the perception of impaired patient agency (Haque & Waytz, 2012). Patients are often impaired in their capacity to plan and act because of their injury, disorder, or treatment. This might be aggravated by hospital procedures that do not encourage patients' participation in their treatment decisions, thus reducing patients' expression of agency. The reduction of agency has been linked to dehumanization according to the bidimensional model of dehumanization and to the mind perception theory (Gray et al., 2012; Haslam, 2006).

The third dysfunctional cause of dehumanization proposed is patients-staff dissimilarity. Patients differ from medical staff on many aspects, the first being that patients are, by definition, touched by an affliction that distinguishes them from medical staff (Haque & Waytz, 2012). Being sick can alter patients' physique, thus making them different from the general prototype of human physique; humanization and dehumanization vary depending on physical attributes (Capozza et al., 2009; Haque & Waytz, 2012; Jack, Dawson, & Norr, 2013). Moreover, physical features are often used to draw intergroup boundaries, and these boundaries are strongly linked to dehumanization. Furthermore, artificially created groups also alter people's perception of outgroup's faces so that they require more human information to perceive these faces as humans compared to ingroups' (Hackel et al., 2014). In the same vein, the dehumanization literature indicates that people often dehumanize people of other so-called "human races" [4] (Cassidy et al., 2017; Hagan & Rymond-Richmond, 2008) that are largely based on physical features such as skin color, facial features, and hair types. Physical dissimilarity thus plays a major role in determining dehumanizing perceptions.

[4] The term "ethnic group" will be used for the remaining of the thesis as it drops the idea of strong, immutable, and biologically determined group boundaries that comes from the concept of "human race" which is not scientifically supported.

Power asymmetries that characterize the relationships between patients and medical staff are also proposed to create patients-staff dissimilarity and thus dehumanization (Haque & Waytz, 2012). This argument is empirically supported by a study of the effect of power on dehumanization. Indeed, power has been shown to promote dehumanization so that powerful people display more dehumanization toward outgroups, an effect that is even stronger after making a decision with painful consequences for the outgroup (Lammers & Stapel, 2010). However, the effect of power is not limited to creating dissimilarity with patients; instead, it is proposed to affect the powerful individual directly by changing its cognition and its perception of others (Gwinn et al., 2013; Lammers & Stapel, 2010; Yang et al., 2015).

Haque and Waytz (2012) also exemplify patients-staff dissimilarity with the tendency to label patients with the name of their illness rather than as patients affected by illness (see Table 8 for a summary of the causes and solutions of dehumanization). However, while this phenomenon certainly contributes to patients-staff dissimilarity, it is not a good example of it. Indeed, while labeling a patient as a disease increases dissimilarity, the core problem of the labeling effect is that it directly denies patients' humanity because the disease is considered before the human being. The labeling effect would be a better example of mechanization because diagnostic and clinical efficiency leads to focus on the disease only, thus neglecting the human that is affected by it. A better argument for the dissimilarity effect is that people often base their humanity judgment on prototypes of what is human and what is not. When making this judgment, the prototypical human is often imbued of good quality, such as being physically and mentally healthy. Being sick thus, by definition, includes deviating from this prototype.

Table 8. Causes and solutions of dehumanization in medicine (Haque & Waytz, 2012)

Causes	Solutions
Deindividuating practices	Individuation
Impaired patient agency	Agency reorientation
Dissimilarity	Promoting similarity
Mechanization	Personification
Empathy reduction	Humanizing procedures
Moral disengagement	Moral engagement

In addition to the arguments proposed by Haque and Waytz (2012), several other characteristics of medical settings have been identified in the literature as contributing to the development of dehumanization. Primarily, health care workers are required to face patients' suffering on a daily basis; working in health care facilities is particularly taxing emotionally. As people are particularly susceptible to dehumanize another person if they perceive that helping this person is emotionally exhausting (Cameron et al., 2016), health care workers might dehumanize their patients as a way to distance themselves from patients' suffering (Vaes & Muratore, 2013). This account is congruent with the previous report of empathy avoidance motivated by the willingness to avoid helping-related costs (Shaw et al., 1994).

Multiple arguments have thus been developed to argue that dehumanization is present in medicine. Empirical studies have supported these preliminary insights. Indeed, recent works showed that both physicians and nurses have dehumanizing thoughts, or even behaviors, towards their patients (Capozza et al., 2016; Trifiletti et al., 2014). Dehumanization of patients in medical settings has also been supported by qualitative work; qualitative interviews of patients in dental school settings indicated that these patients also felt dehumanized during their visits to the dentist (Raja et al., 2015). The authors showed that patients' metadehumanization resulted from the feeling of not being listened to, cared for, or treated as an entire human being by their dentist (Raja et al., 2015). Patients also reported that their needs were considered as unimportant or secondary by their dentist (Raja et al., 2015). Patients also feel that medical professionals do not respect their dignity (Ross & Goldner, 2009).

Another process involving a misperception of humanity might also be present in medicine: *superhumanization*, the attribution of qualities beyond those of normal humans such as supernatural physical or mental qualities, magical abilities, and extrasensory perceptive abilities. The superhumanization of African-Americans by Caucasian-Americans is linked to the denial of their pain, which could lead to negligence or underestimation of the severity of their disorders (Waytz et al., 2015). Superhumanization could be studied in addition to dehumanization to offer a better understanding of the misperception of humanity in patient care and the disparity of care.

4.1.3. Dehumanization toward people with an illness

Dehumanization toward people with a specific illness has not been largely studied; only a few studies have been conducted. These studies investigated the dehumanization of people with obesity, people with mental illness, and people with an addiction.

Kersberger and Robinson (2019) revealed that people with obesity were dehumanized and perceived as less evolved than people without obesity. Interestingly, this dehumanizing perception was found in both obese and non-obese participants, which might indicate that obese participants self-dehumanize (Kersbergen & Robinson, 2019). Nevertheless, the dehumanization of people with obesity was stronger among thinner participants (Kersbergen & Robinson, 2019). Regarding people with mental illness, Martinez and colleagues (2011) documented that the mental illness label alone was sufficient to generate dehumanization from laypeople toward people with mental illness. However, the mental illness label elicited more humanness that the physical illness label when the description included normative behavioral information and full remission status. Similarly, previously mentioned work by Harris and Fiske (2006, 2007) revealed that people with addiction were dehumanized by observers and elicited disgust among them.

These three papers thus bring some information regarding the specificity of dehumanization processes as a function of people's physical or mental illness. However, more populations have to be investigated, and comparisons between populations should be conducted.

4.1.4. Dehumanization from people with an illness

To the best of our knowledge, only one study investigated how certain disorders could influence the attribution of mind to others. This study demonstrated that some psychopathological conditions might alter mind attribution toward other people, animals, plants, and things (Gray et al., 2011). Indeed, Gray and colleagues (2011) explored people's attribution of the two dimensions of mind perception: experience (the capacity to experience pleasure, pain, fear) and agency (the capacity for planning, self-control, goal-directed behaviors) as a function of their scores in the autism spectrum, in schizotypy, and psychopathy. People higher in the autism

spectrum tended to perceive less agency in other human adults. Participants with higher schizotypy tended to more easily perceive mind where others did not; they tended to attribute more mind to trees, dead people, god. On the opposite, people with higher psychopathy scores attributed fewer perceptions of experience to adult humans, babies, and animals. Perceiving experience is necessary to recognize others' moral rights (Gray et al., 2011). Moreover, the dimensions of mind attribution have been directly compared to Haslam's (2006) dimensions of dehumanization (Li et al., 2014). Mechanistic dehumanization has been linked to reduced attribution of experience to others, whereas animalistic dehumanization has been linked to reduced attribution of agency to others (Li et al., 2014). Subclinical levels of psychopathology might thus be sufficient to alter people's dehumanizing tendencies; more severe psychopathology could thus be linked to more severe misperception of humanization.

As a whole, many characteristics of medical settings could cause (Capozza et al., 2016; Haque & Waytz, 2012). Dehumanization is expressed in health care workers' behaviors toward their patients but also in patients toward themselves and others. The implications of the presence of dehumanization in medicine and some psychopathology are, however, still poorly understood, but considering its influence in other domains such as intergroup relations. It is urgent to gain a better understanding of these implications.

4.2. Dehumanization in psychiatry

Ever since the infancy of psychiatry, people have called for a more humane treatment of patients (Pinel, 1806). Indeed, Philippe Pinel, who is considered by many as the father of modern psychiatry, denounced, in its "Treatise of Insanity," the way people with mental disorders were treated at this time. Indeed, many people in desperate need of help were literally treated as prisoners and abused (Pinel, 1806; see Figure 9 for a historical representation of Philippe Pinel releasing people with a mental health condition from *La Salpêtrière,* a mental institution). His recommendations included making mental health patients participate in the functioning of the mental health institutions and in the treatment of other patients (Pinel, 1806). He recognized that doing so could be beneficial for both the patient and the institution.

“The method which he [the governor of Bicêtre] adopted for this purpose was simple, and I can vouch my own experience for its success. His servants were generally chosen from among the convalescents, who were allured to this kind of employment by the prospect of a little gain. Averse from active cruelty from the recollection of what they had themselves experienced; - disposed to those of humanity and kindness from the value, which for the same reason, they could not fail to attach to them; habituated to obedience, and easy to be drilled into any tactics which the nature of the service might require, such men were peculiarly qualified for the situation. As that kind of life contributed to rescue them from the influence of sedentary habits, to dispel the gloom of solitary sadness, and to exercise their own faculties, its advantages to themselves are equally apparent and important.”
(Pinel, 1806, p. 91)

Figure 9. French psychiatrist Philippe Pinel (1745-1826) releasing lunatics from their chains at the Salpêtrière asylum in Paris 1795 (Robert-Fleury, 1876)

Digging back to the roots of psychiatry thus brings concerns that are still relevant to this day. During the two hundred years that separate us from these events, others have voiced their concerns against treating people with a mental health condition inhumanely. Critics of mental institutions have argued that they constitute total institutions similar to a prison or military camps (Vail, 1966 cited by Berdes, 1987). Back then, Vail already identified that mental institutions could be dehumanizing for both patients and staff (Berdes, 1987). Four different types of dehumanization were proposed at the time: a person as *trivium* (infantilization), a person as an inanimate object (called *instrumentalization*, but seems to be similar to mechanistic dehumanization), a person as an animal (similar to animalistic dehumanization), and person as other (i.e., seen as a non-person; Berdes, 1987).

Vail identified that institutions could affect patients' human attributes such as "self-awareness, self-esteem, the capacity to love, intellect, will, morality, guilt, humor, and other emotions and capacities" (Berdes, 1987). While Vail emphasizes the impact that dehumanization can have on patients, he did not blame it on the staff. Instead, the norms, rules, and systems in which individuals are placed (i.e., the institution) that are proposed to be dehumanizing. Vail proposed that common practices, such as feeding routines, schedules, bathing routines, and the admission process, were dehumanizing (Berdes, 1987). In his work, Vail interrogated more than 400 patients with mental disorders; however, the results seem to be unfindable[5]. Dehumanization has also been proposed to arise from the size of institutions and the bureaucracy that comes with this size increase (Howard et al., 1977). Concretely, bigger institutions are more likely to have standardized approaches that overlook individualized care, administrative arrangements masking the accountability of health care workers, bland and depersonalized physical designs, and discontinuity of treatment (Howard et al., 1977). These situations and environmental hospital settings characteristics are likely to make patients feel like a number among other numbers and tend to reduce

[5] These results are reported in "Vail, D.J. (1966). Dehumanization and the institutional career. Springfield, IL: Charles C Thomas", however the book is not in sale anymore and is unavailable online

the development of personal relationships between patients and staff (Howard et al., 1977).

In addition to attributes related to mental institutions, other characteristics that can be dehumanizing relates to our society. Indeed, discrimination against people with mental illness is rampant, and people with mental disorders face regular rejection from others (Overton & Medina, 2008; Thornicroft, 2018; Thornicroft et al., 2007). Rejection contributes to the emergence of metadehumanization in victims (Bastian et al., 2013). Even mental health professionals have negative attitudes toward people with mental illness (Thornicroft et al., 2007). These attitudes can even affect patients care. For example, people with mental illness's physical illness symptoms are commonly misattributed to their mental disorders, a phenomenon coined "diagnostic overshadowing" (Thornicroft et al., 2007).

The development of biological and genetic models of mental illnesses was thought to contribute to the reduction of stigma and rejection of people with mental illness through the reduction of personal responsibility and thus of blame. However, a review of studies on the biogenetical conception of mental disorders on attitudes toward people with mental disorders did not support these expectations (Angermeyer et al., 2011). On the contrary, biogenetical causal attributions were not related to more tolerance toward people with mental illness but to stronger rejection (Angermeyer et al., 2011).

In light of the dehumanization literature, the biogenetical model of mental disorders could potentially provoke more dehumanizing attitudes. Indeed, a biological and genetic disease makes the person affected seems more profoundly different from the human prototype as interspecies differences are mainly based on genetic and biological differences. Attributing mental disorders to biological and, particularly, to genetic defects might increase the perception that the disease cannot be cured, as genetic therapies are not implemented yet. The perception could also increase the perceived cost of helping people with mental illness, which is a cause of dehumanization (Cameron et al., 2016).

Socio-psychological conceptions of mental illness have the benefit of putting the spotlight on both situational and personal factors. These conceptions could thus reduce blame on the person with mental illness by emphasizing the role of situational factors that are outside the person's control. Moreover,

the change appears more attainable according to socio-psychological conceptions of mental illness because these conceptions emphasize psychological and behavioral factors on which the person can act with the help of professionals.

Empirical studies brought support to earlier claims that people with mental disorders are dehumanized by others (Martinez et al., 2011; Sakalaki et al., 2017). Sakalaki, Richardson, and Fousiani (2017) investigated the relations between the suffering and the dehumanization of others. Their fifth study explored the dehumanization of people with severe, moderate, or no mental disorders in relation to their work occupation (low-status cleaner vs. high-status business executive). People who had a low status were more dehumanized if they had a severe or moderate mental disorder, whereas people with a high-status job were more dehumanized only if they had a severe mental disorder (Sakalaki et al., 2017). Status and mental disorders had thus interacting effects on people's dehumanizing perceptions. High-status work occupations might compensate for moderate disorders but are insufficient to protect from the dehumanization that people hold against people with severe mental disorders. However, their manipulation of mental disorder severity only mentioned whether a psychiatric treatment was necessary (severe disorder condition) or if a short-term treatment was recommended (moderate disorder condition). These minimal descriptions do not correspond to the distinction between severe and moderate disorders. Moreover, they let much room for participants to elaborate on the severity of the disorders; the work occupation could possibly have influenced the perceived severity of the disorders. The high-status work occupation might have reduced the perceived severity of the moderate disorder, thus indirectly reducing dehumanization toward this target.

Another study compared dehumanization toward an individual labeled with mental illness or labeled with a physical illness. The mental illness label provoked more dehumanization from participants toward the target and also made participants judge the person as more dangerous (Martinez et al., 2011). However, in their second study, the mental illness label elicited less dehumanization than the physical illness label when both were accompanied by the same behaviors and remission status (Martinez et al., 2011). The explanation provided by authors was that attributes of people who are counter stereotypical could appear as exaggerated (Mendoza-Denton et al., 2008). In this case, a person with mental disorders but functioning well might

be perceived as counter stereotypical by participants, and its attributes could thus be perceived as exaggerated (Mendoza-Denton et al., 2008), thus exaggerating his perceived humanity (Martinez et al., 2011).

This explanation does not seem very convincing. An alternative proposition can be derived from research on stereotype modification. Indeed, researchers have long tried to influence and reduce stereotypes to improve the integration of stigmatized groups in society. One avenue considered by the researchers was to provide participants with the description of an individual belonging to a stigmatized group but who presents counter-stereotypical traits and behaviors. Although their maneuver did indeed reduce stereotypes against this individual, stereotypes against groups were often kept intact (Richards & Hewstone, 2001). The cause of this maintenance of stereotypes is that participants perceive the individual from the stereotyped group as an exemption, a unique occurrence in the stigmatized group (Richards & Hewstone, 2001). We, therefore, propose that a similar process is at stake in the study of Martinez and colleagues (2011). The individual suffering from a mental disorder but functioning well is seen as an exemption, a unique occurrence among people with a mental disorder. This perception of the individual as a unique person may have led to his or her humanization, as the perception of uniqueness is a known factor of humanization. On the contrary, a person with a physical illness who function well in society might be perceived as more common and do not elicit such individualizing and humanizing perceptions.

In summary, the general population seems to hold dehumanizing attitudes toward people with mental disorders (Kouchaki et al., 2018; Martinez et al., 2011). Humanizing society's perception of people with mental disorders could be positive for everyone. Indeed, across multiple studies, Martinez (2014) demonstrated that attributing humanity to people with mental illness was associated with increased compassion toward them. This link was notably mediated by an increased inclusion of the people with mental illness outgroups in the self (Martinez, 2014). Furthermore, participants' humanity attribution toward people with mental illness is associated with an increased willingness to seek treatment should they develop a mental illness themselves (Martinez, 2014). Interestingly, humanizing others not only has benefits for these others, but it could also be favorable to the perpetrator's health.

5. Alcohol use disorders

While many psychiatric populations might be dehumanized, we have reasons to expect people with severe alcohol use disorders (SAUD) to be more dehumanized than other psychiatric populations. This reasoning rests mainly on two aspects: (A) people with severe alcohol use disorder are particularly stigmatized and ostracized by others, and (B) stereotypes against people with severe alcohol use disorder contain multiple intrinsically dehumanizing characteristics. Moreover, before developing the reasons for expecting to find metadehumanization in patients with SAUD, their impairments will be presented. Amongst these impairments, some deficits affecting patients' social cognition make the study of metadehumanization in patients with SAUD particularly important.

5.1. The impairments of severe alcohol use disorder

5.1.1. Neurocognitive deficits

Patients with SAUD are heavily affected by their alcohol consumption. Indeed, SAUD are characterized by a massive alteration of brain structure, physiology, and function (Sullivan & Pfefferbaum, 2005). Excessive alcohol consumption has been linked to a widespread reduction of brain volumes for both white and gray matter, particularly for frontal regions (Bühler & Mann, 2011). However, the shrinkage of brain volumes is not limited to the frontal regions and other regions, such as the limbic system, and the cerebellum can also severely affected (Bühler & Mann, 2011). The widespread degradation of cerebral structures and connecting circuitry leads to debilitating deficits in cognitive and motor functions (Sullivan & Pfefferbaum, 2005). In a meta-analysis on the cognitive deficits of SAUD, on twelve cognitive index and capacities investigated, eleven were found to be impaired: verbal fluency/language, speed of processing, working memory, attention, problem-solving/executive functions, inhibition/impulsivity, verbal learning, verbal memory, visual learning, visual memory, and visuospatial abilities (Stavro et al., 2013). The severity of neurocognitive deficits reported in SAUD can impede treatment outcomes (Bates et al., 2013). However, the rehabilitation of these deficits using neuropsychological remediation programs can improve SAUD relapse prevention (P. Maurage & D'Hondt, 2017).

5.1.2. Social cognition deficits

While most research on SAUD originally focused on neurocognitive deficits, the social cognitive abilities of people with SAUD have also been the focus of considerable research efforts. Most of this research has investigated people with SAUD's ability to infer and predict accurately others' mental states, intentions, desires, plans, emotions, and beliefs in other people (Mitchell & Phillips, 2015). Other socio-cognitive processes have also been explored, such as the understanding of humor, irony, and the ability to find solutions to social conflicts.

People with SAUD have been shown to make more mistakes than participants in tasks evaluating mental state inference (Cox et al., 2018). This deficit was supported by a large effect size in a recent meta-analysis (Onuoha et al., 2016). Another meta-analysis distinguishing the inferences of others' mental state based on perceptual information such as facial emotions and the inferences of others' intentions and beliefs also found that people with SAUD presented a deficit in both aspects (Bora & Zorlu, 2016).

Regarding emotion recognition, patients with SAUD's ability to discriminate emotions in visual, auditory, or crossmodal stimuli is impaired, specifically for anger and fear (Creupelandt et al., 2020). Impairments in decoding emotions are not limited to facial expressions but also extend to emotional prosody and body postures (P. Maurage et al., 2009). Large effect sizes have been found regarding the impairment of facial emotion recognition, particularly for the recognition of disgust and anger (Bora & Zorlu, 2016). Similarly, the understanding of sarcasm and humor has also been documented to be impaired in people with SAUD (Schmidt et al., 2016; Uekermann et al., 2007).

Impairment in facial emotion recognition is predictive of patients' relapse or drop out of treatment, particularly for the recognition of disgust, anger, and the absence of emotion (Rupp et al., 2017). Poor emotional facial expression recognition ability is linked to more interpersonal problems, which could indicate that emotion recognition is a relapse factor as interpersonal problems are a major cause of relapses (Kornreich et al., 2002; Zywiak, Stout, Longabaugh, et al., 2006). Another study supported that patients with SAUD had more difficulty in finding solutions adapted to problematic interpersonal situations than controls (Schmidt et al., 2016).

On a side note, the deficit in emotion recognition might not be limited to understanding others' emotions as between 30 and 49% of people with SAUD also present alexithymia, a personality trait characterized by difficulty in identifying, describing, communicating feelings (Cruise & Becerra, 2018). People with alexithymia also tend to have an impoverished fantasy life and an externally oriented style of thinking (Taylor et al., 2000).

Finally, a comparison of patients with SAUD reaction to social exclusion compared to controls revealed that patients with SAUD were particularly sensitive to social exclusion (P. Maurage et al., 2012). In this experiment, a Cyberball Game was used to manipulate social exclusion/inclusion in participants. These participants were first included, then excluded, and, finally, re-included. The results showed that patients with SAUD exhibited increased cerebral activations in areas associated with social exclusion. Moreover, compared to controls, patients with SAUD had longer-lasting exclusion activations after re-inclusion, which suggests that they had more difficulty inhibiting feelings of exclusion after re-inclusion (P. Maurage et al., 2012).

5.2. Dehumanization against people with SAUD

5.2.1. Why do we expect people with SAUD to be dehumanized?

People with SAUD are particularly stigmatized and ostracized by others

Stigmatization and discrimination are already high toward people with mental illness, but these are even higher toward people with addictions (Hengartner et al., 2013). Corrigan, Schomerus, and Smelson (2017) have argued that stigma against people with addictions is prevalent in our society and even culturally sanctioned. Comparing the general population's attitude toward people with SAUD to people with other mental disorders reveals that people with SAUD are more structurally discriminated against, they evoke more negative emotions, and they are perceived as more responsible for their disorders (Schomerus, Lucht, et al., 2011). The general population also rejects people with severe alcohol use disorder more strongly than people with other mental disorders (Schomerus, Lucht, et al., 2011). Stigmatization has been associated with dehumanization, and social exclusion has been empirically shown to generate metadehumanization (Andrighetto et al., 2016; Bastian & Haslam, 2010; Cameron et al., 2016).

Stereotypes against people SAUD are dehumanizing

Stereotypes against people with severe alcohol use disorder are plenty: violent, lazy, unpredictable, disgusting, dirty, weak-willed, and unreliable, to cite a few (Schomerus, Lucht, et al., 2011). Many of those relate to traits that are used in humanity judgment. Indeed, comparing the sixteen stereotypes brought to light by Schomerus and colleagues in their model of Self-Stigma in Alcohol-Dependence (SSAD, see the full list in Table 9) to the traits used in Haslam's (2006) bidimensional model of dehumanization; multiple commonalities become apparent. The stereotype of emotional instability is related to irrationality. The stereotype of living on other people's expenses is related to the perception of passivity and childlikeness. Stereotypes of being lazy, self-pitying, and weak-willed are also similar to passivity. The stereotype of resolving conflicts only with alcohol and being unable to ever get away from alcohol relates to a lack of self-restraint. As violent behaviors are often perceived as immoral, the stereotypes that people with severe alcohol use disorder are violent could be related to the perception of amorality and lack of self-restraint.

Other stereotypes relate indirectly to dehumanization. The stereotype of being disgusting does not refer directly to traits of dehumanization, but disgust is closely related to dehumanization both as a precursor and as a consequence (Bora & Zorlu, 2016; Buckels & Trapnell, 2013; Harris & Fiske, 2006). Similarly, being dirty and unkempt contributes to generating dehumanization toward them as lack of hygiene provokes both disgust and dehumanization (Dalsklev & Kunst, 2015).

While the stereotype of having below-average intelligence is not related to Haslam's (2006) traits, intelligence is one of the three characteristics that are identified as being uniquely humans according to the Infrahumanization Theory, the other two being language and complex emotions (Demoulin et al., 2004; Leyens, Demoulin, Vaes, Gaunt, & Paladino, 2007; Leyens et al., 2001). It thus seems that the nature of the stereotypes against people with severe alcohol use disorder is intrinsically dehumanizing. Interestingly, the model of self-stigma in alcohol-dependence proposes that these stereotypes are integrated by people with severe alcohol use disorder in their self-perception (Schomerus, Corrigan, et al., 2011). Considering that these stereotypes have dehumanizing properties, we can expect people with severe alcohol use disorder to self-dehumanize.

Table 9. The sixteen stereotypes against people with SAUD included in the Scale of Self-Stigma in Alcohol Dependence (Schomerus et al., 2011)

Unreliable	Weak-willed
Emotionally unstable	Unable to ever get away from alcohol
Violent	Unable to keep a regular job
Living on other people's expenses	To blame for their problems
Self-pitying	Not to be trusted
Lazy	Dirty and unkempt
Resolving conflicts only with alcohol	Below average intelligence
Disgusting	Unpredictable

5.2.2. The relevance of metadehumanization for patients with SAUD

We have argued that people with SAUD could be particularly dehumanized. In addition, we argue that dehumanization might be particularly relevant for patients with SAUD's well-being and clinical prognosis.

As we developed earlier, SAUD encompasses deficits in social cognition, which can lead to interpersonal problems (Schmidt et al., 2016). These interpersonal problems could lead patients to feel dehumanized others as cumulative evidence points toward metadehumanization being generated by others' treatment of the victims (Bastian & Haslam, 2010, 2011; Park & Park, 2015; Zhang et al., 2017). Moreover, patients with SAUD could be particularly sensitive to dehumanization. Indeed, past research documented that patients with SAUD were particularly sensitive to social exclusion and were less able to inhibit the feeling of being excluded even after re-inclusion (P. Maurage et al., 2012). Past research established that social exclusion could lead victims to feel dehumanized by others (Bastian & Haslam, 2010). This increased sensitivity to social exclusion could make people with SAUD more likely to feel excluded and thus dehumanized. Finally, interpersonal conflicts are one of the main causes of relapse (Zywiak, Stout, Longabaugh, et al., 2006). We argue that, as dehumanization is a maltreatment enabler, dehumanization could drastically increase the likelihood of interpersonal maltreatments and conflicts, thus potentially provoking the relapse of people with SAUD.

In summary, we propose that patients with SAUD are particularly dehumanized by others because of the intense stigmatization and social exclusion that they face as well as the content of the stereotypes existing them. Moreover, the deficits and the interpersonal problems encountered by patients with SAUD attest to the relevance of studying metadehumanization in this population. Finally, we have argued that people with SAUD might be particularly sensitive to dehumanization. Considering the specificity of patients with SAUD, it is primordial to investigate metadehumanization in this population to investigate its presence and impact.

Chapter 2

Dehumanization of psychiatric patients

Experimental and clinical implications in severe alcohol use disorder

Summary

Dehumanization, defined as the denial of one's membership to humanity, is a process repeatedly reported in extreme contexts (e.g., genocides) but also in everyday life interactions. Some antecedents of dehumanizing experiences (e.g., social exclusion, negative stereotypes) have been reported among patients presenting psychiatric disorders, but dehumanization's experience remains completely unexplored in addictive disorders. We propose a theoretical model and research agenda to overcome this limitation and to improve our understanding of dehumanization's experience in psychiatry, with a special focus on alcohol-related disorders. We also propose much-needed clinical avenues to reduce dehumanization in clinical contexts, centrally by (1) improving dehumanization awareness among medical workers; (2) reducing the need for healthcare workers to use dehumanization to alleviate professional exhaustion; and (3) optimizing medical training to increase empathy toward patients. Finally, some additional improvements are proposed to promote patients' choices, comfort, dignity, and, ultimately, humanity in hospitals.

Reference

Fontesse, S., Demoulin, S., Stinglhamber, F., & Maurage, P. (2019). Dehumanization of psychiatric patients: Experimental and clinical implications in severe alcohol-use disorders. *Addictive behaviors*, *89*, 216-223.

1. Introduction

1.1. The theoretical framework of dehumanization

Dehumanization, globally defined as the denial of one's membership to humanity, places the dehumanized person out of moral considerations (Opotow, 1990). It has initially been explored in extreme contexts, particularly as a crucial process underlying genocides and war crimes (Kelman, 1973). However, it is also evidenced in more subtle forms and in a large range of everyday life activities (e.g., sports, education; Haslam, 2006; Trifiletti et al., 2014), and is thus now considered a pervasive phenomenon (Leyens et al., 2001, 2007).

Haslam (2006) proposed a dual model of dehumanization that includes two distinct forms, namely animalistic and mechanistic dehumanization. Animalistic dehumanization emerges when a person is assimilated to animals and is perceived as lacking uniquely human characteristics (i.e., as being coarse, amoral, irrational, lacking culture, and childish; Haslam, 2006). Mechanistic dehumanization appears when a person is seen as presenting reduced human nature characteristics (i.e., as being inert, cold, rigid, passive, fungible, and superficial). The lack of human nature characteristics assimilates the person to an automaton, a tool, or an object. This model has received large empirical support in various populations, cultures, and contexts (Bain et al., 2009; Haslam, 2006; Haslam & Stratemeyer, 2016; Kteily et al., 2016; Loughnan et al., 2014; Park & Park, 2015). Neuroimaging explorations have also reinforced it, particularly by revealing distinct brain networks related to animalistic and mechanistic dehumanizations (Jack, Dawson, & Norr, 2013). This model is also closely related to well-established theories, such as the stereotype content model, categorizing persons or groups along two axes: competence and warmth (Gervais et al., 2013; Li et al., 2014). For instance, past research has evidenced that persons perceived as both incompetent and cold are frequently dehumanized (Harris & Fiske, 2006). As a whole, the concept of dehumanization has gained a key conceptual and empirical position in social psychology during the last decades.

1.2. Dehumanization in medicine and the present research agenda

While mostly explored in intergroup relations, dehumanization has recently been investigated in medicine. In a seminal paper, Haque and Waytz (2012) pointed out six inherent features of medical settings as potential dehumanization sources. The first three characteristics are categorized as nonfunctional for patients' care. Among these, *deindividuating practices*, which are common in clinical settings (e.g., through the use of uniforms for both patients and medical staff), reduce one's personal responsibility toward patients as well as the time invested by doctors in patients' problem assessment (Haque & Waytz, 2012). Second, *impaired patient agency*, i.e., denying any active role for the patient in treatment, contributes to patients' dehumanizing experience, as the reduced perception of agency is an established criterion of mechanistic dehumanization. Finally, *dissimilarity,* i.e., the perceived differences in health and status between patients and medical staff (Haque & Waytz, 2012), contributes to patients' dehumanization as significant differences in appearance can generate dehumanization (Harris & Fiske, 2006).

Aside from these nonfunctional aspects of medical settings, some other dehumanizing dimensions are assumed to be more functional as they partly contribute to efficient patient care. *Mechanization*, i.e., the treatment of people as mechanical systems made up of interacting parts, is considered as a prevalent and necessary feature in modern medicine to facilitate diagnosis and treatment (Haque & Waytz, 2012; Haslam & Loughnan, 2014). Similarly, e*mpathy reduction* and *moral disengagement,* which are both deemed somewhat necessary for limiting medical staff's discomfort at inflicting painful treatments on patients, might also increase patients' dehumanization. Indeed, making a decision that provokes pain to someone (e.g., choosing a painful but effective treatment) facilitates the emergence of dehumanization feelings toward this person (Lammers & Stapel, 2010).

These six features clearly illustrate how dehumanization might be pervasive in medicine. Despite its endemic presence, however, this phenomenon has received little attention in psychiatry, and even less so in addictive disorders

research. Moreover, dehumanization is often explored from the author's[6] perspective (Bastian & Crimston, 2014), thus neglecting victims' *experience* of dehumanization (i.e., the genuine perception of being dehumanized by others).

In response to these shortcomings, we propose a research agenda focusing on the dehumanization's experience by the victim. Such agenda offers crucial new perspectives in psychiatry in general, and more specifically, in addictive disorders. We will first present a theoretical review of dehumanization research in psychiatry. Then, we will underline the limits currently hampering the development of an empirical exploration of dehumanization's experience in addictive disorders, before proposing a series of research lines aimed at better understanding the processes underlying dehumanization's experience among patients with addiction. Finally, clinical programs to reduce this dehumanization's experience and its deleterious consequences will be explored. As patients with severe alcohol use disorders are among the most rejected and stigmatized psychiatric populations (Schomerus, Lucht, et al., 2011), we argue that they are likely to endure intense dehumanization experiences. As such, they will be considered as a representative example throughout the paper.

2. Dehumanization in psychiatry and severe alcohol use disorders

2.1. Author's perspective

Social stigma towards patients with psychiatric disorders is largely present in our society (Angermeyer et al., 2011, 2014; Schomerus, Lucht, et al., 2011): individuals presenting psychiatric disorders are perceived as aggressive and dangerous, leading most people to avoid interacting with them (Pescosolido et al., 2010). The presence of dehumanization in psychiatry has been reported in several descriptive papers (Brody, 1995; Swahnberg et al., 2010; Szasz, 1991). Moreover, other empirical investigations have shown that

[6] The term "perpetrator" is commonly used in the literature to characterize the author of dehumanizing behaviors. However, this term has a strong negative connotation. Considering that dehumanization attitudes are often involuntary in medical contexts, the term "author" has been used throughout the present paper, as it is less judgmental and guilt-inducing.

dehumanization is the default response of laypeople when judging patients with mental illness, which are considered as threatening (Martinez et al., 2011). Importantly, healthcare workers also present reduced humanity attribution towards patients (Trifiletti et al., 2014; Vaes & Muratore, 2013). This dehumanization is considered as a protective coping strategy for the psychiatric staff, as patients' dehumanization is related to decreased emotional involvement and reduced burnout risk (Vaes & Muratore, 2013). The use of dehumanization as a coping strategy to protect oneself against the emotional exhaustion and the stress brought by everyday professional contact with patients presenting psychiatric disorders illustrates how dehumanization can be functional. Nevertheless, even if dehumanization presents some functional aspects for mental health workers, its potentially deleterious consequences (e.g., negative emotions, reduced self-esteem, relapse) for patients warrant our attention (Haque & Waytz, 2012).

2.2. Patients with severe alcohol use disorders' perspective

Amongst populations with psychiatric disorders, patients with severe alcohol use disorders are the most rejected and stigmatized (Schomerus, Corrigan, et al., 2011). They are perceived as more dangerous and unpredictable than patients suffering from depression or schizophrenia, leading to an increased desire for social distance from them (Schomerus, Lucht, et al., 2011). As it promotes dehumanizing effects (Bastian & Haslam, 2010), such social rejection is likely to lead to dehumanization's experience. As a matter of fact, patients with severe alcohol use disorders have an increased sensibility to social rejection (P. Maurage et al., 2012), a well-known antecedent of dehumanization (Bastian & Haslam, 2010). Moreover, loneliness and social stigma, which are conceptually close to social rejection and dehumanization, have both been linked to poor prognosis in patients with severe alcohol use disorders (Åkerlind & Hörnquist, 1992; Schomerus, Corrigan, et al., 2011). One may reasonably assume that a socially rejected person might develop loneliness feelings and that a stigmatized person is likely to feel dehumanized (as there is a strong tendency to dehumanize stigmatized populations; Cameron et al., 2016; Harris & Fiske, 2006). Even though it seems likely that all patients with psychiatric disorders could be victims of dehumanization, we argue that patients with severe alcohol use disorders are particularly confronted with dehumanization feelings because they are particularly victims of, and sensitive to, social rejection (P. Maurage et al.,

2012). Indeed, these addictive populations are perceived as less mentally ill than people suffering from substance-unrelated mental disorders and, accordingly, as more personally responsible for their condition (Schomerus, Lucht, et al., 2011). As a consequence, they are more likely to be targeted by structural discrimination, and they elicit more negative emotions among both laypeople and health professionals (Schomerus, Lucht, et al., 2011). In view of the currently limited experimentally-based knowledge available regarding dehumanization processes in medicine (Haque & Waytz, 2012; Szasz, 1991), further exploring dehumanizing experiences in psychiatry and severe alcohol use disorders would provide the opportunity to better understand this phenomenon among victims, which might lead to major fundamental and clinical implications.

2.3. Current limits in dehumanization research

The causes and consequences underlying the dehumanizing behaviors produced by authors (e.g., general population, nursing staff) are quite established (Bastian & Crimston, 2014). These behaviors can be blatant (e.g., mocking the naked legs of an old patient wearing a hospital gown) or more subtle (e.g., doing the bare minimum work required toward a patient, neglecting patient's requests, ignoring a patient as much as possible). However, the processes related to the victim's experience of dehumanization (i.e., psychiatric patient's feelings and experience) are nearly totally unknown. Only a few studies have started to investigate victims' dehumanization's experience in social psychology by exploring its causal factors (e.g., showing that previous maltreatment experiences foster dehumanization feelings; Bastian & Haslam, 2011) and consequences (e.g., dehumanization victims present self-blame, guilt, shame or even cognitive deconstruction; Bastian & Haslam, 2011). Beyond these very preliminary results, a lot remains to be done to specify the necessary conditions for generating dehumanization's experiences and understanding their consequences for the victim. More importantly, no study has explored dehumanization's experiences of patients with psychiatric disorders despite their potential importance for their wellbeing and treatment.

3. Research perspectives

In view of the complete lack of dehumanization's experience studies in populations with psychiatric disorders, particularly among persons presenting severe alcohol use disorders, we will propose some avenues for

an effective, experimentally valid, and clinically grounded exploration of this phenomenon in psychiatry. This might lead to effective clinical programs countering this phenomenon and thus improving patients' quality of life and prognosis. Therefore, we will propose research perspectives divided into two axes. The first focuses on experimental perspectives aiming at the understanding of the phenomenon of dehumanization. The second focuses on clinical perspectives aiming at reducing dehumanization.

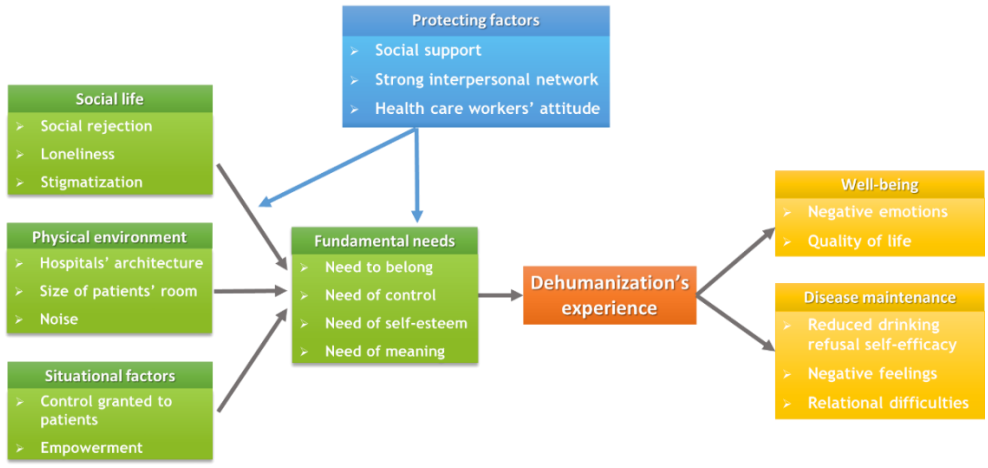

Figure 10. The proposed theoretical model of dehumanization's experience in severe alcohol use disorders encompassing the antecedents (in green), protecting factors (in blue), and consequences (in yellow) of dehumanization's experience.

3.1. Axis 1. Experimental perspective: Improving the understanding of dehumanization's experience of patients with severe alcohol use disorders

Due to the very limited experimental data currently available, dehumanization's experience in psychiatry and in patients with severe alcohol-related disorders is still poorly conceptualized. A first critical way to increase our understanding of this phenomenon would be to identify its causes and consequences, as well as the factors protecting patients from dehumanization's experience. We thus propose a theoretical model (summarized in Figure 10), presenting the possible antecedents (green part of the Figure), moderators (blue part), and consequences (yellow part) of the dehumanization's experience that have to be analyzed to offer a complete understanding of the phenomenon.

3.1.1. Dehumanizing antecedents and fundamental needs

Different categories of antecedents should be experimentally investigated, and particularly factors related to:

(1) *Social life and relations*, known to constitute crucial determinants of dehumanization's experience (Bastian & Crimston, 2014). We argue that variables such as loneliness, stigmatization, and rejection faced by patients with addictive disorders could be important predictors of dehumanization. Indeed, the emotional distance that predominates in clinical settings, as well as the social distance that most healthcare actors take from patients with severe alcohol use disorders, provide the necessary conditions for the emergence of dehumanization (Schomerus, Lucht, et al., 2011; Väyrynen & Laari-Salmela, 2018).

(2) *Physical environment*, which could affect patients' dehumanizing experience. There is extensive evidence that hospitals' physical environment can widely influence patients' wellbeing and needs. Numerous factors (e.g., the presence of nature scenery, noise levels, or sunlight exposure) have clinical consequences on patients' stress, sleep quality, pain, medical complications, or recovery (Ulrich, 1984; Ulrich et al., 1991; Ulrich, Zimring, Zhu, Dubose, et al., 2008). In addition, we propose that some characteristics of psychiatric hospitals' architecture and clinical units (e.g., small room size, noise, dirtiness, lack of intimate space) can threaten patients' dignity and favor dehumanization's experience. For example, it may be assumed that standardized and shared rooms undermine patients' individuality and implicitly promote the idea that patients are fungible, which is an important criterion of mechanistic dehumanization (Haslam, 2006). Moreover, being locked for weeks in a closed center implicitly suggests that patients must be controlled as caged animals, which also conveys a dehumanizing message as the lack of self-restraint is a known criterion of animalistic dehumanization (Haslam, 2006). The idea that some physical environments may generate dehumanization feelings has already been suggested in the literature (Liebling, 2011), specifically regarding mental health facilities (Bil, 2016). The simple fact that mental health facilities are usually less agreeable or comfortable than other types of housings further illustrates society's perception of people with mental illness, suggesting that they deserve or require less comfort than other human beings.

(3) *Contextual factors*, as the level of empowerment and control granted to patients on their treatment, also constitute potential predictors of dehumanization. The importance of patients' empowerment in medicine is largely known, as well as the relation between its antagonist (i.e., powerlessness) and dehumanization (Gwinn et al., 2013; Lammers & Stapel, 2010; Yang et al., 2015). Empowering patients with a psychiatric disorder by increasing their perceived control over their treatment might reduce this powerlessness feeling and increase patients' agency and maturity, i.e., two characteristics involved in humanity attribution (Haslam, 2006).

Furthermore, we suggest that these three categories of factors lead to dehumanization's experience because they can threaten patients' fundamental needs (see Figure 10 for a representation of the model). Fundamental needs (e.g., need for belonging, self-esteem, or control) are the needs that are shared by all human beings and have important negative consequences when thwarted (Baumeister & Leary, 1995; Leary et al., 2013). We argue that dehumanization experience is one of the important consequences of unsatisfied fundamental needs. Factors related to social life can mostly thwart the need for belonging, while factors related to the environment and contextual factors (e.g., being in a locked environment or having a restricted phone use) can thwart the need for control. Other needs, such as the need for self-esteem, might also be threatened by the three categories of factors (e.g., self-esteem is negatively influenced by social rejection or by standing in a powerless position), leading the victims to experience dehumanization. In view of their importance for satisfactory personal and interpersonal life, the nonfulfillment of these fundamental needs may thus constitute a key determinant of patients' dehumanizing experience. Furthermore, patients suffering from addictive disorders are, by definition, in a situation characterized by a lack of control over their substance use. As the need for control is one of the fundamental needs leading to the most deleterious consequences when denied (Baumeister & Leary, 1995; Leary et al., 2013), this nonfulfillment in addictive disorders might be strongly involved in dehumanization's experience.

3.1.2. Dehumanization consequences

While the consequences of dehumanization have not yet been empirically examined in psychiatry, it can be hypothesized that experiencing dehumanization can strongly reduce patients' well-being and quality of life (Saatcioglu et al., 2008). Indeed, these outcomes are related to the quality of social interactions (Foster et al., 1999) and dehumanization's experience is anchored in negative social interactions. Dehumanization's experience can also elicit negative emotions (Bastian & Haslam, 2011), known to favor increased alcohol consumption of patients with severe alcohol use disorders (M. L. Cooper et al., 1995). Dehumanization's experience could thus also affect disease maintenance and relapse through the generation of negative emotions and relational difficulties (M. L. Cooper et al., 1995; Zywiak, Stout, Longabaugh, et al., 2006), initiating a vicious circle where increased alcohol consumption could be used as a coping strategy to face dehumanizing experience's negative consequences. Victims' cognitive functioning is also affected by the dehumanization's experience as it can initiate a state of cognitive deconstruction, characterized by a reduced affective expression, altered time perception, and lethargy (Twenge et al., 2003; Zhang et al., 2017). The full extent of dehumanization's effect on cognitive functioning is currently unknown, and the impact of dehumanizing experiences on other cognitive factors involved in the maintenance of alcohol use disorders [e.g., ruminations, impulsivity, motivation to interact with others (Åkerlind & Hörnquist, 1992; Brion et al., 2018; Grynberg et al., 2016; Quaglino et al., 2015)] has still to be evaluated. Past research has shown that dehumanizing experience has specific effects on attitudes and behaviors, distinct from those related to the mere perception of being disliked (i.e., prejudice or meta-prejudice; Kteily et al., 2016; Kteily & Bruneau, 2017b).

3.1.3. Protecting factors against dehumanization

Variables potentially protecting patients against the aversive effects of dehumanization's experience should also be investigated. Centrally, the presence of social support might be of critical importance. Indeed, a strong interpersonal network and benevolent attitudes from relatives, friends, and practitioners could help to lower the consequences of dehumanizing experiences, as they satisfy patients' need to belong (Baumeister & Leary, 1995). As dehumanization is mainly an interpersonal phenomenon (Bastian et al., 2013), its reduction through re-humanization should also be deeply anchored in social relations. Accordingly, we suggest that the social inclusion

induced by social support might have a humanizing and counterbalancing effect, which would finally buffer the negative effects in terms of experienced dehumanization (Bastian & Haslam, 2010). The proposition that social support can reduce dehumanization's feelings has already been experimentally tested (Caesens et al., 2017). It is also known that social support has positive effects on drinking outcomes and wellbeing among patients with addictive disorders (Beattie & Longabaugh, 1997). In the same vein, just as maltreatments can provoke a dehumanization's experience, we argue that healthcare workers' benevolent attitudes toward patients could constitute a protecting factor and have a humanizing effect on patients' experience.

3.1.4. Temporal dimension of dehumanization

Finally, a crucial aspect of dehumanization's experience that has up to now been completely neglected is its temporality, namely its evolution and variation across time and contexts. Investigating dehumanization's temporality could notably quantify the persistence of dehumanization feelings after a dehumanizing experience, or the ideal timing to promote protective factors reducing this experience. The impact of dehumanization repetition should also be clarified, as chronicity is a crucial factor in determining the consequences of negative events (e.g., the difference between acute and chronic stress). While up to now focused on unique dehumanizing events, studies should urgently examine the differences between sporadic and repeated dehumanization's experiences. It may be expected that dehumanization in psychiatry is particularly deleterious for patients because of its chronicity. Beyond varying across time, dehumanization might also vary across populations with psychiatric disorders, which present different social exclusion levels and are differently stigmatized by *laypeople* (Schomerus, Lucht, et al., 2011). Taking into account that extremely stigmatized groups are dehumanized, it could be expected that patients with severe alcohol use disorders and other addictive populations are markedly dehumanized just as they are markedly stigmatized (Harris & Fiske, 2006; Room, 2005; Schomerus, Lucht, et al., 2011). Future research should investigate how dehumanization's experience can be modulated by patients' disease characteristics (e.g., mental versus physical disease, internal versus external/visible diseases) and reveal the characteristics defining the extensive dehumanization faced by patients with severe alcohol use disorders.

3.2. Axis 2. Clinical perspective: reducing dehumanization in psychiatry

3.2.1. Author's level: reducing dehumanization by medical staff

In view of the deleterious consequences of dehumanization's experiences for patients, it seems important to develop countermeasures to be implemented in clinical practice. As we suggested, dehumanization is used by healthcare workers to reduce the emotional cost of working with suffering individuals (Cameron et al., 2016), and therefore burnout risk (Trifiletti et al., 2014). Healthcare workers report specific stigmatizing attitudes toward patients with substance-use disorders and the perception that healthcare delivery is impeded by their lack of motivation (Rao et al., 2009; Van Boekel et al., 2013). The emotional cost of helping them might thus be perceived as particularly high. Implementing alternative methods to lower the emotional burden of clinical practitioners (e.g., social support, close supervision, mindfulness, stress management intervention) might reduce their use of dehumanization as a coping mechanism. Multiple interventions have shown encouraging results in reducing stress, burnout, and anxiety among healthcare workers (Ruotsalainen et al., 2008). Moreover, organizational support should be reinforced as it reduces employees' own dehumanization feelings, as well as emotional exhaustion, psychosomatic strains, and job insatisfaction (Caesens et al., 2017). Yet, prior research in the organizational domain showed that the way employees feel treated by their organization influences how they subsequently treat people they are in contact with within the workplace (e.g., customers, subordinates; Masterson, 2001). Accordingly, reducing healthcare workers' dehumanization's feelings through valorizing organizational practices and policies might reduce the dehumanizing treatment they may perpetrate toward patients through a "trickle-down effect."

Moreover, as dehumanization is most often involuntary and unconscious (Haslam & Loughnan, 2014), practitioners' awareness about this phenomenon should be increased. Empathy could also be targeted, as higher empathy is related to reduced self-other dissimilarity, which might, in turn, lower dehumanization (Martinez, 2014). Practitioners' empathy towards patients should thus be promoted during medical training, particularly because the currently proposed training surprisingly reduces empathy and

favors dehumanizing behaviors (Haque & Waytz, 2012). In the same vein, biology-based explanations of mental disorders (focusing on biological, genetic, and neurological causes) have gained in popularity, notably following the emergence of neurosciences (Deacon, 2013). Unfortunately, this conception is related to reduced empathy toward patients (Lebowitz & Ahn, 2014), as well as with more dehumanizing perceptions and more favorable attitudes towards constraints therapeutic methods (Pavon & Vaes, 2017). Emphasizing empathy and consideration for patients' feelings during medical training could thus reduce patients' dehumanization (Haque & Waytz, 2012).

In addition, an efficient way to reduce dehumanization is to increase intergroup contacts (Greenaway et al., 2011; Haslam & Loughnan, 2014), as these contacts are associated with the emergence of a common identity and a reduction of intergroup boundaries (Capozza, Trifiletti, et al., 2013). Moreover, these changes are linked to higher levels of empathy and lower levels of anxiety (Capozza, Trifiletti, et al., 2013), which could both hold potential positive effects on dehumanization. Developing interactions between patients presenting psychiatric disorders and the general population might thus reduce the global dehumanization trend among laypeople, and the same proposal applies for contacts between patients and healthcare professionals (Capozza, Falvo, et al., 2013). While it has been suggested that mentally imagined contact might be sufficient to reduce dehumanization (Vezzali et al., 2012), high care should be given to ensure the richness of these contacts, as contacts' quality is more important than quantity to reduce intergroup prejudice (Keith et al., 2015). Quality of contacts can be improved by ensuring that the contact is voluntary, pleasant, cooperative, and that both parties are on equal status (Islam & Hewstone, 1993). Finally, some promising avenues to foster humanization in medicine have been proposed by Haque and Waytz (2012) and could be implemented in psychiatry and addictive disorders. For example, they proposed that individuation should be promoted by making both patients and healthcare workers more identifiable (e.g., by adding personalized details on patients' and workers' uniforms). Additionally, treating patients as active partners in clinical decision making to improve their empowerment and agency, which can reduce dissimilarity and balance the power dynamic (Haque & Waytz, 2012; Lammers & Stapel, 2010), ultimately lowering dehumanization.

3.2.2. Victim's level: Reducing dehumanization's experiences in patients

In addition to the above proposals to reduce dehumanizing behaviors from laypeople and healthcare workers, complementary interventions could more directly lower dehumanization's experience in populations presenting psychiatric disorders. A first lever would be to remodel psychiatric hospitals' environment to differentiate them from locked and impersonal structures. Consequently, patients should have an increased intimacy (reinforcing their perception of being treated as human beings rather than as caged and immature animals), be less watched or monitored (to satisfy their need of control), and have more possibilities to personalize their living space (to reduce the perception that they are fungible). Interestingly, outreaching and deinstitutionalization (where patients live in normal or adapted homes with the help of the mental health service community) could be a way to favor psychiatric patients' re-humanization. This method showed a reduction in stigma, as well as a transition from avoidance and fear to compassion and kindness towards patients (Hickling et al., 2011). Deinstitutionalization is notably supported by United Nations' Special Rapporteur on the Rights of Persons with Disabilities based on the Convention on the Rights of Persons with Disabilities (i.e., "Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others" [United Nations, UN, 2007]) and has been described as having extraordinary benefits for most patients (Eisenberg & Guttmacher, 2010; UN General Assembly, 2007), despite contradictory results (Torrey, 2010). Of course, the benefits and costs of this method for populations with addictive disorders should be thoroughly investigated to ensure that the potentially humanizing benefits (e.g., improved control or agency) are not counterbalanced by an increased confrontation with risky contexts favoring drug consumption.

Improving the hospital's context proposed to patients may also decrease dehumanization's experience during the detoxification process. Ensuring that patients are well informed regarding their treatment and have an influence on this treatment could contribute to control and agency, and thus re-humanize them (Yang et al., 2015). When possible, healthcare workers should be encouraged to consider patients as equals during social interactions, as having a perceived lower social status can provoke

dehumanization's experience (Gwinn et al., 2013) while having equal status contributes to the quality of contacts (Islam & Hewstone, 1993). Moreover, punitive behaviors (e.g., confiscating phones or forbidding a patient from going out) should be avoided as they correspond to known forms of dehumanization (i.e., treating the person as a child or devaluating his/her social identity by symbolically placing him/her under other individuals; Bastian & Haslam, 2011; Haslam, 2006). Many common but dehumanizing practices should also be reconsidered: dressing patients in the same outfits, forcing them to share a standardized room with strangers, favoring physical promiscuity are all common practices in hospitals that have economic and practical roots but which might strongly favor the emergence of dehumanization feelings. Indeed, these practices increase dehumanization factors such as deindividuation, patients' fungibility, and dissimilarity between medical staff and patients (Haque & Waytz, 2012; Haslam, 2006). It should be noted that these practices are also shared with prisons, which are known to constitute dehumanizing environments undermining prisoners' dignity and well-being (Liebling, 2011). Hospitals should thus urgently strive to modify such standards in order to improve patients' choices, comfort, dignity, and, ultimately, humanity.

Finally, another re-humanization perspective has been recently initiated by a study showing that participants perpetrating immoral behaviors, which drives self-dehumanizing feelings, later express an increased propensity to behave prosocially (Bastian & Crimston, 2014). This suggests that participants behave prosocially to regain their lost humanity (Bastian & Crimston, 2014). Providing patients with severe alcohol use disorders the opportunity to behave prosocially (e.g., by volunteering their time to a charity) might be an interesting way to re-humanize them. In addition to the direct benefits of the pro-social behavior, they might also regain agency, interpersonal warmth, and moral sensibility in their own eyes as well as in others' eyes. Moreover, activities such as volunteering can also satisfy fundamental needs such as the need to belong (as it can create social relations and provide a way to gain recognition; Fisher & Ackerman, 1998) and the need of meaning (as volunteering activities typically provide life meaning; Bradley, 2000). Such activity might thus be promoted to improve public perception of patients with severe alcohol use disorders and to reduce stigma against them, an important step toward rehabilitation (Sartorius, 1995).

4. Implications and conclusion

The study of dehumanization from both the victim's and the author's point of view in psychiatry and severe alcohol use disorders, which has been initiated in the present paper, has promising perspectives at both theoretical and clinical levels. At the theoretical level, it will offer a better understanding of the dehumanization phenomenon and provide experimental avenues to test how patients' treatment and well-being can be improved. At the clinical level, a first positive consequence of the deepened exploration of dehumanization processes would be to offer precise information to healthcare workers and hospitals, in order to underline the presence of dehumanization and its consequences for patients. In a second step, direct actions should be taken to reduce or prevent the identified causes of dehumanization, and thus its observed consequences. Multiple actions to reduce dehumanization toward patients have been proposed here, which could be directly implemented in clinical practice, for example reducing the emotional strain on healthcare workers by implementing stress management interventions, improving their empathy, promoting norms towards patients in hospitals, and creating high-quality contacts with patients. These actions should be implemented with care because dehumanization also plays a protective role for healthcare workers (Haque & Waytz, 2012; Trifiletti et al., 2014). Additionally, solutions to reduce patients' dehumanizing experiences have been proposed, such as improving patients' physical comfort, empowerment, fundamental needs' satisfaction, and dignity through practical changes. Furthermore, volunteering for charities, deinstitutionalization, and increased individuation also constitute promising directions to protect patients against dehumanization or to rehumanize them. The research perspective presented here could thus constitute a first step towards a deeper fundamental understanding and an increased consideration of dehumanization's experience from the patient's point of view in psychiatry, initiating new research avenues as well as effective clinical changes.

Chapter 3

Metadehumanization in severe alcohol use disorders Links with fundamental needs and clinical outcomes

Background

Dehumanization, i.e., the denial of one's humanity, has important consequences for social interactions. Earlier works mainly studied the dehumanizer's perspective, neglecting victims and particularly psychiatric populations. This study's goal is thus to investigate if patients with severe alcohol use disorders (SAUD) feel dehumanized by others and to reveal factors linked to metadehumanization.

Methods

A cross-sectional study in 120 patients with SAUD as diagnosed by their psychiatrist using DSM-IV criteria.

Results

Participants reported significant levels of metadehumanization, which were directly or indirectly linked to fundamental needs threat (γ = .41, p < .001), decreased positive emotions (indirect effect = -.11, p < .05), reduced self-esteem (indirect effect = -.16, p < .01), reduced use of functional coping strategies focused on the search of social support (γ = -.20, p < .05), and increased use of dysfunctional coping strategies (indirect effect = .15, p < .01) such as excessive alcohol use (indirect effect = .10, p < .05).

Conclusions

Patients feel dehumanized by others, an experience linked to important deleterious factors for patients' wellbeing and treatment.

Reference

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Metadehumanization in severe alcohol use disorders
Links with fundamental needs and clinical outcomes

1. Introduction

Dehumanization, i.e., the denial of other individuals' humanity, has been initially studied in the context of genocides and repeatedly linked to multiple forms of violence (Kelman, 1973; Kteily & Bruneau, 2017b; Steuter & Wills, 2010). Dehumanization is based on the denial of essentially or uniquely human characteristics: civility, refinement, moral sensibility, rationality, maturity, emotional responsiveness, interpersonal warmth, cognitive openness, agency, and depth (Haslam, 2006). Dehumanization can also occur by associating someone with a non-human entity. Many metaphors can provoke these dehumanizing perceptions (e.g., "these people are… trash, apes, savages, vermin, animals", Goff et al., 2008; Haslam, 2006; Loughnan et al., 2014; Mekawi et al., 2019; Utych, 2018). Blatant dehumanization has been observed in deeply entrenched conflicts (e.g., the Rwandan genocide, Ong, 2016). Subtler forms have also been reported in various contexts such as education (e.g., impersonal assessments denounced as dehumanizing), intergroup relations (e.g., individuals can dehumanize outgroups), and other situations such as work or customer-employee interactions (Caesens et al., 2017; Haslam, 2006; Henkel et al., 2018; Leyens et al., 2001). From the perpetrators' perspective, dehumanization has been linked to outcomes such as reduced help to victims, social distancing, harsh treatments, and violent behaviors (Cuddy et al., 2007; Fasoli et al., 2016; Kteily et al., 2016; Viki et al., 2013).

1.1. Dehumanization in medicine and psychiatry

Although denounced as endemic in medicine (Haque & Waytz, 2012), dehumanization has never been explored in psychiatric populations, despite all signs pointing toward them being particularly dehumanized (Fontesse et al., 2019). First, dehumanization is based on the perception that one lacks human characteristics (e.g., rationality, self-restraint, logic, maturity, or interpersonal warmth; Haslam, 2006). Lacking such characteristics is inherent to some mental illnesses (e.g., interpersonal warmth in psychopathy; self-restraint in addictive disorders). As they are considered as lacking key human attributes, psychiatric populations are prone to be confronted with dehumanization. Second, mental illness stigma literature

attests to the stigmatization against people with mental illness (Abdullah & Brown, 2011; Ross & Goldner, 2009), and stigmatized targets tend to be dehumanized (Cameron et al., 2016; Harris & Fiske, 2006)[i]. Following this reasoning, laypeople, but also clinicians might dehumanize some psychiatric populations, if not all. Past research supported this idea, dehumanization being participants' default response when reading about a person labeled with mental illness (Martinez et al., 2011).

Additionally, we argue that patients with severe alcohol use disorders (SAUD) might be particularly dehumanized, notably because they are more strongly stigmatized than other psychiatric populations and perceived as dangerous and unpredictable (Pescosolido et al., 2010; Schomerus et al., 2011). Such stereotypes lead to social rejection, an essential cause of dehumanization (Bastian & Haslam, 2010). Additionally, dehumanization can be motivated by the desire to avoid exhaustion from helping patients (Cameron et al., 2016). We argue that patients with SAUD are perceived as particularly exhausting because relapse rates after treatment are very high (43% of relapse during the year following treatment; Weisner et al., 2003). As patients with SAUD are strongly rejected, stigmatized, and are certainly perceived as exhausting to help, they are likely to be dehumanized. The first neuroimaging study of dehumanization supported this reasoning, as participants presented brain activations patterns congruent with dehumanization only when observing people who are homeless or addicted (Harris & Fiske, 2006).

1.2. Dehumanization from the victims' perspective

Compared to the in-depth exploration of dehumanization from the authors' perspective, the victims' perspective has been neglected (Haslam & Loughnan, 2014; Haslam & Stratemeyer, 2016). So far, it has been shown that metadehumanization (i.e., the subjective perception of being dehumanized by others) elicits negative emotions (e.g., anger, sadness, guilt, shame), aversive self-awareness, and cognitive deconstruction (Bastian & Crimston, 2014; Bastian & Haslam, 2011; Zhang et al., 2017). Metadehumanization might arise when one has been treated as unequal, disrespected, or if his/her identity has been treated as invaluable (Bastian & Haslam, 2011). Common maltreatments such as being envied, embarrassed, ostracized, treated instrumentally, or hypocritically have been shown to provoke metadehumanization in the victim; the victim feels that

he/she has been dehumanized by others (Bastian & Haslam, 2011). In organizational psychology, feeling dehumanized by his/her organization is associated with lower job satisfaction, higher emotional exhaustion, increased surface acting (e.g., faking emotions to meet requirements), more negative self-perceptions, and higher psychosomatic strains (Caesens et al., 2017; Nguyen & Stinglhamber, 2018). Similar effects might affect psychiatric patients. This study will thus investigate the presence and determinants of metadehumanization in patients with SAUD.

The model proposed here is inspired by the self-determination theory (SDT), which focuses on fundamental needs (e.g., autonomy, competence, meaning, and belonging needs) to understand humans (Williams, 1997). These needs are the psychological counterpart of physical needs (e.g., hunger, thirst): every human feels them and, when unsatisfied, important negative consequences affect people's physical and mental health (Baumeister & Leary, 1995; Leary et al., 2013). Metadehumanization has been proposed to affect victims' fundamental needs (Bastian & Crimston, 2014; Christoff, 2014). Indeed, as dehumanization is linked to incompetence attribution, it might convey the idea that one is incompetent, thus potentially threatening the need for competence (Li et al., 2014). Moreover, being human is an essential part of social identity, used to construct meaning about the world early in life; denying such a primary identity could thwart the need for meaning. Being dehumanized by others might also disrupt the sense of belonging to the human community, thus threatening the need to belong (Bastian & Crimston, 2014). Considering that fundamental needs threat bears important aversive consequences (Baumeister & Leary, 1995), we moreover hypothesized that it would be associated with adverse effects on three crucial domains of human functioning, namely emotions, cognitions, and behaviors. These categories will be respectively operationalized with positive and negative emotions, self-esteem, and coping strategies; factors of utmost importance for patients' wellbeing and clinical prognosis (M. L. Cooper et al., 1995; Tomaka et al., 2013; Zywiak et al., 2003). Finally, stigmatization will be controlled for in our dehumanization model, as

dehumanization and stigmatization are distinct[7] but related concepts (Cameron et al., 2016; Kteily et al., 2016).

To sum up, all signs point towards patients with SAUD being a population particularly dehumanized. Surprisingly, research on this topic is entirely lacking. Following the arguments developed above, metadehumanization should be linked to fundamental needs threat. Metadehumanization should also, directly or indirectly (through fundamental needs threat), be linked to negative consequences regarding patients' emotions (increased negative emotions, decreased positive emotions), cognitions (lower self-esteem), and behaviors (decreased functional coping strategies and increased dysfunctional ones).

1.3. Aim of the study

Our aim was to survey patients with SAUD for the presence of metadehumanization. We further investigated the existence of associations between metadehumanization and patients' emotions, cognitions, and behaviors.

2. Measures and methods

2.1. Participants

Psychiatrists selected participants based on the following inclusion criteria: being a patient with SAUD involved in detoxification treatment for at least 14 days and being free from other major medical problems and neurological disease. One hundred and twenty French-speaking patients with SAUD were recruited (mean age = 48.3, *SD* = 10.9, 86 males). Patients had a mean of 2.6 (*SD* = 3.2) past alcohol detoxification treatments. Before the detoxification treatment, patients consumed 19.4 (*SD* = 12.1) alcohol

[7] Dehumanization arose to explain extreme interpersonal behaviors and its measures emerged from studies investigating essential and uniquely human characteristics (Haslam, 2006; Kelman, 1973; Leyens et al., 2000, 2001). Conversely, stigmatization studies started on marginalized groups and its measures emerged from stereotypes attributed to these specific groups (Kurzban & Leary, 2001; Mak et al., 2007). Dehumanization is "the denial of full humanness" (Haslam, 2006); stigmatization is "an attribute that is deeply discrediting" (Goffman, 1963). Moreover, dehumanization can occur in positive evaluations (e.g. describing an athletic person as a "beast") whereas stigmatization is negative in essence.

units/day (10 grams of ethanol). The mean SAUD duration was 13.6 years (*SD* = 10.9). Patients were not paid for participation. Patients provided written informed consent.

2.2. Procedure

Patients were recruited during their detoxification stay in six Belgian hospitals from September 2017 to June 2018. They received a full description of the study. The survey was completed in two one-hour sessions. All procedures contributing to this work comply with the ethical standards of the Helsinki Declaration of 1975, as revised in 2008. All procedures involving patients were approved by the bioethical committee of the University (Cliniques Universitaires Saint-Luc, UCLouvain, Belgium; approval number B403201732246).

2.3. Measures

The survey measured metadehumanization, fundamental needs threat, emotions, self-esteem, coping strategies, alcohol-related characteristics, and demographics. This study is part of a larger project exploring emotional and cognitive correlates of SAUD. All scales were 7-point Likert-type scales, and all scores computed ranged from 1 to 7.

2.3.1. Metadehumanization

Metadehumanization was measured using a 13-item scale (α = .93) assessing how participants felt dehumanized by society (e.g., “As an alcohol-dependent person, society treats me like an animal,” “[…] as an object”, “[…] as if I was emotionless”, “[…] as someone lacking intelligence and competence”, “[…] as if I was lacking empathy and sensitivity”). This scale focuses on participants’ perception of being dehumanized by society. The scale was adapted from previous work on organizational dehumanization, which is a form of metadehumanization where the dehumanizer is one’s organization (Caesens et al., 2017). Items were based on the bidimensional model of dehumanization, distinguishing animalistic and mechanistic dehumanization (Haslam, 2006). However, this distinction did not hold in this study, as attested by the particularly high correlation (*r* = .93) found between items initially classified in animalistic and mechanistic categories. Accordingly, a global dehumanization score was computed from all items.

It thus encompasses known criteria of dehumanization, such as immaturity, superficiality, and coldness, as well as direct metaphors to non-human

entities. Agreement with the items was measured using a 7-point Likert-type scale (*Completely disagree, Disagree, Slightly disagree, Neither agree nor disagree, Slightly agree, Agree, Completely agree*). Answers were averaged to compute a mean score ranging from 1 to 7.

2.3.2. Fundamental needs threat

Fundamental needs threat was measured using a 12-item scale (α = .85) assessing participants' threat of belonging, control, self-esteem, and meaning needs (e.g., "As an alcohol-dependent person, I feel little accepted in society"; "As an alcohol-dependent person, I feel valued and respected in society," reverse coded; Zadro et al., 2004). This scale focused on participants' perceived dissatisfaction with their fundamental needs. After inverting the scores of reversed items, the fundamental needs threat score was computed from all items.

2.3.3. Positive and negative emotions

Participants' emotions were measured using the French version of the Positive and Negative Affect Schedule (Pélissolo et al., 2007; Watson et al., 1988). This 31-item scale distinguishes positive emotions (tenderness and joy), negative emotions (fear, sadness, anger, and shame), and surprise. Following our hypotheses, surprise was left out. The positive emotions score (α = .90) was computed by averaging participants' scores on tenderness and joy items and the negative emotions (α = .95) score by averaging scores on fear, sadness, anger, and shame items.

2.3.4. Self-esteem

Different dimensions of participants' self-esteem were measured using the 20-item State Self-Esteem Scale (Heatherton & Polivy, 1991). This scale encompasses self-esteem regarding performance (e.g., "I feel as smart as others"), sociability (e.g., "I feel concerned about the impression I am making," reversed) and appearance (e.g., "I feel satisfied with the way my body looks right now"). However, analyses were conducted on general self-esteem (α = .88), computed from all items, as no hypothesis was based on subdimensions.

2.3.5. Coping strategies

Participants' coping strategies when facing a troubling event were measured through the French adaptation of the Ways of Coping Checklist (27 items; (Bruchon-Schweitzer et al., 1996; Folkman & Lazarus, 1988). This scale distinguishes three dimensions: functional coping strategies centered on problem-solving (α = .88; e.g., "I fought for what I wanted") or on the search of social support (α = .77; e.g., "I talked with someone about what I was feeling") and dysfunctional coping centered on emotions (α = .75; e.g., "I felt bad that I could not avoid the problem"). Two items were added to measure participants' alcohol use as coping (*r* = .65; e.g., "I drank alcohol to feel better"). We computed the dimensions mean.

2.3.6. Stigma awareness

Stigma awareness was measured using the Stigma Awareness dimension of the Self-Stigma in Alcohol Dependence Scale (SSAD; Schomerus et al., 2011). This dimension assesses participants' perception of stigma held from the public against their group (people with alcohol dependence/severe alcohol use disorder). A general header was presented to participants ("I think that the public perceives people with severe alcohol use disorder as…"). Sixteen items describing commonly held stereotypes against people with severe alcohol use disorder were then presented (e.g., lazy, weak-willed, violent). A mean stigma awareness score was computed by averaging participants' responses to all items (α = .92).

2.4. Statistical analyses

Analyses were conducted using StataSE 15 and SPSS 25. The path-analysis model was estimated using maximum likelihood with missing values (Wright, 1934). Compared to classical regressions, path analysis allows for complex models testing so that all relations are controlled for all other relations (Loehlin, 1998). In order to control for stigma awareness, unstandardized residuals were saved from a regression of stigma awareness on metadehumanization. These residuals are the part of the variance of metadehumanization that is not explained by stigma awareness. Using these residuals leads to a metadehumanization variable controlled for stigma awareness, without losing statistical power. The raw metadehumanization score was thus used for descriptive statistics and correlations, while the stigma-corrected metadehumanization score was used in the path-analysis model.

*Table 10. Descriptive statistics, Cronbach alphas, and correlations between variables. N = 120. Cronbach alphas are between brackets on the diagonal. *p < .05; ** p < .01; *** p < .001*

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Metadehumanization	3.20	1.42	(.93)								
2. Fundamental needs threat	4.43	1.15	.62***	(.85)							
3. Negative emotions	4.08	1.48	.20*	.35***	(.95)						
4. Positive emotions	3.95	1.39	-.14	-.26**	-.16	(.86)					
5. Self-esteem	4.18	1.02	-.35***	-.43***	-.51***	.28**	(.88)				
6. Coping problem	2.87	0.70	-.27**	-.21*	-.30**	.30**	.51***	(.88)			
7. Coping social support	3.26	0.67	-.25**	-.15	-.02	.26**	.17	.58***	(.75)		
8. Dysfunctional coping	2.95	0.62	.31***	.40***	.42***	-.27**	-.41***	-.21*	.01	(.77)	
9. Alcohol use as coping	2.88	1.13	.13	.23*	.33***	-.28**	-.35***	-.38***	-.14	.40***	(.78)

3. Results

The mean metadehumanization level among patients with SAUD was 3.20 (see Table 10 for the means, standard deviations, Cronbach alphas, and correlations). Metadehumanization was positively associated with fundamental needs threat (γ = .41, p < .001; see Figure 11 for a graphical representation of the results). Metadehumanization was negatively related to the search of social support as coping (γ = -.20, p < .05) and to negative emotions (γ = -.19, p < .05)[8]. Fundamental needs threat was negatively related to positive emotions (β = -.27, p < .01) and self-esteem (β = -.40, p < .001). Moreover, fundamental needs threat was positively linked to negative emotions (β = .42, p < .001), dysfunctional coping strategies (β = .37, p < .001) and alcohol use as a coping strategy (β = .26, p < .01).

Furthermore, indirect effects, from metadehumanization to the outcomes through fundamental needs threat, showed that metadehumanization was

[8] When testing the model without fundamental needs threat, links between metadehumanization and self-esteem (β = -.25, p < .01), coping centered on problem solving (β = -.22, p < .05), search of social support as coping (β = -.23, p < .01), and dysfunctional coping (β = .23, p < .01) were significant.

indirectly linked to negative emotions (indirect effect = .17, $p < .01$) and to positive emotions (indirect effect = -.11, $p < .05$). Indirect effects of metadehumanization through fundamental needs threat on self-esteem (indirect effect = -.16, $p < .01$), dysfunctional coping strategies (indirect effect = .15, $p < .01$), and alcohol use as coping (indirect effect = .10, $p < .05$) were also significant.

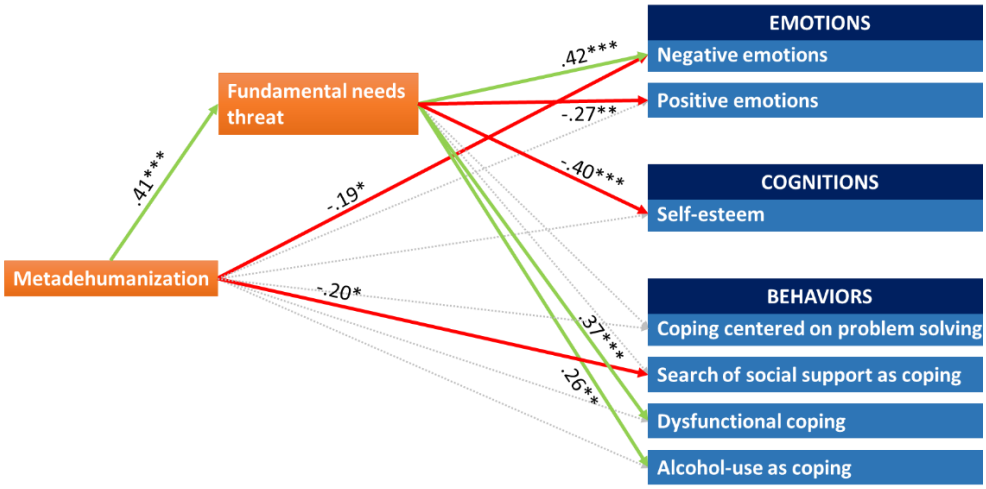

*Figure 11. Statistical model tested [χ2(5) = 6.60 RMSEA = .05; CFI = .99]. Significant standardized regressions paths depicted as large arrows; non-significant paths as dotted lines. Covariances, not depicted, were entered between significantly correlated dependent variables. *p < .05; **p < .01; ***p < .001*

4. Discussion

This study is the first to investigate metadehumanization in a psychiatric population, namely patients with SAUD. The first crucial finding is that patients with SAUD report a significant level of metadehumanization (M = 3.20, SD = 1.42 on a 1-7 Likert scale) even though the items used in the metadehumanization scale were blatant (e.g., “As a patient with SAUD, society treats me like an object,” “[…] as an under-evolved being”). This study thus reveals that patients with SAUD do feel dehumanized by others during detoxification treatment.

As hypothesized, metadehumanization was linked to fundamental needs threat, even after controlling for stigma awareness. One of the central insights of our results is that metadehumanization and fundamental needs, although currently unexplored in psychiatry, are core variables for the well-

being and clinical outcomes of patients with SAUD. Indeed, considering direct and indirect relations, metadehumanization was linked to emotional (decreased positive emotions), cognitive (decreased self-esteem), and behavioral (reduced functional coping strategies, increased dysfunctional and alcohol-related coping strategies) deleterious outcomes. These relationships should warrant both clinicians' and researchers' attention.

Indeed, all the factors investigated here in relation to metadehumanization constitute major contributors to SAUD. At the emotional level, people use alcohol to reduce negative emotions or to enhance positive ones (Cooper et al., 1995). Experiencing negative emotions is one of the main reasons for relapsing, and this type of relapse is particularly severe (Zywiak et al., 2003). At the cognitive level, low self-esteem increases the use of dysfunctional coping strategies such as substance use (Tomaka et al., 2013). Finally, at the behavioral level, coping strategies centered on problem-solving are negatively associated with alcohol problem severity (Spangenberg & Campbell, 1999). Reduced use of coping strategies centered on the search for social support is concerning because it can lead to loneliness, itself linked to poor prognosis, and inability to change (Åkerlind & Hörnquist, 1992). Dysfunctional coping strategies such as emotional avoidance are associated with increased severity of drinking problems (Moos et al., 1990). Finally, alcohol use as a coping strategy is an essential predictor of alcohol abuse (Britton, 2004; M. L. Cooper et al., 1988). Altogether, metadehumanization and fundamental needs threat are associated to an increase in all risk factors investigated (negative emotions, dysfunctional coping, and alcohol use as coping) and a decrease in all protective factors (positive emotions, self-esteem, coping strategies centered on problem-solving, and the search of support). These strong and coherent relationships, controlled for stigma awareness, suggest that metadehumanization might constitute an underestimated but critical lever in the vicious circle of SAUD.

4.1. Limitations, theoretical implications, and perspectives

These seminal results could initiate multiple lines of research, notably regarding the links between metadehumanization and other alcohol-related consequences (e.g., cognitive deficits, relapse). As this study is the first to investigate metadehumanization in psychiatric patients, no study has yet compared the metadehumanization of different categories of patients. This question should thus be investigated to identify the clinical populations that

are at risk of feeling dehumanized (e.g., psychiatric patients might be more dehumanized than other types of patients). In the same vein, authors of dehumanization could potentially be diverse (e.g., colleagues, family, or medical staff). Identifying the most potent sources of metadehumanization for patients could enrich future research and allow tailoring specific anti-dehumanization interventions. Moreover, we considered fundamental needs as a unique factor in the present study, but the distinct fundamental needs (need for belonging, control, self-esteem, and meaning) might present differential links with metadehumanization and related variables, which should be explored in the future.

An additional finding of our study should also be underlined: although dehumanization often takes subtle forms, victims of dehumanization consciously perceive that society dehumanizes them, and this perception is linked to psychological suffering, afflicted self-esteem, and poor coping. However, the metadehumanization scores reported by patients might seem quite low because they do not reach the scale mid-point on average. We acknowledge that this constitutes a limitation. Nevertheless, we argue that scores on scales depend heavily on the items. The very blatant wording of our metadehumanization scale at least partly explains why patients do not report higher scores. Finally, metadehumanization was found to have reverse associations with negative emotions when looking at direct and indirect effects, respectively (i.e., negative associations for the direct effect, positive for the indirect effect). However, the total effect was not significant, which suggests that these opposed effects cancel each other.

4.2. Clinical implications and perspectives

As metadehumanization seems central in patients' emotional, cognitive, and behavioral impairments, interventions preventing and reducing dehumanization in the field of medicine are needed. While treating patients as human beings is a basic standard usually considered as evident in psychiatric settings, patients' experience tells a different story, as they present dehumanization feelings that should alert healthcare workers, clinical practitioners, and policymakers. Actions should be considered to reduce patients' dehumanization: these could target SAUD patients, medical staff, or society. Psychiatric settings should evolve to reinforce characteristics linked to humanity attribution such as rationality, maturity, interpersonal warmth, and agency (Haslam, 2006). More efforts should be

invested to favor patients' inclusion in society as social exclusion causes metadehumanization (Bastian & Haslam, 2010). Avoiding labels such as "mental illness" might also help, as they are associated with dehumanizing tendencies (Martinez et al., 2011). Actions targeting medical staff could start by informing them of the dehumanization issue. Importantly, dehumanization supposedly fulfills a functional role for medical staff (mainly by reducing emotional exhaustion), and tackling dehumanization should not come at medical staff expanse. However, alternative strategies could replace dehumanization (e.g., reducing medical staff workload, offering them better support; Christoff, 2014). Reducing patients' dehumanization thus also requires improving health care workers' well-being and working conditions. Finally, it is crucial for policymakers to consider ways to improve patients with SAUD's integration in society and society's perception of these patients (Schomerus et al., 2011). Global modifications at medical, societal, and political levels are thus required to tackle dehumanization in psychiatry.

4.3. Conclusion

Patients with SAUD report a significant level of metadehumanization, which are strong predictors of a worrisome pattern of adverse outcomes: fundamental needs threat, increased negative emotions, decreased positive emotions, decreased self-esteem, decreased use of functional coping strategies, and increased use of dysfunctional coping strategies including alcohol use.

5. Ethical standards

All procedures involving patients were approved by the bioethical committee of the University (Cliniques Universitaires Saint-Luc, UCLouvain, Belgium; approval number B403201732246). All procedures contributing to this work comply with the ethical standards of the Helsinki Declaration of 1975, as revised in 2008. Participants provided informed consent prior to their inclusion in the study.

Chapter 4

Metadehumanization and self-dehumanization are linked to increased psychiatric comorbidities in patients with severe alcohol use disorder

Summary

Metadehumanization, the perception of being treated as less than a human by others, is a pervasive phenomenon in intergroup relations. It is dissociated from stigmatization or stereotypes, and it has been recently identified as a critical process in severe alcohol use disorders (SAUD). Metadehumanization is associated with a wide array of negative consequences for the victim, including negative emotions, aversive self-awareness, cognitive deconstruction, and psychosomatic strains, which are related to anxiety and depression.

This study aims to investigate if the metadehumanization of patients with SAUD is associated with clinical factors involved in the maintenance of the disease, namely comorbid psychopathological symptoms (depression, anxiety) and drinking refusal self-efficacy. A cross-sectional study was conducted among 120 recently detoxified patients with SAUD. Self-reported questionnaires measured metadehumanization, self-dehumanization (i.e., the feeling of being less than a human), anxiety, depression, drinking refusal, self-efficacy, and demographical characteristics.

Metadehumanization was significantly associated with self-dehumanization, anxiety, depression, and drinking refusal self-efficacy. Additionally, path analyses showed that self-dehumanization mediated the links between metadehumanization and clinical variables. These results indicate that metadehumanization and self-dehumanization could be essential factors to consider during SAUD treatment, as they are associated with increased psychiatric symptoms and reduced drinking refusal self-efficacy.

Reference

Fontesse, S., Demoulin, S., Stinglhamber, F., de Timary, P., & Maurage, P. (*submitted*). Metadehumanization and self-dehumanization are linked to increased psychiatric comorbidities in patients with severe alcohol use disorder

Metadehumanization and self-dehumanization are linked to increased psychiatric comorbidities in patients with severe alcohol use disorder

1. Introduction

Dehumanization, corresponding to the denial of other individuals' humanity, is based on the refutation of uniquely or essentially human characteristics (e.g., civility, refinement, moral sensibility, emotional responsiveness, interpersonal warmth, or cognitive openness; Haslam, 2006). Dehumanization has first been studied in extreme situations such as genocides or long-lasting violent conflicts (Kelman, 1973; Kteily et al. 2016). However, milder forms of dehumanization are also part of everyday life when people are neglected or maltreated (Bastian & Haslam, 2010; Leyens et al., 2001). The first neuroimaging evidence of dehumanization revealed that highly stigmatized groups perceived as both incompetent and cold were dehumanized by participants (Harris & Fiske 2006). Namely, participants observing these groups (homeless people and drug addicts) showed a weaker activation of the medial prefrontal cortex, an area implicated in social cognition, compared to the observation of other groups (Harris & Fiske 2006). Additionally, these groups provoked a stronger activation of the insula and amygdala, which was interpreted as a sign of disgust (Harris & Fiske 2006). Neuroimaging studies revealed that neural responses associated with the dehumanization of others were differentiated to neural responses associated with dislike or dissimilarity judgments and perceived within-group homogeneity (Bruneau et al. 2018).

1.1. Metadehumanization

Based on the definition of dehumanization, metadehumanization can be defined as the subjective perception of being considered by others as lacking uniquely or essentially human characteristics (Bastian & Haslam 2011). In the intergroup relations domain, metadehumanization has previously been defined as "this perception that one's own group is perceived by another as less than fully human" and "the degree to which people believe that a target group denies humanity to their own" (Kteily et al. 2016; Kteily & Bruneau 2017). Metadehumanization is thus a metacognitive process as it rests on the processing of what others think about one's group. However, just as

dehumanization can target an individual or a group (Gwinn et al., 2013; Leyens, 2009; Trifiletti et al., 2014), we argue that one can experience metadehumanization toward his/her group or himself/herself.

Bastian and Haslam (2011) have listed many dehumanizing maltreatments such as being ostracized, being betrayed, treated as immoral, treated instrumentally, or being humiliated. In real-life situations, for example, a client completely ignored by a cashier or an employee belittled and yelled at by his/her boss might feel dehumanized. Metadehumanization provokes adverse outcomes (Bastian & Haslam 2011; Bastian & Crimston 2014; Caesens et al. 2017; Zhang et al. 2017; Nguyen & Stinglhamber 2018) such as negative emotions (sadness, anger, and guilt), aversive self-awareness, cognitive deconstruction, and psychosomatic strains (e.g., sleeping trouble, headache, heartburn, eyestrain, loss of appetite, dizziness, and fatigue). People who feel dehumanized also tend to dehumanize others in return (Kteily et al. 2016; Bruneau & Kteily 2017), which is detrimental to their social interactions, as dehumanizing someone else can lead to negligence, maltreatments, and violent behaviors (Bandura, 1999; Kteily et al., 2015).

1.2. Metadehumanization in psychiatry and severe alcohol-use disorders

Until recently, metadehumanization had not been investigated in psychiatric populations, despite dehumanization being described as endemic to medicine (Haque & Waytz 2012).

A theoretical proposal had also suggested that patients with severe alcohol use disorders (SAUD) could be particularly dehumanized by others, which would be detrimental for their mental health (Fontesse et al., 2019). The first empirical evidence of metadehumanization in psychiatric populations has been offered by a recent study among patients with SAUD (Fontesse et al. 2020), revealing that these patients present strong metadehumanization feelings, which are linked to fundamental needs threat, reduced self-esteem, decreased use of functional coping strategies, and increased use of dysfunctional ones, including alcohol use. Interestingly, all these factors are associated with more intense SAUD; metadehumanization could thus be a vulnerability factor regarding SAUD severity (Fontesse et al. 2020).

1.3. Metadehumanization and comorbidity

A still unaddressed question, however, is whether metadehumanization could also be a vulnerability factor regarding other psychiatric manifestations frequently observed in SAUD and known to promote the perpetuation of such disorders. Indeed, metadehumanization is linked to multiple symptoms of depressive disorders such as sadness, guilt, loss of appetite, and fatigue (Bastian & Haslam 2011; Caesens et al. 2017). The same goes for anxiety disorders symptomatology, because sleep disturbance, tiredness, and other psychosomatic strains are known consequences of metadehumanization (Caesens et al. 2017).

Metadehumanization could also lead to cognitive consequences like cognitive deconstruction, manifested through attentional difficulties (Bastian & Haslam 2011; Caesens et al. 2017). Metadehumanization might thus be a vulnerability factor not only for SAUD but also for related comorbid psychiatric states like depression and anxiety. These states are frequently observed in SAUD (Davidson, 1995; Grant et al., 2004; Spangenberg & Campbell, 1999) and can impede abstinence (Driessen et al., 2001). Indeed, after being treated for SAUD, patients with comorbid anxiety disorders are twice more likely to relapse (Kushner et al., 2005); patients who present both anxiety and depressive disorders are four times more likely to relapse (Driessen et al. 2001). Finally, patients suffering from SAUD who present depressive or anxiety disorders are also more likely to attempt suicide (Driessen et al., 1998; Richa et al., 2008). As a whole, these psychopathological comorbidities constitute critical factors in SAUD maintenance. The first goal of this paper is thus to investigate the associations between metadehumanization, depression, and anxiety disorders in SAUD.

1.4. Metadehumanization and self-dehumanization

An individual feeling dehumanized by others can interiorize this dehumanizing perspective in his/her self (i.e., develop self-dehumanization, Bastian & Crimston 2014). In this case, one thus perceives himself/herself as less than a human through the denial of uniquely or essentially human characteristics (e.g., maturity, refinement). Just as self-stigma is the internalization of stigma awareness and thus results from it, we argue that self-dehumanization is the internalization of metadehumanization and thus results from it (Schomerus et al. 2011). Theoretically, self-dehumanization

could be more problematic than metadehumanization because it denotes a more advanced internalization process, as metadehumanization is the awareness of being dehumanized even if the victim does not agree with this perception nor apply it to its self-perception. Self-dehumanization could thus lead to stronger negative consequences. However, metadehumanization and self-dehumanization are rarely studied together (but see Bastian & Haslam, 2011), and self-dehumanization has never been measured in psychiatric populations. The second goal of this study is thus to address this shortcoming by integrating metadehumanization and self-dehumanization in the same study. Namely, because theoretically, metadehumanization precedes self-dehumanization, self-dehumanization might mediate the links between metadehumanization and other dependent variables such as anxiety and depression.

Furthermore, as previously stated, SAUD patients with comorbidities often present heavier forms of dependence and are harder to treat. We propose that metadehumanization is associated with increased comorbidities and thus reduces patients' opportunity to recover. To test this proposal, patients' drinking refusal self-efficacy was measured and used as a proxy of relapse risk. Indeed, it is linked to dependence severity, the quantity of alcohol consumed, and the frequency of alcohol consumption (Connor et al., 2000, 2008). Drinking refusal self-efficacy has also been repeatedly linked to problem drinking and alcohol-related consequences in non-clinical samples (Ehret et al., 2013; Klanecky et al., 2015). Moreover, when facing normative pressure to consume alcohol, people with high drinking refusal self-efficacy report less intention to drink alcohol than people with low drinking refusal self-efficacy (Jang et al., 2013). If patients present a lower level of drinking refusal self-efficacy, they are thus more at risk of relapse.

To sum up, multiple factors known for their importance in SAUD prognosis were investigated: metadehumanization, self-dehumanization, anxiety, depression, and drinking refusal self-efficacy. We expected that higher levels of metadehumanization would be linked to higher levels of depression, anxiety, and lower drinking refusal self-efficacy in patients with SAUD. Because self-dehumanization is theorized as a more advanced step in the internalization of dehumanization, we proposed that the links observed between metadehumanization and the dependent variables would be explained by self-dehumanization as it should be closer to the negative factors associated with metadehumanization.

2. Methods

2.1. Participants

One hundred and twenty inpatients undergoing alcohol detoxification treatment were recruited. Psychiatrists selected patients free from other important medical problems and neurological diseases. Patients with SAUD meeting our criteria were recruited after at least 14 days of abstinence. Participants had a mean age of 48.3 years (*SD* = 10.9) and consumed 19.4 (*SD* = 12.1) units of alcohol per day before detoxification. Patients had been suffering from SAUD for 13.6 years on average (*SD* = 10.9) and had been involved in 2.6 (*SD* = 3.2) past alcohol detoxification treatments. As ten participants did not complete the second part of the survey (i.e., measures of self-dehumanization, drinking refusal self-efficacy, depression, and anxiety), they were removed from our analyses. Analyses were thus conducted on 110 participants.

2.2. Procedure

The study was conducted in six hospitals between September 2016 and June 2018. Patients were recruited during their detoxification stay, and they received a full written description of the study. All participants were informed that they could not be identified via our communications as we fully anonymized them. All participants provided written informed consent. Participants answered this survey and other questionnaires from a much larger project in two one-hour sessions. The study protocol was approved by the bioethical committee of the University and respected the Declaration of Helsinki, as revised in 2008. All patients provided written informed consent.

2.3. Measures

The survey measured metadehumanization, self-dehumanization, anxiety, depression, drinking refusal, self-efficacy, and demographical characteristics. This study is part of a larger project exploring emotional and cognitive correlates of SAUD. The data used in this paper was extracted from the same large database used in Fontesse et al. (2020) and Chapter 5. Participants' responses on the metadehumanization scale have thus been reused. Fundamental needs threat was also reused in order to be controlled, as it was shown to be an important mediator regarding the relations between metadehumanization and other factors. However, except for fundamental needs threat, all the relations investigated in this paper are completely original.

2.3.1. Metadehumanization

A self-reported metadehumanization 13-item scale (Cronbach's α = .93) measured how participants felt dehumanized by society (e.g., "As an alcohol-dependent person, society treats me as a subevolved being," "[…] as an immature person", "[…] as someone lacking emotions", "[…] as an automaton", "[…] as an object"). This scale focuses on participants' perception of being dehumanized by society. The scale was adapted from previous work on organizational dehumanization, which is a form of metadehumanization where the dehumanizer is one's organization (Caesens et al., 2017, 2018). The scale of organizational dehumanization was inspired by previous work (Haslam 2006). It thus encompasses known criteria of dehumanization, such as immaturity, superficiality, and coldness. Agreement with the items was measured using a 7-point Likert-type scale (from *Completely disagre*e to *Completely agree*). Answers were averaged to compute a mean score ranging from 1 to 7.

2.3.2. Self-dehumanization

Participants' self-dehumanization feelings were measured with 13 items (α = .79). This scale was adapted from the metadehumanization scale to refer to self-related feelings (e.g., "As an alcohol-dependent person, I sometimes consider myself as a subevolved being," "[…] as an immature person", "[…] as someone lacking emotions", "[…] as an automaton", "[…] as an object"). Agreement with the items was measured using a 7-point Likert-type scale (from "Completely disagree" to "Completely agree"). Answers were averaged to compute a mean score ranging from 1 to 7.

2.3.3. State anxiety

State anxiety was measured using a 20-item French scale (α = .96) adapted from the State-Trait Anxiety Inventory form Y (STAI-Y; Gauthier & Bouchard, 1993; Spielberger, 1983). Agreement with the items was measured using a 4-point Likert-type scale (from "No" to "Yes"). Answers were summed to compute a total score (range = 20-80).

2.3.4. Depression

The Beck Depression Inventory-short version (BDI, α = .84) was used to assess participants' levels of depression with 13 items (Beck et al., 1996; Luty & O'Gara, 2006). Items on this multiple answer scale were scored from 0 to 3. Answers were summed to compute a total score (range = 0-39).

2.3.5. Drinking refusal self-efficacy

Participants' self-perceived ability to resist alcohol was assessed using the 19-item Drinking Refusal Self-Efficacy Questionnaire-Revised (DRSEQ-R; Oei et al., 2005). For this scale, participants rated their capacity to refuse alcohol when facing social pressure (α = .93), when in need of emotional relief (α = .96), and when some particular opportunities arise (opportunistic drinking, α = .90). Scale anchors were "I am sure I would drink," "I would probably drink," "I might drink," "I might not drink," "I would probably drink," "I am sure I would not drink." As we did not have differential hypotheses on the subscales, we computed a general mean drinking refusal self-efficacy score (α = .97, range = 1-6).

2.3.6. Control variable: fundamental needs threat

Fundamental needs are needs that are theoretically shared by all humans and whose threat provokes aversive consequences regarding people's mental and physical health (Deci & Ryan, 2000b). Fundamental needs threat might act as a mediator between metadehumanization and patients' emotions, self-esteem, and coping strategies. Fundamental needs threat thus had to be controlled for in the analyses because it is a known mediator of metadehumanization and related factors. This scale comprised 12 items (α = .85) measuring the threat of the fundamental needs of belonging, esteem, control, and meaning. Agreement with the items was measured using a 7-point Likert-type scale (from *Completely disagree* to *Completely agree*). Answers were averaged to compute a mean score (range = 1-7).

2.4. Statistical analyses

SPSS 25 was used for descriptive statistics and correlations. The classical .05 p-value was used as the threshold for statistical significance. StataSE 15 was used to conduct the path-analysis model, which allows for complex models testing. The path analysis model was estimated using maximum likelihood with missing values, and standardized path coefficients are reported (Wright, 1934). Direct and indirect effects were also tested with StateSE 15.

3. Results

3.1. Correlations

As hypothesized, metadehumanization was significantly and positively associated with anxiety (r = .27, p < .01) and depression (r = .22, p < .05), and negatively associated with drinking refusal self-efficacy (r = .-24, p < .05; all correlations are presented in Table 11).

3.2. Path-analysis model

Using path analysis, a model testing only the direct links between metadehumanization and the three dependent variables (without self-dehumanization and fundamental needs threat) revealed that metadehumanization was significantly associated with anxiety (γ = .27, p < .01), depression (γ = .22, p < .05), and drinking refusal self-efficacy (γ = -.24, p < .01).

*Table 11. Descriptive statistics, Cronbach alphas, and correlations between experimental variables. N = 110. Cronbach alphas are between brackets on the diagonal. *p < .05; ** p < .01; *** p < .001.*

	M	*SD*	1.	2.	3.	4.	5.	6.
1. Metadehumanization	3.20	1.43	(.93)					
2. Self-dehumanization	3.71	0.93	.46***	(.86)				
3. Anxiety	39.36	14.34	.27**	.48***	(.96)			
4. Depression	8.86	5.80	.22*	.48***	.74***	(.84)		
5. Drinking refusal self-efficacy	4.17	1.35	-.24*	-.36***	-.38***	-.36***	(.97)	
6. Fundamental needs threat	4.43	1.15	.62**	.38**	.40**	.29**	-.24*	(.85)

When entering self-dehumanization and fundamental needs threat in the model [$\chi^2(6)$ = 11.00; RMSEA = .08; CFI = .98] as mediators between metadehumanization and the dependent variables, metadehumanization was positively linked to self-dehumanization (γ = .46, p < .001; Figure 12) and to fundamental needs threat (γ = .62, p < .001) and all other direct links involving metadehumanization became non-significant. Furthermore, self-dehumanization was positively associated with anxiety (β = .39, p < .001), depression (β = .43, p < .001), and negatively associated with drinking refusal self-efficacy (β = -.31, p < .001). Our control variable (fundamental needs

threat) was significantly associated with anxiety (β = .26, $p < .01$) but not with depression and drinking refusal self-efficacy. All indirect effects of metadehumanization through the mediators were found to be significant: on anxiety (indirect effect = .33, $p < .001$), depression (indirect effect = .28, $p < .001$), and drinking refusal self-efficacy (indirect effect = -.22, $p < .01$). The model was also tested without fundamental needs threat, with very similar result: all indirect effects of metadehumanization and all direct effects of self-dehumanization remained significant. Self-dehumanization thus mediated the links between metadehumanization and anxiety, depression, and drinking refusal self-efficacy.

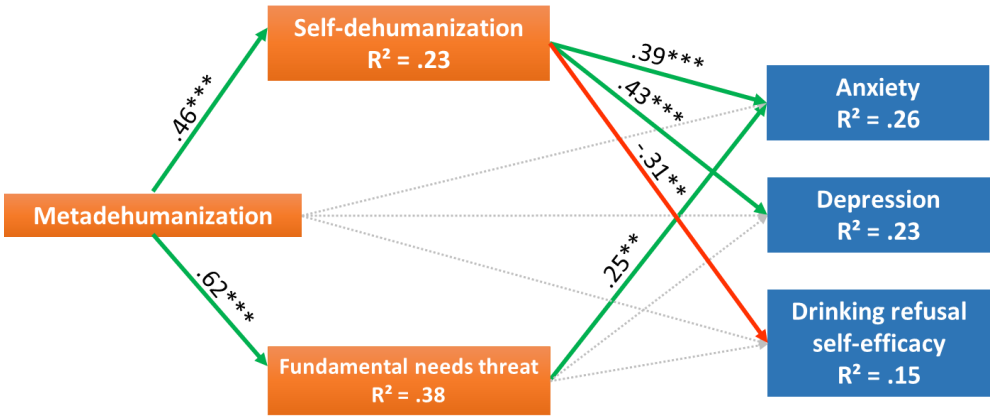

*Figure 12. Statistical model tested [χ2(6) = 11.00; RMSEA = .08; CFI = .98]. Significant standardized regressions paths are depicted as large arrows; non-significant paths as dotted lines. Covariances, not depicted, were entered between anxiety and depression residuals, as they are closely related (r =.74, p < .001). *p < .05; **p < .01; ***p < .001*

4. Discussion

This study investigated the links between metadehumanization, self-dehumanization, and psychiatric comorbidities in patients with SAUD. Our results offered key insights related to dehumanization in psychiatric populations, respectively related to the links between metadehumanization and clinical outcomes and to the mediating role of self-dehumanization

4.1. Metadehumanization and comorbidity

First, metadehumanization is related to psychopathological comorbidities (anxiety and depression) and to drinking refusal self-efficacy. Patients who experienced higher levels of metadehumanization may have reduced ability to maintain abstinence, as both psychological comorbidities and drinking refusal self-efficacy are linked to increased relapse risk (Driessen et al., 2001; Gullo et al., 2010; Kushner et al., 2005). This finding highlights the need to consider interpersonal factors in the emergence and maintenance of psychological disorders. The proposal that social variables should be considered, beyond disease-related and personal characteristics, has a long history in psychiatry. Indeed, Philippe Pinel (1806) already identified humanitarian care, benevolent support, and encouragement as primordial steps toward psychiatric patients' recovery. This proposal has been developed in more recent paradigms such as the social perspectives of psychopathological disorders, which identified social determinants (e.g., poverty, unemployment, and discrimination) as causes of psychopathology (Albee, 1982), a view also endorsed by the World Health Organization ([WHO]; Marmot et al., 2012; WHO Regional Office for Europe [WHO/Europe], 2014). This paradigm notably calls for the acknowledgment that emotional distress and mental disturbances can be caused by dehumanizing social influences (Albee, 1982), which opens new avenues for primary prevention (Carod-Artal, 2017). Overall, the present results identify for the first time the links between metadehumanization and psychological comorbidities, as well as disease maintenance in alcohol-related disorders. These results thus reinforce the proposal that, beyond biological factors, unfavorable social factors might be responsible for the emergence of psychological disorders.

4.2. Self-dehumanization

The second main finding of our study is that self-dehumanization is an important process in our model. Indeed, self-dehumanization mediated all the links observed between metadehumanization and measured outcomes. For patients with SAUD, interiorizing other people's dehumanizing perspective into their self-perspective was associated with increased anxiety, increased depression, and decreased drinking refusal self-efficacy. When controlling for self-dehumanization, metadehumanization is no more directly associated with psychiatric comorbidities and drinking refusal self-efficacy. Instead, metadehumanization is associated with these dependent variables

through self-dehumanization. In other words, what is most important regarding dehumanization might not be the metadehumanization *per se* but instead how metadehumanization is integrated into patients' self-perspectives (i.e., how they self-dehumanize).

Self-dehumanization has been linked to negative emotions (shame, guilt, sadness, and anger), aversive self-awareness, and cognitive deconstructive states (Bastian & Crimston 2014). Negative emotions can provoke lapses in self-regulation, which in turn can lead to relapse (Heatherton & Wagner, 2011). Aversive self-awareness leads people to a state of cognitive deconstruction characterized by biased focalization on the present and neglect of long-term consequences (Heatherton & Wagner, 2011; Twenge et al., 2003). These two mechanisms could explain why people who suffer from addictive states can relapse by ignoring the long-term consequences of their actions in an attempt to escape aversive self-awareness. This proposal has some empirical support, as consuming alcohol decreases self-awareness, especially among individuals with high self-consciousness (Hull, 1981). Furthermore, previous research has shown that self-dehumanization could be caused by immorality (i.e., behaving immorally can lead one to self-dehumanize) and could cause immorality (i.e., self-dehumanizing promotes immoral and anti-social behaviors; (Kouchaki et al., 2018). If patients with SAUD perceive drinking and the related behaviors as immoral acts, it might contribute to their self-dehumanization, which in turn might favor excessive drinking. Overall, our results should warrant researchers' attention to self-dehumanization, which should be studied in addictive disorders.

4.3. Research perspectives and limits

Future studies should go beyond our results, notably through longitudinal designs testing causal relations, to gain a better understanding of the dynamics of our model. Indeed, our model was built according to the current state of knowledge, but we cannot firmly establish the causality between metadehumanization and self-dehumanization. Additionally, while our scale is adapted from previous work (Caesens et al. 2017), this version of the scale is quite new. Test-retest validity is thus currently unknown, but research is being deployed to fill this gap.

Moreover, the relations between self-dehumanization, anxiety, depression, and drinking refusal self-efficacy could be more deeply investigated. Identifying the processes linking these phenomena as well as the direction

of the causality between those could constitute an important step towards the improvement of patients with SAUD's prognosis. Research should also investigate associations between self-dehumanization and other psychiatric disorders frequently comorbid to SAUD, such as bipolar disorders, schizophrenia, and antisocial personality disorder (American Psychiatric Association [APA], 2013). If self-dehumanization is a lever facilitating psychiatric illnesses, then understanding it better to improve its prevention should be a priority. Notably, developing coping strategies to reduce or prevent self-dehumanization could benefit patients. Indeed, while it is crucial to reduce dehumanization expressed towards patients, offering patients strategies to impede self-dehumanization might be a complementary strategy to protect their mental health.

Despite the importance of self-dehumanization, little is known regarding the relation between metadehumanization and self-dehumanization. Future studies should notably determine if the appearance of self-dehumanization following metadehumanization is automatic or not. The frequency and intensity of metadehumanization might determine how strongly people self-dehumanize. Indeed, we argue that one person is less likely to self-dehumanize if he/she experiences a single limited experience of metadehumanization rather than multiple, frequent, intense metadehumanization episodes.

4.4. Clinical implications

Our first key result, showing that metadehumanization is linked to increased psychopathological comorbidities and reduced drinking refusal self-efficacy, emphasizes the need to improve how patients are treated. While reducing stigma against SAUD and other psychiatric patients is already an important topic (Corrigan et al., 2017; Melchior et al., 2019), reducing dehumanization has not received considerable attention. Dehumanization and stigma are interrelated interpersonal treatments (heavily stigmatized targets tend to be dehumanized; Cameron et al., 2016; Harris & Fiske, 2006), but they are also distinct and dissociable theoretically and empirically in their associations with other outcomes (Bruneau & Kteily 2017). Interventions aimed at improving how SAUD patients and other psychiatric patients are treated in our societies should thus also be developed to improve humanity attribution toward these patients. Improving society's perception of psychiatric patients' human attributes (e.g., interpersonal warmth, moral restraint, maturity), improving

their humanization, and creating opportunities for positive contacts between psychiatric patients and others could serve this purpose (Capozza et al. 2013). Reducing dehumanization toward patients with SAUD, and thus their metadehumanization, could have a positive impact on their prognosis and well-being.

In addition to interventions on metadehumanization, interventions on self-dehumanization could also be developed. The pattern of associations found in this study emphasizes the importance of self-perceptions, and self-dehumanization, for the emergence of psychopathological comorbidities in patients with SAUD. It is essential to emphasize the extent to which psychiatric comorbidities, such as anxiety and depression, can be deleterious for patients with SAUD. Indeed, past research showed that anxiety and depression are associated with poor treatment outcomes, as patients with SAUD presenting comorbidities double their relapse risk (Driessen et al., 2001). Preventing self-dehumanization in patients with SAUD might thus be particularly beneficial regarding psychiatric comorbidities and drinking refusal self-efficacy. While there is currently no method to prevent self-dehumanization, if metadehumanization is associated with self-dehumanization, humanizing experiences might be associated with lower self-dehumanization. Humanizing patients care and providing more opportunities for psychiatric patients to have humanizing experiences outside the hospitals might thus be the first step to reduce self-dehumanization. However, currently, there is no validated intervention to reduce self-dehumanization, and research should be conducted to this end.

The associations between metadehumanization, self-dehumanization, and comorbidities also indicate that healthcare workers and hospitals should be careful regarding how patients are being treated. Haque and Waytz (2012) argued that multiple characteristics of medicine are dehumanizing for patients. All procedures and interactions with patients before, during, and after treatment should be carefully examined to identify what parts could constitute metadehumanization sources. All these could be optimized to reduce metadehumanization or to improve humanization, which might provide more favorable treatment conditions to patients.

5. Conclusion

Experiencing dehumanization is associated with increased anxiety, depression, and drinking refusal self-efficacy in SAUD. Interestingly, self-dehumanization mediated these relations: participants reporting more metadehumanization are more likely to integrate dehumanization in their self-perception (i.e., to self-dehumanize), and this self-dehumanization mediates the links between metadehumanization and clinical outcomes. Metadehumanization and self-dehumanization are both linked to increased psychopathological comorbidity (anxiety and depression). Preventing metadehumanization, self-dehumanization, and promoting humanization should thus constitute a priority to improve SAUD patients' chances of recovery.

Chapter 5

Metadehumanization and self-dehumanization Evidence for links with self-stigma and environmental satisfaction in severe alcohol use disorder

Background

Metadehumanization (i.e., the subjective perception of being considered as less than human by others) is proposed to be widespread in stigmatized populations, and particularly in people with severe alcohol use disorder (SAUD). However, the relations between metadehumanization, self-dehumanization (i.e., the self-perception of being less than human), and stigmatization remain unexplored.

Methods

Metadehumanization, self-dehumanization, self-stigma (i.e., stigma awareness, stigma agreement, stigma's application to the self, and stigma's harm to self-esteem) and environmental satisfaction were assessed in 120 inpatients with SAUD. Path analyses were conducted to explore the relations between experimental variables.

Results

Stigma awareness was positively associated with metadehumanization, whereas environmental satisfaction was negatively associated with metadehumanization. Stigma's application to the self was associated with increased self-dehumanization.

Conclusions

Self-stigma and (self-)dehumanization are closely intertwined phenomena. Self-dehumanization seems to follow a multi-step process similar to the one at stake in self-stigma, suggesting that current theoretical models of self-dehumanization might be incomplete.

Reference

Fontesse, S., Stinglhamber, F., Demoulin, S., de Timary, P., & Maurage, P. Metadehumanization and self-dehumanization: Evidence for links with self-stigma and environmental satisfaction in severe alcohol use disorder

Metadehumanization and self-dehumanization

Evidence for links with self-stigma and environmental satisfaction in severe alcohol use disorders

1. Introduction

Dehumanization, defined as the denial of other individuals' humanness, has often been associated with stigma, defined as a profoundly discrediting attitude towards another individual or group (Haslam, 2006; Mak et al., 2007). Past research has established that heavily stigmatized groups (e.g., homeless individuals, people with addictive disorders) are dehumanized by laypeople (Harris & Fiske, 2006). This dehumanization is notably associated with reduced empathy and consideration towards dehumanized people's feelings, thoughts, or states of mind (Harris & Fiske, 2011). Moreover, the dehumanization of stigmatized targets could be partly explained by a motivation to avoid exhaustion from helping these targets, particularly among healthcare workers (Cameron et al., 2016). Dehumanization of patients would allow reducing care-related emotional exhaustion, as supported by the finding that nurses dehumanizing their patients show fewer burnout symptoms (Vaes & Muratore, 2013).

Dehumanization processes are thus well established, but previous studies have mostly focused on the perpetrators of dehumanization, thus neglecting the victims' perspective. The few studies on this topic revealed that metadehumanization (i.e., the perception of being dehumanized by others) is a crucial factor linked to a wide array of adverse outcomes for victims, including negative emotions, reduced self-esteem, disrupted coping strategies, aversive self-awareness, states of cognitive deconstruction, and unsatisfied fundamental needs (Bastian & Crimston, 2014; Bastian & Haslam, 2011; Caesens et al., 2017; Nguyen & Stinglhamber, 2018; Zhang et al., 2017). Furthermore, feeling dehumanized by others can also lead victims to dehumanize their perpetrators in return, thus leading to vicious dehumanization cycles (Kteily et al., 2016; Kteily & Bruneau, 2017b; Ong, 2016).

Dehumanization has been suggested to be endemic in medicine (Haque & Waytz, 2012). Moreover, considering that patients with severe alcohol-use disorders (SAUD) are victims of strong stigmatization and social rejection

(Schomerus, Lucht, et al., 2011), we argue that they are thus particularly dehumanized. Indeed, previous research has revealed that stigmatized individuals tend to be dehumanized by others (Cameron et al., 2016; Harris & Fiske, 2006) and that being rejected leads to feeling dehumanized by others (Andrighetto et al., 2016; Bastian & Haslam, 2010). A recent study confirmed that patients with SAUD felt dehumanized by others (Fontesse et al., 2020). Moreover, these feelings were linked to an increased threat of their fundamental needs, more negative emotions, weaker self-esteem, and increased use of dysfunctional coping strategies, including drinking alcohol (Fontesse et al., 2020). Patients with SAUD thus constitute an ideal population to investigate dehumanization and stigmatization processes in an ecological context.

While past studies offered preliminary insights on the relations between dehumanization and stigma, nothing is known about the links between metadehumanization, self-dehumanization (i.e., the self-perception of being less than human), and self-stigma (i.e., stigmatization toward his/her self) in dehumanization victims. It thus appears urgent to explore these variables in SAUD, notably because they are related to relapse factors such as negative emotions, negative self-perceptions, and disrupted coping strategies (Buchmann et al., 2010; Tomaka et al., 2013; Zywiak et al., 2003; Zywiak, Stout, Longabaugh, et al., 2006). We thus investigated the presence of metadehumanization, self-dehumanization, and self-stigma in patients with SAUD and explored their interconnections.

There is currently no empirically tested model of metadehumanization and self-dehumanization in SAUD. However, we capitalized on the most validated tool to measure stigma and self-stigma (i.e., the Self-Stigma in Alcohol Dependence Scale, SSAD) to distinguish four steps in the emergence of self-stigma (Schomerus, Corrigan, et al., 2011): (1) becoming aware of the stereotypes existing against one's group (*aware*); (2) agreeing to some extent with these stereotypes (*agree*); (3) applying the stereotypes to oneself, through one's belonging to the group (*apply*); (4) after completion of the three first steps, the integrated self-stigma might harm self-esteem (*harm*). These four dimensions of self-stigma are distinctively associated with specific factors among patients with SAUD: agreeing with the stigma is associated with an increased desire for social distance, applying the stigma is linked to increased duration and severity of drinking problems, and depressive symptoms have been associated both with the apply and harm

dimensions (Melchior et al., 2019; Schomerus, Corrigan, et al., 2011). Self-stigma, by being more strongly linked to barriers to care than perceived stigma, is thus central to current mental health challenges (Arnaez et al., 2020; Lund et al., 2012). The SSAD model was used to investigate how each subdimension is associated with metadehumanization and self-dehumanization.

Theoretically, the first dimension of SSAD (aware*)* should be associated with metadehumanization while the others (agree, apply, and harm) should be associated with self-dehumanization, as they constitute self-perceptions. Furthermore, we investigated the link between metadehumanization and self-dehumanization. Theoretically, we expected self-dehumanization to stem from the integration of metadehumanization. Namely, because one perceives dehumanization from others, he/she might integrate this perception in his/her self-perception. Metadehumanization and self-dehumanization should thus be positively associated. This study also investigated if metadehumanization mediated the links between self-stigma dimensions and self-dehumanization.

Additionally, previous research has focused on interpersonal factors (e.g., maltreatment and social ostracism predict metadehumanization; Bastian & Haslam, 2010, 2011) and situational factors (e.g., being in a low power position or performing a repetitive task are associated with self-dehumanization; Baldissarri & Andrighetto, 2017; Yang et al., 2015) related to metadehumanization, thus neglecting environmental factors. The proposal that some environments might be dehumanizing has long been proposed at the theoretical level only (Liebling, 2011). However, a recent study (Taskin et al., 2019) provided the first empirical support for this proposal by showing that flexible office designs were associated with employees' perception of being dehumanized by their organization. This link has been interpreted as related to the depersonalized aspect of such designs (Taskin et al., 2019), employees reporting feelings of dispossession, abandonment, and pressure to adopt new behaviors (Taskin et al., 2019). To deepen the exploration of the links between environmental factors and dehumanization, this study also investigated whether patients' environmental satisfaction is associated with meta/self-dehumanization. We postulated that safe, calm, and personalized environments would be more humanizing than dangerous, noisy, and impersonal environments.

2. Methods

2.1. Participants

Patients with SAUD, as diagnosed by a psychiatrist following DSM-5 criteria, were recruited during detoxification treatment. To be eligible for recruitment, patients had to be abstinent for at least 14 days (range = 14 - 421 days) and had to be free from other major medical problems or neurological diseases. We recruited 120 patients with (mean age = 48.3, *SD* = 10.9, 86 males). All patients provided written informed consent to participate. Before detoxification treatment, patients had a mean consumption of 19.4 standard alcoholic drinks (containing 10g of alcohol) per day. Participants had an average SAUD duration of 13.6 years (*SD* = 10.9).

2.2. Procedure

Patients completed a survey assessing metadehumanization, self-dehumanization, self-stigma, and environmental satisfaction. This study is part of a larger project on metadehumanization in SAUD. The data used in this paper was extracted from the same large database used in Fontesse et al. (2020) and Chapter 4. Participants' responses on the metadehumanization and self-dehumanization scales have thus been reused. However, except for self-dehumanization, all the relations investigated in this paper are completely original. All procedures contributing to this work comply with the ethical standards of the Helsinki Declaration of 1975, as revised in 2008. All procedures involving patients were approved by the bioethical committee of the University (Cliniques Universitaires Saint-Luc, UCLouvain, Belgium; approval number B403201732246).

2.3. Measures

2.3.1. Metadehumanization

Patients' metadehumanization was assessed using a 13-item scale (α = .93). This scale focused on how participants felt dehumanized by society (e.g., "As an alcohol-dependent person, society treats me as a subevolved being," "As an alcohol-dependent person, society treats me as if I was mechanical and cold, like a robot," "As an alcohol-dependent person, society does not treat me as an individual with a personality," "As an alcohol-dependent person, society treats me like a child,"). A mean score (range = 1 - 7) was computed based on participants' answers on this 7-point Likert scale.

2.3.2. Self-dehumanization

The dehumanization scale was adapted to measure participants' self-dehumanization with 13 items (α = .79**,** e.g., "As an alcohol-dependent person, I sometimes consider myself as a subevolved being,"). A mean score (range = 1 - 7) was computed based on participants' answers on 7-point Likert scales.

2.3.3. Self-Stigma in Alcohol-Dependence (SSAD)

The SSAD (Schomerus, Corrigan, et al., 2011) presents 16 stereotypes against alcohol-dependent people (e.g., violent, disgusting, unpredictable) and measure participants' awareness (α = .92), agreement (α = .89) and application (α = .86) of these stereotypes, as well harm to participants' self-esteem (α = .88) using a 7-point Likert scale. A mean score (range = 1 - 7) was computed for each dimension.

2.3.4. Environmental satisfaction

Environmental satisfaction was measured by assessing patients' evaluation of various aspects of the clinical context (i.e., satisfaction regarding the hospital cleanliness/security/noise, intimacy respect, and general satisfaction level regarding hospital environment) on a 7-point Likert scale (from *Totally unsatisfied* to *Totally satisfied*). A mean satisfaction score was computed (α = .79).

2.4. Statistical analyses

Statistical analyses were conducted on StataSE 15 and SPSS 25. The path analysis model was estimated using maximum likelihood with missing values (Wright, 1934). This type of analysis allows more complex and controlled model testing than classical regressions; all relations entered in the model are controlled for all other relations considered (Loehlin, 1998).

3. Results

Patients reported a mean metadehumanization score of 3.20 (*SD* = 1.42) and a mean self-dehumanization score of 2.86 (*SD* = 1.06; see Table 12 for means and standard deviations of all scales, and inter-scales correlations).

*Table 12. Descriptive statistics, Cronbach's alphas, and pairwise correlations between variables. N = 120. Cronbach's alphas are between brackets on the diagonal. * p < .05; ** p < .01; *** p < .001*

	M	*S.D.*	1.	2.	3.	4.	5.	6.	7.
1. Awareness (SSAD)	4.51	1.22	(.92)						
2. Agreement (SSAD)	3.34	1.04	.49***	(.89)					
3. Application (SSAD)	2.83	0.97	.40***	.63***	(.86)				
4. Harm (SSAD)	2.90	1.05	.37***	.55***	.82***	(.88)			
5. Environmental satisfaction	5.80	0.98	.13	.00	.05	.12	(.79)		
6. Metadehumanization	3.20	1.42	.49***	.31***	.47***	.44***	-.18	(.93)	
7. Self-dehumanization	2.86	1.06	.24*	.43***	.61***	.58***	-.08	.46***	(.86)

The path-analysis model [$\chi^2(11) = 126.52$; RMSEA = .00; CFI = .1] examining the regressions between self-stigma' subdimensions and metadehumanization showed that stigma awareness was the only subdimension significantly associated with metadehumanization ($\gamma = .43$, $p < .001$). Other self-stigma dimensions were only marginally associated with metadehumanization (agree [$\gamma = -.17$, $p = .08$], apply [$\gamma = .24$, $p = .07$], harm [$\gamma = .21$, $p = .09$]). Environmental satisfaction was negatively associated with metadehumanization ($\gamma = -.27$, $p < .001$): patients with higher satisfaction experienced lower metadehumanization.

Regarding self-dehumanization, applying the stigma to the self ($\gamma = .34$, $p < .05$) and metadehumanization ($\gamma = .22$, $p < .05$) were significantly associated with self-dehumanization. No other significant relation was found between self-dehumanization and other variables. The indirect effect of self-stigma subdimensions and environmental satisfaction to self-dehumanization through metadehumanization were then investigated: stigma awareness was indirectly linked to self-dehumanization through metadehumanization (indirect effect = .09, $p < .05$). Metadehumanization is thus a relevant mediator of the link between stigma awareness and self-dehumanization (see Figure 13).

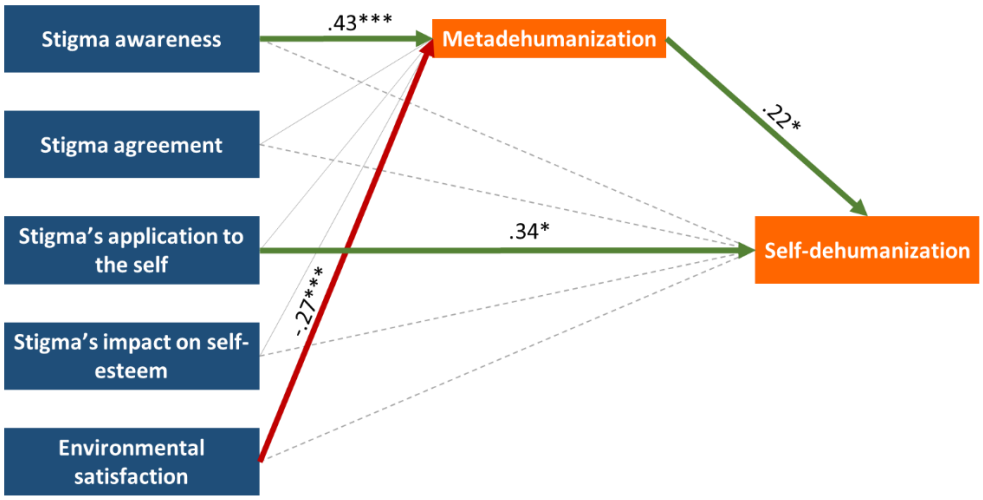

*Figure 13. Model tested [χ2(11) = 126.52; RMSEA = .00; CFI = .1]. Significant standardized regressions paths are represented as large arrows, non-significant paths as dotted lines. Covariances (not represented) were entered between SSAD subdimensions. * p < .05; ** p < .01; *** p < .001*

4. Discussion

The present study was the first to investigate how self-stigma, metadehumanization, and self-dehumanization are linked in victims of dehumanization, namely patients with SAUD. It led to three main findings: (1) metadehumanization and self-dehumanization are positively associated. While experimental designs with manipulations are needed to confirm this proposal, it suggests that metadehumanization might lead people to dehumanize themselves; (2) stigmatization subcomponents are differentially associated with metadehumanization and self-dehumanization (i.e., stigma awareness with metadehumanization, stigma application to the self with self-dehumanization). The integration process from metadehumanization to self-dehumanization might thus be dissociated in successive steps, as observed for self-stigma; (3) environmental satisfaction is associated with metadehumanization. The (de)humanizing characteristics of hospitals' context should thus be further explored and considered in clinical settings.

The specific pattern observed here, linking stigma awareness to metadehumanization and stigma application to the self to self-dehumanization, suggests that self-dehumanization might follow an integration process similar to the one described in self-stigma: victims might

start by being aware of the dehumanizing perception others hold against their group, then they might agree with these perceptions, apply them to their self-perceptions (self-dehumanization), these three steps finally impacting self-esteem. This proposal is supported by previous studies showing that metadehumanization is associated with lowered self-esteem (Nguyen & Stinglhamber, 2018). This result is a promising perspective as there is no model linking metadehumanization to self-dehumanization. To completely understand the perspective of victims of dehumanization, we thus recommend investigating dehumanization's awareness, agreement, application, and harm in relation to interpersonal, situational, and environmental factors. Developing such a fine-grained model of dehumanization's integration could lead to identifying factors and strategies acting as buffers against the transition from metadehumanization to self-dehumanization, which would be beneficial to patients. It might indeed be more efficient to prevent such transition than to lower society's pervasive dehumanization towards SAUD.

Nevertheless, as dehumanization awareness is the first step to self-dehumanization, then tackling society's dehumanization of patients with SAUD should also be a primary goal, undertaken by multiple actors (e.g., researchers from multiple disciplines, healthcare practitioners, political decision-makers, and patients themselves)

This study also reports an association between environmental characteristics and metadehumanization, thus identifying a relationship between clinical context and patients' perception of being dehumanized, beyond the role played by interpersonal factors. This effect was not observed through correlations but through a path-analysis model (controlling for self-stigma), indicating that self-stigma' subdimensions play a central role compared to environmental satisfaction. Healthcare workers should consider both social and environmental factors in relation to metadehumanization and self-dehumanization. Moreover, we showed here the potential impact of noise, security, cleanliness, intimacy, and general environmental satisfaction, but future studies could investigate other environmental characteristics. The presence of natural scenes and natural light have, for example, been associated with better recovery in physical illnesses (Ulrich, 1984; Ulrich et al., 1991; Ulrich, Zimring, Zhu, DuBose, et al., 2008). Many hospital physical characteristics (e.g., single-bed rooms, noise-reducing finishes, family zone in patients' rooms) influence various healthcare outcomes (e.g., improved

patient satisfaction and sleep, reduced hospital-acquired infections, reduced medical errors, improved social support (Ulrich et al., 2008). However, such findings have not yet been implemented in psychiatric settings.

As a whole, the hospital environment might influence how a patient experiences the hospital stay and, notably, how humanized he/she feels during the stay. Other environmental characteristics (e.g., architectural style, individual spaces personalization, room coziness) might also be associated with patients' metadehumanization (Bil, 2016). They should be explored in the future, but the global aim should already be to optimize the physical environment in every clinical setting, given its association to patients' humanization. To conclude, we borrow the words of Bil (2016): "Mental health architecture should be neither the architecture of madness nor the architecture of stigma, but an architecture of therapy, humanity, and safety."

5. Conclusion

Patients' awareness of the stereotypes existing against people with SAUD (stigma awareness) was associated with more metadehumanization. Stigma awareness was also indirectly linked to self-dehumanization through metadehumanization. Moreover, patients' agreement with the stigma was associated with increased self-dehumanization. Self-stigma, metadehumanization, and self-dehumanization are thus distinct but closely intertwined concepts, and interventions fighting stigmatization and dehumanization may impact both phenomena. Finally, patients' satisfaction with hospitals' environments is associated with less metadehumanization. Optimizing these environments might constitute a promising to improve patients' perception of being humanized.

Chapter 6

Self-dehumanization is associated with suicidal ideations in severe alcohol use disorders

A combined explicit-implicit approach

Purpose

Metadehumanization is a pervasive phenomenon among psychiatric populations, and particularly in SAUD. Metadehumanization has been shown to promote suicide antecedents such as social isolation, negative affects, aversive self-awareness, and cognitive deconstruction, raising the question of its links with suicidal ideations. We investigated how metadehumanization and self-dehumanization (i.e., the self-perception of being less than human) predict suicidal ideations, suicidal thoughts interference, and the desire for social interactions.

Methods

Thirty-six patients with SAUD were recruited during their detoxification stay and took part in a session combining self-reported and experimental measures. Metadehumanization, suicidal ideations, and desire for social contact were measured using questionnaires. Self-dehumanization was measured using Single Category Implicit Association Tasks (SC-IAT). Suicidal thoughts interference was measured using a modified Stroop Task with suicide-related words. Regression analyses were performed, controlling for depression and anxiety levels.

Results

Metadehumanization and mechanistic self-dehumanization (i.e., the self-perception of sharing objects' characteristics) were not associated with any variable related to suicide when controlling for depression and anxiety. Conversely, animalistic self-dehumanization (i.e., the self-perception of sharing animals' features) was positively associated with suicidal thoughts interference and with a decreased desire for social interactions.

Conclusion

Animalistic self-dehumanization predicts a key variable in suicidal risk, namely suicidal thoughts interference. This first evidence of a link between self-dehumanization processes and clinical factors related to suicide

suggests that, independently from depression or anxiety, a reduced sense of being fully part of humanity is associated with self-harm antecedents. This finding is crucial for SAUD research and beyond, as psychiatric patients are particularly at risk of committing suicide. At the experimental level, the results emphasize the importance of using indirect measures in complement to self-reported measures to investigate sensitive variables as self-dehumanization and suicidal thoughts.

Reference

Fontesse, S., Chevallereau, T., Stinglhamber, F., Demoulin, S., Chatard, A., Jaafari, N., & Maurage, P. Self-dehumanization is associated with suicidal ideations in severe alcohol use disorders: A combined explicit-implicit approach

Self-dehumanization is associated with suicidal ideations in severe alcohol use disorders

A combined explicit-implicit approach

1. Introduction

With more than 750 000 suicides per year (Värnik, 2012), suicides represent 1.5% of all human deaths (O'Connor & Nock, 2014). The World Health Organization (WHO) estimates that every 40 seconds, someone dies by suicide somewhere in the world (WHO, 2014). The lifetime prevalence of suicidal ideations is estimated at more than 9%, and 2.7% of the population will attempt suicide (O'Connor & Nock, 2014). Suicide thus constitutes one of the leading causes of human life loss in general and the second leading cause of death in youth (15-29 years of age; WHO, 2014).

Adding to the direct loss of human lives, suicide also affects those close to the victim. Suicide can potentially affect multiple dozens of people depending on the victim's characteristics such as age, social network size, or frequency of social contacts (Berman, 2011). Indeed, suicide survivors (defined as "someone who has lost a significant other to suicide"; Scocco et al., 2012) have to cope with their loss, but they also have to bear other burdens: blame and stigma (Cerel et al., 2008; Scocco et al., 2012). People losing a significant other are blamed for the suicide both by other people and by themselves (Allen et al., 1994; Hanschmidt et al., 2016). Suicide survivors experience more stigma than natural death survivors, this stigma being associated with reduced psychological and somatic functioning (see Hanschmidt et al., 2016 for a review, but see Eisma et al., 2019). Finally, in families facing the loss of one of their members to suicide, survivors are more likely to commit suicide themselves; suicide risk being multiplied to up to 10 times (Kim et al., 2005; Tidemalm et al., 2011).

Adding to the already extended consequences of death by suicide, suicide can also affect health professionals who took care of the victim. Therapists experiencing a patient's suicide can notably suffer from severe distress, shock, sadness, and guilt (Wurst et al., 2011). This type of event is believed to contribute to the already high levels of stress, depression, and alcohol abuse observed in doctors (Firth-Cozens, 2001). These troubles can, in turn, impair other patients' care as doctors working while in a state of distress can

produce harmful outcomes to patients (Firth-Cozens, 2001). For example, depressed residents make more medication errors than non-depressed residents (Fahrenkopf et al., 2008). In conclusion, in addition to the enormous loss of human lives, suicide also leads to devastating and widespread consequences for people in contact with the person who committed suicide.

1.1. Suicide, psychopathological disorders, and severe alcohol-use disorders

While suicide is important in the general population, in psychiatric populations, the problem is even worse (Wilcox et al., 2004). The literature is replete with instances of links between mental disorders and suicide. Indeed, many mental disorders have been associated with high rates of suicidal ideations or suicide (Cavanagh et al., 2003). Externalizing symptoms such as antisocial behaviors have been associated with suicidal behaviors, particularly in women (Verona et al., 2004). Eating disorders have been associated with increased suicide risk (Fennig & Hadas, 2010). Suicide represents the single leading cause of premature deaths in patients with schizophrenia spectrum disorder (López-Moríñigo et al., 2012). Patients hospitalized for first-episode psychosis have more than an 11 fold risk of suicide mortality compared to the general population (Dutta et al., 2013). A systematic review of psychological autopsy studies of suicide identified mental disorders as the variable most strongly associated with suicide, mental disorders being present in 90% of people who died by suicide (Cavanagh et al., 2003).

Beyond depressive states, the mental disorder most strongly associated with suicidal behaviors are SAUD (WHO, 2014). Alcohol use is involved in 15% to 61% of all completed suicides (Schneider, 2009), and 22% of all deaths from suicide can be directly attributed to alcohol consumption (WHO, 2014). Alcohol and suicide are thus closely intertwined. A threefold risk of suicide is already observed among subclinical heavy drinkers compared to the general population (Wilcox et al., 2004). This risk is even higher in SAUD, as they are nine times more likely to commit suicide (Wilcox et al., 2004). The frequent psychopathological comorbidities associated with SAUD, and particularly anxiety and depression, further increase this suicide risk (Berglund & Ojehagen, 1998; Cavanagh et al., 2003; WHO, 2014).

1.2. Suicide as escape from the self

According to the theory of suicide as an escape from the self, which is one of the most influential and empirically supported theory on suicide (Baumeister, 1990; Selimbegović & Chatard, 2013; Tello et al., 2019; but see O'Connor & Nock, 2014 for a review of models on suicide), six successive steps lead to suicide. First, a negative event is experienced, where the person lives a situation that falls short of expectations (step 1). Then if the person feels responsible for this negative experience, an internal attribution occurs (step 2). This internal attribution can create a state of aversive self-awareness (step 3), which, in turn, provokes negative affects (step 4). The person might try to escape such affects by entering a state of cognitive deconstruction (step 5), characterized by apathy, a focus on the present, a distancing from emotions, and avoidance of meaningful thoughts and self-awareness (Twenge et al., 2003). This state changes one's perception of what is acceptable and what is not and can bring a certain level of disinhibition (step 6), finally facilitating suicide attempt. This model has found empirical support (Chatard & Selimbegović, 2011; O'Connor & Nock, 2014; Range & Dean, 1999; Selimbegović & Chatard, 2013). For example, in participants with an internal locus of control, a failure-related priming increased accessibility of implicit suicidal thoughts (Tang et al., 2013). In other studies, falling short of an important standard provoked increased accessibility of suicide-related thoughts (Chatard & Selimbegović, 2011). This effect was stronger when participants had a larger discrepancy between self and standards (Chatard & Selimbegović, 2011). Moreover, increasing participants' self-awareness by exposing them to a mirror is sufficient to increase suicide-related words recognition (Selimbegović & Chatard, 2013). Baumeister's theory of suicide as an escape from the self and its associated experiments emphasize the importance of self-perceptions in determining suicide risk.

1.3. Dehumanization of patients and suicide

As we showed earlier, numerous studies and reports converge to support that psychiatric patients, and more particularly patients with severe alcohol-use disorders, are particularly at risk of suicide (Cavanagh et al., 2003; Wilcox et al., 2004; WHO, 2014). Interestingly, important suicide-related variables are linked to another phenomenon recently revealed in patients with SAUD: metadehumanization, i.e., patients' perception of being dehumanized by others (Fontesse et al., 2020). Indeed, according to the

theory of suicide as an escape from the self, multiple consequences of metadehumanization are antecedents of suicide. Negative emotions, aversive self-awareness, and a state of cognitive deconstruction are, at the same time, consequences of metadehumanization and antecedents of suicide (Bastian & Haslam, 2011; Baumeister, 1990; Zhang et al., 2017).

In patients with SAUD, metadehumanization has been associated with fundamental needs threat, negative emotions, weaker self-esteem, and poorer use of coping strategies (Fontesse et al., 2020). Considering these numerous associations with clinical variables, metadehumanization has been proposed to be a key variable in alcohol-use disorders (Fontesse et al., 2020). In other populations, metadehumanization has been shown to cause negative emotions, psychosomatic strains, aversive self-awareness, and a state of cognitive deconstruction (Bastian & Haslam, 2011; Caesens & Stinglhamber, 2019; Nguyen & Stinglhamber, 2018; Zhang et al., 2017). The bidimensional model of dehumanization distinguishes two forms of dehumanization: mechanistic dehumanization and animalistic dehumanization (Haslam, 2006). In mechanistic dehumanization, the target is assimilated to an object, a tool, or a robot. In animalistic dehumanization, the target is assimilated to an animal. These forms of dehumanization are proposed to have different consequences (Bastian & Haslam, 2011; Zhang et al., 2017).

1.4. Research questions and hypotheses

Overall, research on metadehumanization and suicide seems to converge around multiple variables shown to be simultaneously the consequences of metadehumanization and the antecedents of suicide. However, metadehumanization processes and suicide-related factors have never been jointly investigated in SAUD. The main goal of this study is thus to investigate the links between metadehumanization and suicidal ideations and suicidal thoughts interference on the other hand. Moreover, the theory of suicide as an escape from the self emphasizes the role of self-perception in suicidal behaviors. Accordingly, self-dehumanization is to metadehumanization what self-stigma is to stigma: the integration of other people's perspective into one's own self-perspective; self-dehumanization could thus be more closely linked to suicide than metadehumanization. A person who self-dehumanize perceives him/herself to be less than human. Thus, self-dehumanization is proposed to be a more advanced step in the dehumanization process as it

corresponds to the integration of the others' dehumanizing perspective, i.e., the integration of metadehumanization (Fontesse et al., submitted). Self-dehumanization will thus also be investigated in addition to metadehumanization.

As suicide is a sensitive topic to investigate, people often being unconscious of their suicidal thoughts or unwilling to share them (Nock et al., 2010), we decided to use joint explicit and implicit measures. Indeed, suicide attempters are stigmatized and avoided by others, which might prevent them from disclosing their inner feelings (Carpiniello & Pinna, 2017). People with psychiatric disorders can also suffer from internalized stigma, which acts as a barrier against seeking help from professionals (Carpiniello & Pinna, 2017; Corrigan et al., 2009; Martinez, 2014). Patients who attempted suicide report feelings of shame, they also feel embarrassed by their behavior, and they often try to hide it (Carpiniello & Pinna, 2017; Wiklander et al., 2003). Just as people try to hide their behavior, they also try to hide their thoughts. Indeed, most patients deny having suicidal thoughts in their last communication with others before committing suicide (Busch et al., 2003).

Overall, considering the very sensitive nature of suicidal ideations, indirect measures will be used in addition to the standard self-reported questionnaires. Indeed, indirect measures are often better suited to investigate variables heavily subjected to social desirability biases or not accessible to people's consciousness (Gawronski & Hahn, 2015; Hahn & Gawronski, 2011). In the same vein, self-dehumanization will also be measured using indirect measures as dehumanization processes have often been described as happening outside people's awareness (Demoulin, Torres, et al., 2004; Leyens et al., 2007). Moreover, mood disorders are frequently reported in patients with SAUD, and these disorders are closely linked to suicide risk (Driessen et al., 1998; Grant & Harford, 1995; Kanwar et al., 2013; Richa et al., 2008; Schuckit & Hesselbrock, 1994). Anxiety and depression will thus be controlled for in the analyses. Finally, the links between metadehumanization, self-dehumanization, and participants' willingness to participate in social and non-social activities will be explored.

We expect that metadehumanization will be positively associated with suicidal ideations and suicidal thoughts. We also expect self-dehumanization to be associated with suicidal ideations and suicidal thoughts interference. Both types of self-dehumanization (animalistic self-dehumanization and

mechanistic self-dehumanization; Haslam, 2006) will be investigated in order to investigate their potential differentiated effects.

2. Methods

2.1. Sample

Thirty-six inpatients (77.8% males) with SAUD, as diagnosed by their psychiatrist using DSM-5 criteria, took part in the experiment during their detoxification treatment (minimum abstinence duration of 14 days). Their mean age was 45.3 years old (*SD* = 10.5). The mean duration of SAUD was 15.6 years (*SD* = 12.4), and the mean number of past alcohol detoxification treatments was 4.9 (*SD* = 7.1). All participants were free from other major medical problems or neurological state, and they received a full written and oral description of the study before providing informed consent. The experiment lasted around one hour. The experiment was approved by the bioethical committee of the University (Cliniques Universitaires Saint-Luc, UCLouvain, Belgium; approval number B403201732246).

2.2. Measures

2.2.1. Metadehumanization

Metadehumanization was measured with a previously reported 13-item scale (Cronbach's α = .94, Fontesse et al., 2020). Items measured the key characteristics underlying metadehumanization such as immaturity ("Society treats me as an immature person"), coldness ("Society treats me coldly and mechanically as if I was a robot"), as well as dehumanizing metaphors ("Society treats me like an object," "Society treats me like a child"). This scale was adapted from the scale of organizational dehumanization (Caesens et al., 2017). Participants' feeling of being dehumanized by the society was measured using a 7-point Likert-type scale from 1 (*Completely disagree)* to 7 (*Completely agree*). A mean score was computed, ranging from 1 to 7. While the scale initially differentiated two forms of metadehumanization (animalistic and mechanistic), no such distinction was found in the present sample as attested by the high correlation (*r* = .86) observed between the

items originally classified in each dimension. Considering this result, a general index of metadehumanization was computed on all items[9].

2.2.2. Animalistic self-dehumanization (single category implicit association task)

As two central metaphors have been used in the dehumanization literature (Haslam, 2006), self-dehumanization was measured in its association with animal-related words and object-related words. Animalistic self-dehumanization was thus assessed using a single category implicit association task, which is an alternative to the classical implicit association task that allows for the testing of a single category (see Karpinski & Steinman, 2006 for a full description of the task). In this task, two fixed categories are determined ("animal" and "human" for animalistic self-dehumanization), and one other category (here, "myself") will be associated once to one category ("animal" for the incongruent block) and once to the other ("human" for the congruent block). Participants are asked to categorize target words in the correct categories using the keyboard ("e" for categories on the left side and "i" for categories on the right). Target words have been preselected to clearly represent one of the categories and to have similar valence. The words selected for the animal category were "instinct," "species," "primate," "herd," and "livestock." For the human category, the words were "human," "individual," "society," "subject," and "nose." An animalistic self-dehumanization index was computed using Greenwald's procedure (2003); a higher score expresses a higher level of animalistic self-dehumanization (i.e., a higher implicit association between "myself" and animal-related words). A higher score denotes increased animalistic self-dehumanization.

2.2.3. Mechanistic self-dehumanization (single category implicit association task)

The procedure and analysis of mechanistic self-dehumanization were similar to animalistic self-dehumanization except that the animal category was replaced by words related to the object category. The words related to

[9] Conducting the analyses with the scores of animalistic and mechanistic dehumanization separated do not change the results.

animals were thus replaced by object-related words: “tool,” “instrument,” “mechanical,” “device,” and “robot.” A mechanistic self-dehumanization index was computed using Greenwald’s procedure (2003). A higher score denotes increased mechanistic self-dehumanization.

2.2.4. Suicide ideations

Patients’ suicide ideations were assessed using the Beck Suicidal Ideations scale (Beck et al., 1979). This scale directly evaluates patients’ willingness to keep on living, willingness to die, and if the patient has concrete ideas on how to commit suicide (e.g., suicide plan or testament). The scale is constituted of 19 items, scored from 0 to 2. A total score ranging from 0 to 38 is computed. The scale showed excellent reliability (α = .85).

2.2.5. Suicidal thoughts interference (Stroop task)

The interference of suicidal thoughts was measured using a modified Stroop task. This task featured three categories of words: suicide-related words (“suicide,” “dying,” and “mortal”), negative words (“conflict,” “disease,” and “threat”), and neutral words (“attitude,” “museum,” and “station”). A pretest was conducted for word selection. These were selected because they belonged to their category more than to other categories. The pretest also ensured that negative and suicide-related words did not differ regarding emotional intensity, valence, concreteness level, frequency of use in French, and the number of letters. The reaction times for words in the suicide and negative categories were divided by the reaction times in the neutral category to control for participants’ general speed. A higher score increased higher suicidal thoughts interference.

2.2.6. Desire to participate in social and non-social activities

Whelan and Zelenski’s (2012) social and non-social activities’ scale was used. In this scale, participants are asked to provide ratings of their willingness to participate in various social (e.g., “Go out for coffee with an old friend”) and non-social activities (e.g., “Relax in a hot tub listening to the water”). The situations were selected to provide the same number of high, medium, and low pleasant activities in both social and non-social situations. The scale ranges from 1 (*very slightly or not at all*) to 7 (*extremely or a lot*). A mean score was computed for social activities (α = .89) and for non-social activities (α = .76).

2.2.7. Depression

Depression was measured using the Beck Depression Inventory-short version (BDI; Luty and O'Gara, 2006). This scale used 13 items and showed excellent reliability (α = .89). Answers were scored from 0 to 3, thus leading to a total score ranging from 0 to 39.

2.2.8. State anxiety

State anxiety was measured using the state subscale of the State-Trait Anxiety Inventory (STAI; Gauthier and Bouchard, 1993; Spielberger, 1983). The scale is constituted of 20 items assessing participants' anxiety at the time of the study. Agreement with the propositions was measured using a 4-point Likert-type scale ("*No*" to "*Yes*" scored 1 to 4). The reliability of the scale was excellent (α = .95). A total score of state anxiety was obtained by summing participants' scores on each item, thus leading to scores ranging from 20 to 80.

2.3. Statistical analyses

All analyses were computed on SPSS 25. Bivariate correlations were first computed. Linear regression analyses were then used to investigate the links between our independent and dependent variables. All independent variables (metadehumanization, animalistic self-dehumanization, and mechanistic self-dehumanization) were analyzed one by one in a series of linear regressions controlling for depression and anxiety.

3. Results

Descriptive statistics and correlations can be found in Table 13. Correlations revealed that metadehumanization was only significantly correlated to depression (r = .38*). Animalistic self-dehumanization was significantly and positively correlated to suicidal thoughts interference (r = .35*) and negatively correlated to the preference for social situations (r = -.40*). Mechanistic self-dehumanization was significantly and negatively correlated to suicidal ideations (r = -.35*). Suicidal ideations were negatively correlated to the desire for social activities (r = -.35*) and positively correlated to depression (r = .54**) and anxiety (r = .46**). Negative thoughts interference was negatively correlated to depression (r = -.38*). Desire to participate in social activities was correlated to the desire to participate in non-social activities (r = .42*). Finally, depression and anxiety were also correlated (r = .67**).

*Table 13. Descriptive statistics, Cronbach's alphas, and pairwise correlations between variables. Cronbach's alphas are between brackets on the diagonal. * p < .05; ** p < .01; *** p < .001*

	M	*S.D.*	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*	*10.*
1. Meta-dehumanization	3.33	1.5	(.94)									
2. Animalistic self-dehumanization	-.54	.43	-.05	N.A.								
3. Mechanistic self-dehumanization	-.44	.44	-.19	.02	N.A.							
4. Suicidal ideations	7.8	6.45	.27	.26	-.35*	(.85)						
5. Suicidal thoughts interference	46.88	95.33	-.10	.35*	-.16	.32	N.A.					
6. Negative thoughts interference	22.02	102.89	-.17	.04	.04	-.01	.31	N.A.				
7. Desire for social activities	3.64	1.23	.08	-.40*	-.20	-.35*	-.14	-.06	(.89)			
8. Desire for non-social activities	3.92	.91	.12	-.12	-.12	-.03	-.21	-.15	.42*	(.76)		
9. Depression	11.61	8.09	.38*	.01	-.12	.54**	-.01	-.38*	-.19	.09	(.89)	
10. Anxiety	46.03	18.52	.29	.08	-.04	.46**	.00	-.11	-.19	.16	.67**	(.95)

Results from regression analyses revealed that animalistic self-dehumanization was positively associated with suicidal thoughts interferences (t = 2.11, β = .35, p < .05) and negatively associated with the desire to participate in social activities (t = -2.41, β = -.39, p < .05; see Figure 14). Interestingly, animalistic self-dehumanization was not associated with negative thoughts interferences (p > .05); the effect on suicidal thoughts interferences is thus not driven by negativity. Mechanistic self-dehumanization was significantly associated with suicide ideations in the correlations but not when controlling for anxiety, as only a marginal effect remained (p = .09). No other effect was found; metadehumanization was not associated with any other variable (all p > .05).

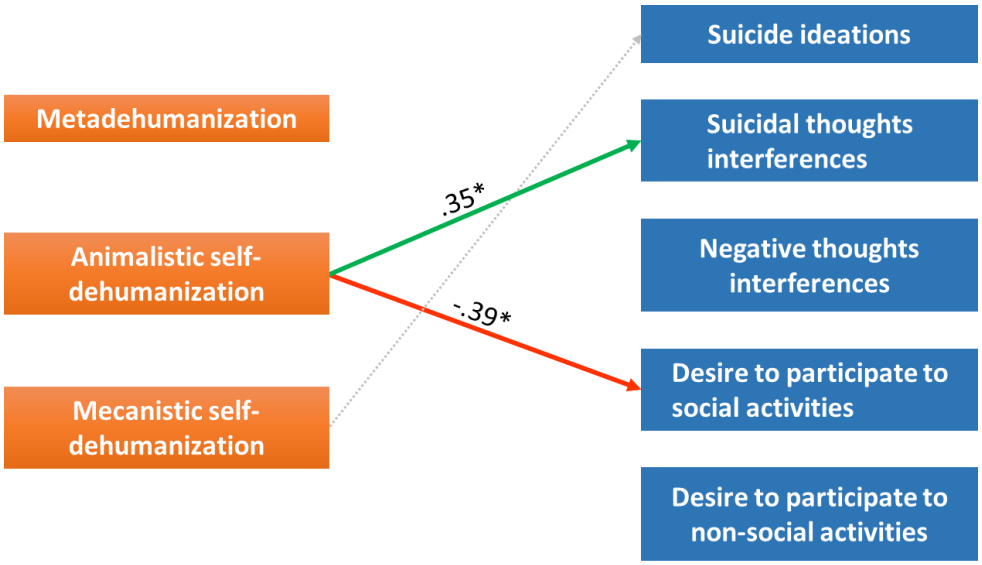

*Figure 14. Graphical summary of the results. Plain lines depict significant effects, dashed lines for marginal effects, and no line is depicted when no significant effect was found. Independent variables (left part of the figure) were tested on the outcomes in a series of linear regressions. Depression and state anxiety were controlled for in all linear regressions but were not depicted for clarity purposes. * p < .05; ** p < .01; *** p < .001*

4. Discussion

We investigated for the first time the links between dehumanization processes (metadehumanization and self-dehumanization) and suicide-related variables in SAUD. Our results revealed two main findings: (1) animalistic self-dehumanization is associated with higher levels of suicidal thoughts interferences in patients with SAUD, and (2) animalistic self-

dehumanization is associated with lower desire to participate in social activities among these patients. Dehumanization, the denial of someone else's humanity from the perspective of the dehumanizer, has received much attention from researchers in social psychology. It plays a primordial role in intergroup relations and notably enables aversive behaviors such as negligence, violence, and aggression (Haslam, 2006; Haslam & Stratemeyer, 2016; Kteily et al., 2015; Locke, 2009; Mekawi et al., 2016). Recent studies in the field have started to investigate the victim's perspective, unveiling a series of aversive consequences for the victim, such as negative emotions, aversive self-awareness, and cognitive deconstruction (Zhang et al., 2017). In the present research, the newfound link between animalistic self-dehumanization and interference of suicidal thoughts extends current knowledge about self-dehumanization in psychiatric populations. Indeed, while it was already proposed that self-dehumanization was harmful to victims, showing that it is associated with the intrusion of suicidal thoughts in patients' minds completely reappraises the need to investigate self-dehumanization, especially in psychiatric populations. As suicidal thoughts measured implicitly is predictive of suicide completion (Nock et al., 2010), animalistic self-dehumanization is thus associated to one of the most critical clinical variables in a population that is particularly at risk of suicide (Cavanagh et al., 2003; Pompili et al., 2010; WHO, 2014).

Interestingly, and as expected, animalistic self-dehumanization was associated with suicidal thoughts interference but not with negative thoughts interference. This pattern indicates that even though suicidal thoughts share similar negativity as negative thoughts (as established in the pretest), the effect observed is not caused by the negative nature of suicidal thoughts but is indeed driven by the suicide semantic per se. While we did expect animalistic self-dehumanization to be associated with suicidal thoughts interference, we also expected the metadehumanization scale and mechanistic self-dehumanization to show the same association. This was not found. The absence of results regarding metadehumanization suggests that the internalization of dehumanization, i.e., self-dehumanization, is a primordial variable to investigate in relation to patients' mental health and suicidality. The way patients perceive themselves is primordial compared to how they feel perceived by others. However, few experiments have explored self-dehumanization, and our results thus call for more research on the topic.

Regarding the distinction between animalistic and mechanistic self-dehumanization, our post hoc interpretation is that animalistic self-dehumanization might intrinsically be associated with suicide because all animals are mortals; mechanistic self-dehumanization might not be associated with suicide as objects are by definition not mortals. Furthermore, previous research supports the proposed association between animalistic self-dehumanization and mortality. Indeed, terror management theory (see Burke et al., 2010 for a meta-analysis of research on the subject) proposes that humans' awareness of being animals is associated with increased mortality awareness (Goldenberg et al., 2001). Future studies should thus investigate if mortality salience can mediate the relation observed between animalistic self-dehumanization and suicidal thoughts interference. Nevertheless, while the information brought by these newfound links is undoubtedly interesting, the design used does not allow for a causal interpretation. At the time, nothing is known regarding potential causal relations between our variables. Future research is needed to gain a fuller understanding of the causal relations existing between these variables.

Moreover, it is also interesting to observe that we did not find any effect regarding metadehumanization and suicidal ideations as measured by self-reported questionnaires, which might indicate that it is more efficient to investigate these very sensitive topics with indirect measures instead of self-reported questionnaires. However, it has previously been emphasized that while indirect measures such as IAT and Stroop Tasks can reveal information likely to be hidden by social desirability biases or not consciously accessible by participants, questionnaires also bring information that is complementary to the information brought by indirect measures (Gawronski & Hahn, 2015).

4.1. Animalistic self-dehumanization and desire to participate in social activities

In addition to the newly found association with suicidal thoughts interferences, animalistic self-dehumanization was also negatively associated with the desire to participate in social activities but was not associated with an increased desire to participate in non-social activities. Animalistic self-dehumanization thus seems to be associated with the avoidance of social contacts. The links observed between animalistic self-dehumanization and interference of suicidal thoughts and reduced desire for social activities are congruent. Indeed, avoidance of social activities can lead

to loneliness, and both subjective and objective measures of loneliness are strongly associated with *parasuicide* (i.e., a suicide attempt or gesture not leading to death) and suicide ideations (Stravynski & Boyer, 2001). The apparition of suicidal ideations has also been associated with loneliness and decreased social engagement (De Choudhury et al., 2016). Cumulative evidence has consistently linked loneliness to suicide ideation, parasuicide, and suicide completion (Heinrich & Gullone, 2006). Congruently, in our experiment, participants' suicidal ideations were negatively correlated to their desire to participate in social activities. On the contrary, having social connections strongly protects those who feel a lot of pain and hopelessness against suicidal ideations (Klonsky & May, 2015).

4.2. Clinical implications

The present results strongly claim for a deeper consideration of self-dehumanization in patients with SAUD, particularly in view of the high prevalence of suicide attempts in this population and of the strong links between self-dehumanization and suicidal thoughts. Measuring such processes in clinical settings might help caregivers to evaluate the extent of self-dehumanization and suicidal thoughts among their patients and to develop specific interventions targeting these processes. Furthermore, our work advocates for the necessity to use indirect measures in clinical settings and research when investigating such sensitive topics. The measures of animalistic self-dehumanization and interference of suicidal thoughts are fast and require no material other than a standard computer. Furthermore, the information brought by these tasks is precious for clinicians as they are not likely to be captured by standard questionnaires.

It is also interesting to underline that previous theories on SAUD proposed that alcohol could be used as a way to escape from self-awareness (Hull, 1981). Considering that people with SAUD are particularly prone to suicide and that suicide has also been proposed to constitute an escape from self-awareness (Baumeister, 1990), aversive self-awareness might thus be at the core of patients with SAUD's troubles. Namely, aversive self-awareness might be implicated in both their alcohol use disorder and their potential suicidal behaviors. Using alcohol to escape from self-awareness might lead to disinhibition and facilitate suicide attempt. Alternatively, suicide might be the last resort to escape from self-awareness when alcohol does not suffice. Studying self-awareness in SAUD, as well as its links with suicide might yield

promising therapeutic outcomes. If aversive self-awareness is as central to these disorders as is suggested by Hull's (1981) and Baumeister's (1990) theories, then finding ways to improve self-awareness or finding alternative strategies to relieve patients from aversive self-awareness could be highly beneficial to their treatment, and ultimately, to their survival.

5. Conclusions

Our design combining explicit and implicit measures centrally showed that animalistic self-dehumanization was associated with suicidal thoughts and with decreased desire to participate in social activities in patients with SAUD. While no causal inferences can be drawn from our cross-sectional approach, these findings advocate for the benefits of using implicit measures to investigate sensitive topics such as self-dehumanization and suicidal ideations, as they allowed to identify that self-dehumanization might constitute a key determinant of suicidal attempts. Improving patients' self-perception and reducing self-dehumanization thus constitute interesting leads for clinicians working with this suicide-prone psychiatric population.

Chapter 7

Metadehumanization in heavy and light drinkers

A comparison of psychological profiles

Background

Many interpersonal difficulties documented in heavy drinking might foster the evolution towards severe alcohol use disorders (SAUD). Characterizing the interpersonal difficulties encountered by heavy drinkers and its commonalities with patients presenting SAUD is urgently needed, notably to develop targeted prophylactic interventions. Recent research highlighted that patients with SAUD present metadehumanization (i.e., the perception of being considered as less than human by others). Such metadehumanization is associated with multiple deleterious consequences like increased negative emotions, reduced self-esteem, and disrupted coping strategies, which are ultimately involved in SAUD persistence. At the time, no study investigated the potential presence of metadehumanization among heavy drinkers and its associated consequences.

Methods

We measured metadehumanization in a large sample of heavy drinkers (compared to light drinkers) as well as related factors like emotions, self-esteem, coping strategies, and fundamental needs threat.

Results

Compared to light drinkers, heavy drinkers felt more dehumanized by others but also reported increased fundamental needs threat, negative emotions, anxiety, depression, and more frequent use of disengaging coping strategies, including alcohol use. Mediation analyses controlling for anxiety and depression revealed that the differences in emotions, self-esteem, and coping strategies were specifically explained by participants' metadehumanization and fundamental needs threat.

Conclusion

Heavy drinkers, even if they constitute a subclinical population, are confronted with strong metadehumanization and interpersonal difficulties and thus present a psychological profile quite similar to patients with SAUD.

In view of its links with a wide range of factors favoring the evolution towards SAUD, such metadehumanization should be further considered in future experimental studies among heavy drinkers and should be tackled in intervention programs.

Reference

Fontesse, S., Creupelandt, C., Bollen, Z., Pabst, A., & Maurage, P. Metadehumanization in heavy and light drinkers: A comparison of psychological profiles

Metadehumanization in heavy and light drinkers

A comparison of psychological profiles

1. Introduction

Excessive alcohol consumption is related to a wide range of harmful health effects (WHO, 2018). Cumulative evidence has emphasized the detrimental role of alcohol-related disorders on physical (e.g., impaired brain structure and function, cardiovascular or hepatic diseases, reduced life expectancy; Bagnardi et al., 2001, 2015; Bühler & Mann, 2011; Oscar-Berman & Marinković, 2007) and psychological (e.g., mood disorders, interpersonal problems, suicide risk; Driessen et al., 1998; Griswold et al., 2018; Hufford, 2001; P. Maurage et al., 2011; Stavro et al., 2013) factors.

This research field has long been focused on severe alcohol use disorder (SAUD). However, the release of the DSM-V and the switch from categorical to dimensional approaches led researchers to intensify the exploration of populations presenting an excessive, but not clinically diagnosed, alcohol consumption, such as heavy drinkers (Field et al., 2004; Wiers et al., 2005). Heavy drinkers constitute a population of particular interest as, while being considered as a subclinical population (i.e., not fulfilling DSM-V criteria for SAUD), they are at risk for developing alcohol use disorders as well as their related psychopathological comorbidities (e.g., mood disorders). Further characterizing this subsample of alcohol consumers could thus improve prophylactic interventions to avoid the transition between heavy drinking and SAUD (King et al., 2016; Rodgers et al., 2000).

Such explorations already revealed large-scale differences between heavy and light drinkers. For example, during acute alcohol consumption, heavy drinkers are as impaired as light drinkers at the cognitive level, but they are less aware of this impairment, as attested by lower levels of reported impairment (Brumback et al., 2007). In the long run, heavy drinkers have stronger approach behaviors towards alcohol-related stimuli than light drinkers, which is associated with increased alcohol craving. They also show decreased behavioral performance in tasks requesting inhibition of alcohol-related stimuli (Field et al., 2008). Such difference is also reflected in brain activity, which reveals increased working memory demand and control efforts to inhibit alcohol approach behaviors, due to the enhanced salience of alcohol-related content (Ames et al., 2014). Heavy drinkers are also more

likely to consume excessively when facing social pressure to drink, when sharing pleasant times with others, or when experiencing pleasant emotions or, conversely, physical discomfort (Carey, 1993). All these cognitive, cerebral, and motivational differences are proposed to contribute to heavy drinkers' increased alcohol consumption and risk for developing SAUD, which is further reinforced by the fact that heavy drinkers are more sensitive to the stimulating effects of alcohol and less sensitive to its sedative effects compared to light drinkers (King et al., 2016). Because of their excessive alcohol use, heavy drinkers expose themselves to increased risks of cardiomyopathy, systematic hypertension, heart rhythm disturbances, and hemorrhagic stroke (Klatsky, 2004).

The presence of deficits at cognitive and cerebral levels is thus now clearly documented in heavy drinkers, allowing identifying their commonalities and differences with patients presenting SAUD. However, several impairments observed in SAUD have not yet been explored in heavy drinkers, hampering a comprehensive comparison of these two conditions. This is particularly true for social cognition and interpersonal deficits, which have been widely explored in SAUD (e.g., Bora & Zorlu, 2017; Le Berre, 2019 for recent reviews) but are far less explored in heavy drinking. Among the recently identified correlates of these interpersonal deficits, it has recently been shown that patients with SAUD feel dehumanized by others (Fontesse et al., 2019, 2020). Dehumanization, i.e., the perception that one is less than human, has been widely studied in social psychology, as it plays a crucial role in shaping interpersonal behaviors. Notably, dehumanizing others has been revealed to enable maltreatments, unlocking many aversive behaviors towards the victims such as verbal or physical aggression and even mass violence (Alleyne et al., 2014; Delbosc et al., 2019; Harris & Fiske, 2011; Kelman, 1973; Kteily & Bruneau, 2017a; Osofsky et al., 2005). Interestingly, a neuroimaging study supported that the general population tended to dehumanize people presenting an addictive disorder as they are perceived as lacking competence and warmth (Harris & Fiske, 2006, 2009). Moreover, this dehumanizing perception was also accompanied by disgust toward the targets (Harris & Fiske, 2006).

Recent findings among patients with SAUD echoed the dehumanization reported by the general population towards addicted patients. Indeed, patients with SAUD who are currently under detoxification treatment feel dehumanized by others; they thus report metadehumanization, i.e., the

perception of being considered as less than human by others (Kteily et al., 2016). Research on dehumanization victims revealed that feeling dehumanized by others provokes negative emotions, aversive self-awareness, a state of cognitive deconstruction, and psychosomatic strains (Bastian & Haslam, 2011; Caesens et al., 2019; Caesens & Stinglhamber, 2019; Zhang et al., 2017). In patients with SAUD, metadehumanization has been associated with the threat of fundamental needs (belonging, control, and self-esteem), the primordial psychological needs that are present in every human and whose threat adversely affects physical and mental health (Baumeister & Leary, 1995; Deci & Ryan, 2000a; Fontesse et al., 2020). Metadehumanization has also been linked to a variety of negative outcomes such as negative emotions, reduced self-esteem, dysfunctional coping strategies, and increased consumption of alcohol to face their problems (Fontesse et al., 2020). Moreover, fundamental needs threat mediated part of the relations reported between metadehumanization and patients' emotions, self-perceptions, and behaviors (Fontesse et al., 2020).

Despite its newly identified key role in SAUD, metadehumanization has never been investigated among heavy drinkers. On the one hand, heavy drinkers, similarly to patients with SAUD, might feel dehumanized by others as they share many common risk factors involved in the emergence of metadehumanization. Indeed, the alcohol continuum theory proposes that heavy drinkers present multiple characteristics similar to patients with SAUD but to a lesser extent (Brion et al., 2014). On the other hand, metadehumanization might arise from specific characteristics of patients with SAUD that are absent in heavy drinkers, for example, the fact of being labeled as presenting a mental illness (Martinez et al., 2011) or of having lost the control over their alcohol consumption (Fontesse et al., 2019). To try to disentangle these two alternatives, this study will thus explore whether heavy drinkers already present metadehumanization. This experiment will also assess whether the link between increased fundamental needs threat and metadehumanization observed in SAUD (Fontesse et al., 2020) also applies to this subclinical population.

To offer a more global view of the factors potentially related to metadehumanization in heavy drinking, we will also investigate participants' self-esteem, emotions, and coping strategies, as they have been previously associated with metadehumanization in SAUD (Fontesse et al., 2020). Considering that these variables are also involved in the emergence of

alcohol use disorders, they will thus provide meaningful information on heavy drinkers' commonalities with patients presenting SAUD (Buchmann et al., 2010; M. L. Cooper et al., 1995; Trucco et al., 2007).

To sum up, in accordance with the continuum theory of alcohol use disorders development, heavy drinkers are expected to report higher levels of metadehumanization and fundamental needs threat than light drinkers. We hypothesize that heavy drinkers will also exhibit reduced levels of self-esteem, increased use of disengaging coping strategies, decreased use of engaging coping strategies, as well as less positive emotions and more negative emotions. Finally, in order to understand the differences between groups, metadehumanization and fundamental needs threat will be investigated as potential mediators of the group effects.

2. Methods

2.1. Participants

Participants were recruited through Qualtrics Panels (Qualtrics, LLC, Provo, UT). To participate, participants had to be at least 18 years old. All participants were French speakers (64.6% French, 25.6% Swiss, and 6.3% Belgian).

Participants were categorized as light or heavy drinkers based on their score on the Alcohol Use Disorder Identification Test (AUDIT). The AUDIT is a largely used 10-item questionnaire screening for alcohol-related disorders (α = .92; Saunders et al., 1993). It measures alcohol use, as well as the frequency of various problematic alcohol-related behaviors. Each item is scored from 0 to 4, providing a total score (range = 0-40). A score of 7 or less is indicative of non-hazardous alcohol use, whereas a score of 15 or more is indicative of harmful alcohol use (Saunders et al., 1993). Participants scoring 7 or less were categorized as light drinkers (n = 136), while participants scoring 15 or more were categorized as heavy drinkers (n = 87).

All participants successfully answered the two attention checks included in the study. Participants received a full description of the study before providing their informed consent and then filled in the survey (approximate duration = 1 hour).

2.2. Measures

2.2.1. Metadehumanization

Participants' perception of being dehumanized by close ones and other individuals, namely metadehumanization, was measured using a 22-item scale (α = .99). This scale was adapted and extended from the organizational dehumanization scale (Caesens et al., 2017, 2019). Our metadehumanization scale (Fontesse et al., 2020) encompasses the main dehumanization criteria such as immaturity, lack of emotions, coldness, as well as animal or automaton metaphors. Participants rated each item using a 7-point Likert scale (from *Completely disagree* to *Completely agree*). A mean score was computed by averaging all items.

2.2.2. Fundamental needs threat

The threat to participants' fundamental needs (belonging, control, and self-esteem) was assessed through a 12-item scale (α = .98) evaluating the frequency of needs threatening behaviors from others. Participants rated each item using a 7-point Likert scale (from *Never* to *Almost always*). A mean score was computed by averaging all items.

2.2.3. Positive and negative emotions

Positive (α = .93) and negative (α = .97) emotions experienced by participants during the past month were measured using a 31-item French adaptation of the Positive And Negative Affective State (PANAS; Watson et al., 1988; Watson & Clark, 1999) called "*Emotionalité Positive et Négative*" (EPN-31; Pélissolo et al., 2007). Participants answered using a 7-point Likert scale (from *Never* to *Multiple times a day*). Two mean scores were computed, one for positive emotions and one for negative emotions.

2.2.4. Self-esteem

Participants' self-esteem was assessed with the 20-item State Self-Esteem scale (α = .91; SSE; Heatherton & Polivy, 1991). A global self-esteem score was computed. Participants answered using a 7-point Likert scale (from *Completely disagree* to *Completely agree*). A mean score was computed by averaging all items.

2.2.5. Coping strategies

The coping strategies used by participants when facing a negative event were evaluated using the 30-item Response to Stress Questionnaire (RSQ; Connor-Smith et al., 2000). The RSQ measures various coping strategies such as problem-solving, emotional regulation, denial, and magical thoughts. These strategies can be grouped into two dimensions: engagement/active (α = .90) and disengagement/avoidance (α = .88) coping strategies. Three additional items were included to investigate alcohol-related coping strategies (α = .93; e.g., "I drink alcohol to feel better"). Participants answered using a 4-point Likert scale ranging from "Not at all" to "A lot." A mean score was computed for each subdimension.

2.2.6. Anxiety

State anxiety was measured using the 20-item State Trait Anxiety Inventory form Y (α = .94; Spielberger, 1983). Participants answered using a 4-point Likert scale (from *No* to *Yes*). A total score was computed (range = 20-80).

2.2.7. Depression

Depression was assessed with the 13-item Beck Depression Inventory (α = .93; BDI; Luty & O'Gara, 2006). Participants answered using 4-choice statements (scoring range = 0-3). A total score was computed (range = 0-39).

2.3. Statistical analyses

All statistical analyses were conducted on SPSS 25. Comparative *t*-tests for independent samples were conducted on all variables of interest using the group variable (-1 = Light Drinkers; 1 = Heavy drinkers) as a comparison criterion. Mediation analyses were conducted using the model n°4 of PROCESS add-on version 3.0. with a bootstrap of 10,000 samples (Hayes, 2013).

3. Results

Table 14 describes the mean scores for both groups on all variables of interest, as well as group comparisons. Compared to light drinkers, heavy drinkers felt more dehumanized by others (mean difference = 2.10, $t(221) = 10.62$, $p < .001$) and showed higher level of fundamental needs threat (mean difference = 2.00, $t(221) = 10.92$, $p < .001$). Moreover, heavy drinkers had lower self-esteem (mean difference = -1.29, $t(221) = -9.47$, $p < .001$), and

reported feeling less positive emotions (mean difference = -0.62, $t(221) = -2.99$, $p < .01$) and more negative emotions (mean difference = 1.72, $t(221) = 8.73$, $p < .001$). Regarding coping strategies, no difference was found between groups for global scores (mean difference = 0.03, $t(221) = .37$, $p > .05$), but heavy drinkers used more disengaging coping strategies (mean difference = 0.68, $t(221) = 8.04$, $p < .001$) and used alcohol as coping more frequently than light drinkers (mean difference = 1.44, $t(221) = 14.76$, $p < .001$). Finally, heavy drinkers reported more anxiety (mean difference = 15.01, $t(221) = 9.56$, $p < .001$) and depression (mean difference = 9.47, $t(221) = 10.17$, $p < .001$).

Table 14. Mean and standard deviations of all variables of interest for heavy and light drinkers, differences between groups, and p-value associated with the independent-samples T-test conducted.

Variable	Mean (*SD*) light drinkers	Mean (*SD*) heavy drinkers	Difference between group	*p*-value
Metadehumanization	1.16 (.54)	3.26 (1.79)	2.10	.00***
Fundamental needs threat	1.09 (.32)	3.09 (1.69)	2.00	.00***
Self-esteem	5.39 (1.01)	4.10 (.96)	1.29	.00***
Positive emotions	4.85 (1.31)	4.23 (1.64)	0.62	.00***
Negative emotions	2.18 (1.01)	3.90 (1.64)	1.71	.00***
Engaging coping strategies	2.51 (.54)	2.55 (.67)	0.03	.71
Disengaging coping strategies	1.89 (.57)	2.57 (.70)	0.68	.00***
Alcohol as coping	1.17 (.40)	2.61 (.85)	1.44	.00***
Anxiety	37.27 (10.99)	52.28 (12.09)	15.01	.00***
Depression	15.80 (4.22)	25.26 (8)	9.46	.00***

Sixteen heavy drinkers reported having received professional help for their alcohol consumption (i.e., hospitalized, followed by their physician or by a psychologist). Exploratory analyses were conducted after excluding them to investigate if differences between groups persisted even when excluding participants with potential SAUD. Engaging coping strategies remained insignificant. All other differences remained significant (all $p < .001$).

Mediation analyses were conducted to investigate differences in emotions, self-esteem, and coping strategies between heavy and light drinkers. Levels of depression and anxiety were controlled for, as they differed between groups. Group (contrast coded) was used here as a predictor, metadehumanization and fundamental needs threat as mediators, depression and anxiety as covariates, and the other variables were placed as outcomes, one by one in a series of analyses.

Results revealed that all group effects were mediated by metadehumanization, needs threat or both. The group effect on self-esteem was mediated by metadehumanization (*IE* = -.20, *SE* = .06, 95% CI[-.32, -.09]; see Figure 15 for a summary of the mediation analyses). The group effect on positive emotions was mediated by needs threat (*IE* = .05, *SE* = .04, 95% CI[.00, .15]) but also by metadehumanization and needs threat together (*IE* = .20, *SE* = .11, 95% CI[.01, .45]). The group effect on negative emotions was mediated by metadehumanization (*IE* = .22, *SE* = .10, 95% CI[.01, .41]) but also by metadehumanization and needs threat together (*IE* = .14, *SE* = .08, 95% CI[.00, .33]). The group effect on engaging coping strategies was mediated by metadehumanization and needs threat together (*IE* = .07, *SE* = .04, 95% CI[.00, .17]). The group effect on disengaging coping strategies was mediated by metadehumanization (*IE* = .14, *SE* = .06, 95% CI[.03, .26]). The group effect on alcohol consumption as coping was mediated by metadehumanization (*IE* = .20, *SE* = .06, 95% CI[.09, .33]).

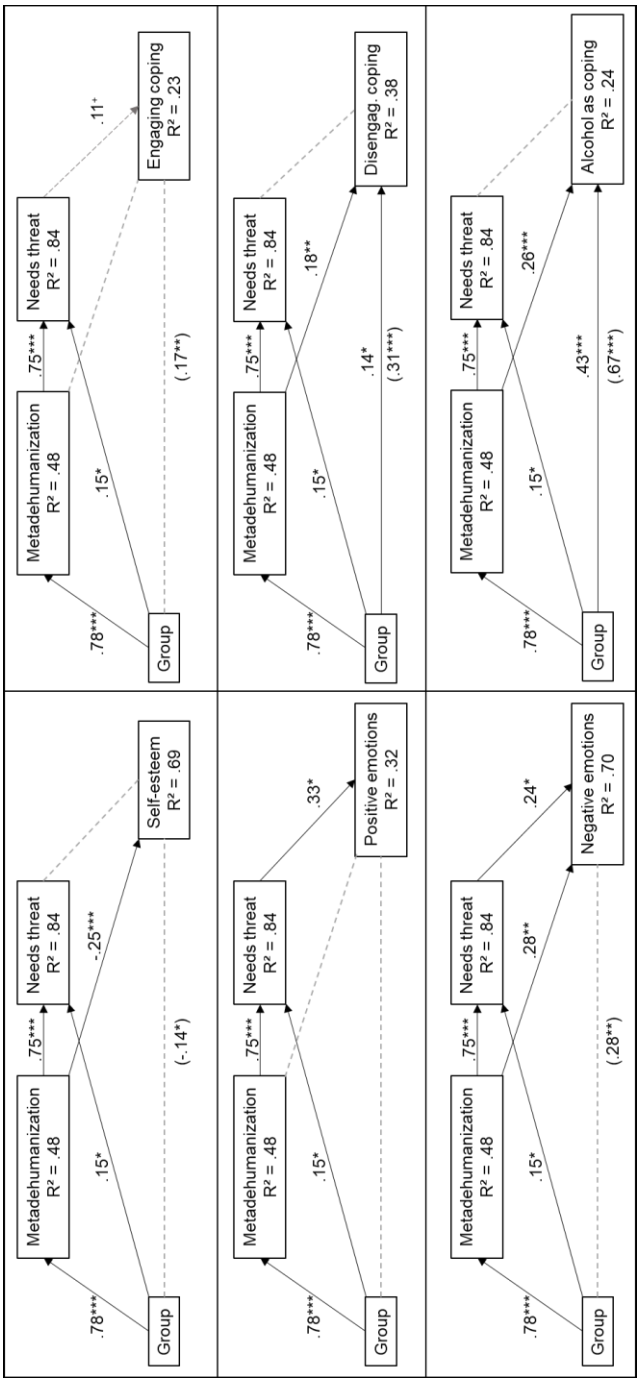

Figure 15. Summary of the mediation analyses. Full arrows represent significant effects, dashed arrows marginal effects, and dashed lines non-significant effects. The values in brackets are the regression coefficients of the group's effect on outcomes controlling for anxiety and depression. Non-significant coefficients are not represented for clarity purposes. $^{+}p < .10; ^{*}p < .05;$ $^{**}p < .01;$ $^{***}p < .001$

4. Discussion

Furthermore, this first exploration of metadehumanization and its related factors in heavy drinkers revealed large-scale differences between heavy and light drinkers regarding emotions, self-perceptions, behaviors, psychological wellbeing, and psychopathological states. Most importantly, it showed that heavy drinkers feel more dehumanized and that metadehumanization and fundamental needs threat contribute to explain the differences in psychological profiles between heavy and low drinkers.

The higher metadehumanization reported by heavy drinkers is consistent with our expectations. Indeed, previous research attested that patients with SAUD experience such metadehumanization (Fontesse et al., 2020). As the heavy drinkers scored 15 or more at the AUDIT, they are at risk of presenting moderate or severe alcohol use disorder, even if they are not yet diagnosed or treated. The fact that this subclinical population already reports feeling dehumanized by others widens the range of populations potentially affected by metadehumanization by showing that it can occur even at subclinical levels, independently of the presence of a psychiatric label or of the inclusion in a psychiatric clinical setting.

Past research emphasized the importance of the mental illness label as dehumanizing (Martinez et al., 2011). However, in our sample, only 16 participants (all heavy drinkers) reported having been treated for their excessive alcohol consumption in the past. Moreover, when excluding these participants from the analyses, the effects remained significant. This demonstrates that the metadehumanization reported by heavy drinkers is not centrally driven by the stigma associated with seeking treatment or being labeled as a psychiatric patient. The excessive alcohol consumption per se might drive the feeling of being dehumanized by others. Moreover, our results showing strong metadehumanization in heavy drinkers (actually close to the levels observed in SAUD, see Fontesse et al., 2020) advocate for the need to further study this phenomenon in subclinical populations.

Our results also revealed that heavy drinkers report threatened fundamental needs, reduced positive emotions, increased negative emotions, lower self-esteem, and increased used of disengaging coping strategies and alcohol-use as coping when compared to light drinkers. These results reinforce and extend previous findings in this population as the associations between

emotions, self-esteem, coping deficits, and heavy drinking are congruent with previous studies (Britton, 2004; M. L. Cooper et al., 1995; Dvorak et al., 2014; Jakubczyk et al., 2018; Zeigler-Hill et al., 2013). However, the findings that heavy drinkers report feeling dehumanized by others and that their fundamental needs are more threatened than light drinkers had never been reported before.

This finding is particularly important because metadehumanization and fundamental needs threat were found to mediate heavy and low drinkers' differences in psychological profiles, even when controlling for anxiety and depression. Three group effects were mediated by metadehumanization and fundamental needs together, namely the effects on positive emotions, negative emotions, and engaging coping strategies. The three other group effects (on self-esteem, disengaging coping strategies, and alcohol use as coping) were mediated by metadehumanization alone. The perception of being treated as less than a human by others thus seems to be a major determinant of the emotional, cognitive, and behavioral differences of heavy and low drinkers[10]. Considering the implication of these variables in alcohol-related problems and SAUD emergence (Britton, 2004; Buchmann et al., 2010; Fontesse et al., 2020; Zeigler-Hill et al., 2013), metadehumanization might contribute to heavy drinkers' increased risk of developing SAUD.

As a whole, our study thus suggests that metadehumanization could play a key role in the difficulties encountered by heavy drinkers, which might be of importance for the evolution towards SAUD. In light of the continuum theory, heavy drinkers are already advanced in the path leading to alcohol use disorders, as they tend to differ from light drinkers and exhibit several similarities with SAUD patients. Besides displaying levels of metadehumanization close to that of SAUD patients, heavy drinkers reported more negative emotions than light drinkers, such emotions being a strong relapse factor in SAUD (Zywiak et al., 2003). They also showed high levels of anxiety and depression, which have previously been linked to alcohol-

[10] Unexpectedly, the indirect effect of group on positive emotions through fundamental needs threat was positive, this is caused by the control of depression and anxiety as their reduced positive emotions shown in group comparisons are mostly explained by anxiety and depression.

related problems (Acuff et al., 2019) and constitute psychopathological comorbidities in half of patients with SAUD (Anker et al., 2019). Finally, patients with SAUD also exhibit lower levels of self-esteem when compared to control subjects (Chaudhury et al., 2003), just as heavy drinkers did in our study.

As the design used does not allow for causal interpretations, future studies will have to investigate whether the variables investigated contribute to the emergence of heavy drinking behaviors or conversely. Furthermore, metadehumanization is still an emerging concept, especially in clinical psychology. While we have investigated key variables in regard to people's psychological health, other variables are still to be investigated in relation to metadehumanization. Future studies will thus have to extend the connections between metadehumanization and other clinically relevant variables.

5. Conclusion

When compared with light drinkers, heavy drinkers present a large range of psychological and interpersonal difficulties. Our results centrally showed that heavy drinkers (1) feel dehumanized by others and have threatened fundamental needs, and (2) are indeed a subclinical population at risk of developing SAUD as they already share many characteristics with patients with SAUD. Metadehumanization, namely the feeling of being dehumanized by others, emerges as a major variable mediating the previously described differences between heavy and light drinkers' on psychological and interpersonal variables.

Chapter 8

Stigmatization and dehumanization perceptions towards psychiatric patients among nurses

A cross-sectional study

Background

Stigma towards people with mental illness contributes to the maintenance of their disorder and increases their avoidance of professional help. In addition to stigma, people with mental illness are also dehumanized, i.e., perceived as less than human. As dehumanization is closely associated with abuse and neglect, it appears urgent to evaluate it among health-care workers. The present study thus (1) examined and compared nurses' stigmatizing, and dehumanizing perceptions of people with a psychiatric (severe alcohol use disorder or schizophrenia) versus a non-psychiatric disorder; (2) investigated the effect of the quality/frequency of social contacts on these perceptions; (3) identified the determinants of dehumanization and the influence of nurses' burnout, depression, anxiety, and stress levels, as well as structural discrimination of clinical populations.

Methods

Three hundred thirty-six nurses reported their attitudes toward the clinical population with whom they had the most frequent contact: people with severe alcohol use disorder, people with schizophrenia, or people with cardiovascular disease. Nurses with less than weekly contact with these clinical populations completed the survey targeting people with severe alcohol use disorder to compare how the frequency of contact with them affected attitudes toward this population.

Results

Nurses stigmatized and dehumanized people with a psychiatric disorder significantly more than people without a psychiatric disorder. They also stigmatized people with severe alcohol use disorder more than people with schizophrenia. Path analyses investigating the proposed determinants and outcomes of dehumanization toward people with psychiatric disorders showed that nurses dehumanized them significantly more if they stigmatized

them, and if they themselves felt dehumanized by their superiors. Nurses also dehumanized people with a psychiatric disorder less if contact with them was of good quality. Regarding nurses' well-being, feeling dehumanized by their hierarchical superiors was positively associated with depression, anxiety, and stress levels. Finally, stigmatizing a psychiatric population was linked to a tendency for nurses to show less support to funding research aimed at improving the understanding of this population's psychiatric disorders. Conversely, having good contact with a population, was related to increased support for funding.

Conclusions

Stigmatization and dehumanization towards people with psychiatric disorders are widespread among nurses, which advocates for more human and less stigmatizing practices in health-care settings. We propose several perspectives to reduce stigma and dehumanization among nurses, notably by humanizing nurses' supervision, increasing patients' and nurses' individuation, and improving the quality of contact with patients.

Reference

Fontesse, S., Rimez, X., & Maurage, P. Stigmatization and dehumanization perceptions towards psychiatric patients among nurses: a cross-sectional study

Stigmatization and dehumanization perceptions towards psychiatric patients among nurses

A cross-sectional study

1. Introduction

The etiological factors leading to the emergence of psychiatric disorders are multifold and include psychological (e.g., personality disorders, biased cognitive processing; Mushtaq et al., 2014), environmental (e.g., armed conflicts; WHO, 2013), neurological (e.g., traumatic brain injury; van Reekum et al., 2000), neurophysiological (e.g., hypersecretion of corticotropin-releasing factor; Keller et al., 2006) and socioeconomic (e.g., poverty and inequality; Carod-Artal, 2017) variables. The majority of these causes are out of individuals' direct control and are thus hard to tackle in clinical settings. Conversely, other factors, highly involved in the development and maintenance of these disorders, present the advantage of being directly addressable during treatment. This is particularly true for interpersonal variables like stigmatization (i.e., the negative taint applied to some groups), which is proposed to contribute to the maintenance of psychiatric disorders and is heavily experienced by people with a psychiatric disorder (Henderson et al., 2014; Loch, 2012; Ross & Goldner, 2009; Schomerus et al., 2012). The stigmatization of these individuals is so widespread that it can lead people with a psychiatric disorder to self-stigmatize (Corrigan et al., 2009; Oexle et al., 2017). This stigmatization is an important societal problem as it contributes to the treatment gap, i.e., the high percentage of people suffering from psychiatric disorders that are left untreated, notably because they avoid searching for help from fear of being stigmatized (Corrigan, 2004; Kohn et al., 2004). Treatment gap prevalence lies between 32% and 78% across mental illnesses, which means that approximatively one third to three-quarters of people with a psychiatric disorder do not receive any form of treatment in Western countries (Kohn et al., 2004; Lund et al., 2012). Importantly, the stigmatization of people with a psychiatric disorder is not solely held by the general population, as health-care workers have also been found to hold similar stigmatizing perceptions of people with a psychiatric disorder (Ronzani et al., 2009; Ross & Goldner, 2009) thus further reinforcing mental illness stigma, even during treatment.

Furthermore, in addition to being stigmatized, people with a psychiatric disorder are also dehumanized by others, i.e., they are perceived as less than human (Martinez et al., 2011). Dehumanization has been widely studied in social psychology and has been consistently associated with some of the worst interpersonal treatments like negligence, aggression, support for torture, and even genocides (Hagan & Rymond-Richmond, 2008; Kelman, 1973; Kteily et al., 2015; Kteily & Bruneau, 2017b; Locke, 2009; Osofsky et al., 2005). Dehumanization can, however, vary in its expression from mild to extreme forms (Buckels & Trapnell, 2013; Demoulin, Torres, et al., 2004). It thus appears urgent, in view of the role played by stigmatization and dehumanization in interpersonal relations, to evaluate their presence and extent in clinical settings.

1.1. Comparisons of stigmatization and dehumanization toward people with different types of disorders

It has been recently shown that people with a psychiatric disorder, such as people with severe alcohol use disorder, are aware that they are dehumanized by others and that these dehumanization feelings are associated with higher levels of negative emotions, weaker self-esteem, and disrupted coping strategies (Fontesse et al., 2020). However, this previous research focused on people with severe alcohol use disorder's perception of being dehumanized by society in general, so that it remains unknown whether medical staff might also cause these perceptions. Dehumanization from nurses toward people without psychiatric disorder has already been reported (Trifiletti et al., 2014; Vaes & Muratore, 2013), but it has never been compared to dehumanization toward people with a psychiatric disorder. No comparison of dehumanization's intensity across psychiatric populations has been performed either. To fill this gap, we conducted multiple comparisons: we argue that nurses dehumanize people with a psychiatric disorder more than people without psychiatric disorder because some criteria central to judgments of humanity (e.g., self-control, maturity) are perceived as typically lacking in psychiatric populations. We thus primarily propose to compare, for the first time, nurses' stigmatizing and dehumanizing perceptions of people with or without a psychiatric disorder. Moreover, because people with addictive disorders are often more stigmatized and judged more harshly than other psychiatric populations (Schomerus et al., 2011), a second comparison will also be conducted between two psychiatric populations: people with severe alcohol use disorder and people with schizophrenia. A third

comparison will finally investigate the effect of regular contact with a psychiatric population on the dehumanization process by comparing attitudes toward people with severe alcohol use disorder among nurses with or without regular contact with this population.

1.2. Determinants and outcomes of dehumanization

In order to offer a comprehensive view of the phenomenon, the determinants and outcomes of dehumanization will also be explored. Regarding the determinants, the motivation for self-protection (Trifiletti et al., 2014; Vaes & Muratore, 2013) has so far been the only factor proposed to underlie health-care workers' dehumanization feelings toward their patients. We will therefore measure (1) stigmatization, and its association with dehumanization; (2) the quality of contact, as a contact of higher quality reduces dehumanization (Capozza et al., 2014); and (3) the "trickle-down effect," namely the proposal, developed in organizational psychology research, that managers' attitudes toward their employees can define employees' attitudes toward clients (Masterson, 2001; Mawritz et al., 2012; Wo et al., 2019). We propose that a similar process might occur in clinical settings: dehumanization might trickle-down from superiors (e.g., chief physician, medical directors) to nurses and then to patients. Accordingly, we hypothesize that nurses' feeling of being dehumanized by their manager will be associated with increased dehumanization of their patients.

Regarding the consequences, while dehumanizing patients might negatively impact the quality of care, little empirical evidence has been provided (Christoff, 2014; Haque & Waytz, 2012). Multiple factors related to patient care and nurses' well-being will therefore be investigated, namely, (1) burnout, which has previously been associated with dehumanization (Vaes & Muratore, 2013); (2) depression, anxiety, and stress levels reported by nurses. We argue that if dehumanization constitutes a protective strategy to protect nurses against burnout (Cameron et al., 2016; Vaes & Muratore, 2013), the protective effect of dehumanization might also extend to other indicators of psychological suffering so that higher dehumanization should be associated with lower depression, anxiety, and stress; (3) Structural discrimination (i.e., discrimination operated at the structural or institutional level without direct interpersonal harm) will be assessed through resource allocation toward multiple disorders. We expect dehumanization to be associated with higher structural discrimination, i.e., dehumanized patient

populations will be allocated fewer resources; (4) The relative value given to patients, which will be explored through multiple dilemmas investigating nurses' attitudes toward patients and focusing on the relative value given to patients' life, pain, and consent. The last dilemma will assess diagnostic overshadowing, namely the bias of misattributing physical symptoms to mental illness (Jones et al., 2008; Thornicroft et al., 2007).

Finally, as we expect stigmatization of patients, nurses' feelings of being dehumanized by their superiors, and quality of contact with patients to be associated with patients' dehumanization, the potential role of dehumanization as a mediator of the links between determinants and outcomes will also be investigated.

Overall, we thus propose to test an integrated model of dehumanization in health-care, through the simultaneous evaluation of its determinants (stigmatization, trickle-down effect, quality of contact) and outcomes for nurses' well-being and patient care (see Figure 16 for a visual description of the theoretical model).

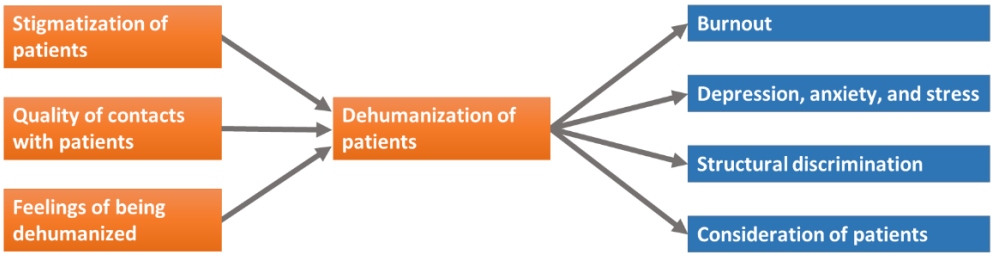

Figure 16. The theoretical model of dehumanization of patients by healthcare workers

2. Methods

2.1. Participants

French-speaking hospitals, clinical centers, and nurses' associations from Belgium, France, and Canada were contacted to disseminate the survey toward their members. Participants were recruited between April 1st and July 1st, 2018. Sixty-eight hospitals and clinical centers were contacted, and fifteen accepted to transfer the survey to their nurses' employees. Thirty-six nurses' associations were contacted, and ten accepted to transfer the survey to their members. A total of 336 (78% female) nurses were recruited. Participants' mean age was 40.7 (*SD* = 12.6).

2.2. Procedure

All participants received a full written description of the survey, including the duration, goals, and ethical statements. All participants provided their informed consent before starting the survey. The survey comprised two parts. The first part aimed at selecting participants based on the frequency of their contact with our targeted clinical populations: people with severe alcohol use disorder, people with schizophrenia, and people with cardiovascular disease. Once their contact frequency with these people was established, participants were directed to the version of the survey assessing their attitudes toward the clinical population with whom they had the most frequent contact. If participants did not have contact with any of these clinical populations at least once a week, they were then directed toward a version of the survey targeting people with severe alcohol use disorder. This procedure was used to compare how the frequency of contact impacted nurses' attitudes toward people with alcohol use disorder. Four versions of the survey were thus created (version 1 for nurses presenting frequent contact with people with severe alcohol use disorder, version 2 for nurses presenting frequent contact with people with schizophrenia, version 3 for nurses presenting frequent contact with people with cardiovascular disease, version 4 for nurses presenting no/low contact with the three categories of people, who were thus asked to perform the study with people with severe alcohol use disorder as a reference).

This procedure resulted in 108 participants answering the survey regarding people with severe alcohol use disorder, 42 regarding people with schizophrenia, 118 regarding people with cardiovascular disease, and 68 participants who had insufficient contact with any of these populations and who answered the fourth version of the questionnaire, also focused on people with severe alcohol use disorder. The anonymity of the respondents was reinforced throughout the survey to reduce social desirability.

2.3. Measures

2.3.1. Stigmatization of patients

Nurses' stigmatization of patients was assessed using the 23-item scale of Personal and Perceived Public Stigma (PPPS; Holman, 2015). Participants answered using a 4-point Likert scale. This scale contains four subdimensions: perceived public stigma (e.g., "People like them should feel embarrassed about their situation"), perceived treatment stigma (e.g., "Getting treatment would make them an outsider in the community"), personal stereotypical/prejudicial stigma (e.g., "Being around them would make me feel uncomfortable"), and personal discriminatory stigma (e.g., "I would be willing to socialize with them," reverse coded). Following our hypotheses, a general score of stigmatization was computed by averaging participants' answers on all items (α = .90).

2.3.2. Dehumanization of patients

Nurses' dehumanization of patients was assessed using a 22-item scale measuring the main components of dehumanization (e.g., lack of emotions, lack of empathy, immorality) as well as the central metaphors according to Haslam's (2006) model of dehumanization (e.g., object, automata, animal). This 7-point Likert scale was adapted from previous work on people with severe alcohol use disorder's feelings of dehumanization (Fontesse et al., 2020) and the scale of organizational dehumanization (Caesens et al., 2017, 2019). A general header was used: "In my work as a nurse, I consider people with severe alcohol use disorder/ schizophrenia/ cardiac problems as…". This header was followed by items such as "… lacking emotions," "…lacking empathy and sensibility," "…amoral people, likely to commit immoral acts," "…objects," "…automaton," and "… animals". Following our hypotheses, a mean score was computed based on participants' answers on all items (α = .95).

2.3.3. Nurses' feelings of dehumanization

Nurses' feelings of dehumanization (i.e., their perception of being dehumanized by their superiors) were investigated using a 22-item scale directly adapted from the scale of dehumanization of clinical populations. Items were preceded by a general-header "As a nurse, my superiors treat me as…". This header was followed by items such as "…lacking emotions," "…lacking empathy and sensibility," "…an amoral person, likely to commit

immoral acts," "…an object," "…an automaton," and "…an animal". In accordance with our hypotheses, a general feeling of dehumanization score was computed based on participants' answers on all items (α = .97).

2.3.4. Quality of contact with patients

Nurses evaluated the quality of contact with their patients using a 12-item scale. This scale was created based on Allport's intergroup contact theory (Allport, 1954) with Pettigrew's added conditions (Pettigrew, 1998). This scale measured the main criteria of contact quality: equality of status (e.g., "In my work, I consider patients as equals in status"), cooperation (e.g., "Patients are co-actors of their care"), institutional support for the contact (e.g., "The institution in which I work encourages us to learn to know our patients"), development of personal friendship (e.g., "In addition to the care given, I try to develop a personal relationship with patients"), and potential for stereotype reduction (e.g., "Contact with the patients helped me to question my preconceptions"). The institutional support for the contact dimension was left out because we also recruited nurses who were not working in a hospital/institution. In accordance with our hypotheses, a general score of contact quality was computed by averaging participants' responses on all other items (α = .87).

2.3.5. Burnout

The 22-item Maslach Burnout Inventory (Maslach & Jackson, 1986) was used to assess nurses' burnout levels. Three subdimensions form the scale: emotional exhaustion, depersonalization, and personal accomplishment (D. E. Green et al., 1991). In accordance with our hypotheses, a general score of burnout was computed by averaging participants' answers on all items (α = .87).

2.3.6. Depression, anxiety, and stress

The 21-item Depression, Anxiety, and Stress Scale (DASS, Antony et al., 1998) was used in the survey. This scale includes three subdimensions: depression, anxiety, and stress. In accordance with our hypotheses, a general score was computed based on participants' answers on all items (α = .93).

2.3.7. Consideration of patients: evaluation of patients' life, consent, and pain

Multiple moral dilemmas were created to assess nurses' evaluation of their patients' life, consent, and pain. In the life evaluation dilemma, nurses were presented with a situation in which an incident is generating deadly fumes in a room containing three persons (without specifying the type of patients). The participant is asked if they would be willing to divert these fumes to a room where there is one person with a severe alcohol use disorder/ with schizophrenia/ with cardiovascular problems (depending on the clinical population of the survey), thus saving three persons but killing one from the target population.

In the consent evaluation dilemma, nurses are presented with a situation where ignoring consent from a person from the target population might allow significant progress in research. They can choose to make an experiment look like a mandatory medical exam, thus registering the person to the study without their consent.

In the pain evaluation dilemma, nurses have to choose between two drugs of similar efficacy: one has a high cost for the health-care system (5000€) but does not provoke any intestinal pain, whereas the other has a low cost (100€) but provokes considerable intestinal pain. Participants are asked if they find it appropriate to prescribe the low-cost but painful drug to a person from the target population.

2.3.8. Diagnostic overshadowing

The last dilemma assessed nurses' diagnostic overshadowing of the target population. In this dilemma, a person from the target population is complaining about nausea, headache, and stomach cramps. Participants are asked if they prefer to give this person a drug that can treat the physical symptoms, but that could have secondary effects, or if they want to give a placebo, which would be enough to calm the person if the symptoms are "in his/her head." Participants will thus provide the drug if they think that the person's complaints are physical, and will provide the placebo if they think that the complaints are psychosomatic, thus potentially misattributing physical symptoms to psychosomatic origins.

2.3.9. Structural discrimination

Structural discrimination was assessed through a resource allocation task (based on Beck et al., 2003). In this task, participants were asked to rank various diseases based on how they should be prioritized for research funding allocations. The participants were told that this funding would go to research as a way to avoid participants benefitting personally from these funds by favoring their clinical population. The diseases presented were depression, diabetes, rheumatism, severe alcohol use disorder, Alzheimer's disease, schizophrenia, myocardial infarction, and human immunodeficiency virus (HIV). Participants were asked to rank these disorders between 1 and 9 (1 indicating the disorder that should receive the most funding). A new variable was then created with the value given by nurses to their target population. A higher score denotes higher structural discrimination (i.e., lower funding priority).

2.4. Statistical analyses

Nurses' stigmatization and dehumanization toward their target population were compared using linear regressions on SPSS 25 with three contrast variables as independent variables. Our study included four groups of nurses (group 1: nurses working with people presenting severe alcohol use disorder, group 2: nurses working with people presenting schizophrenia, group 3: nurses working with people presenting cardiovascular problems, group 4: nurses asked to evaluate their feelings toward people with severe alcohol use disorder but with no/low contact with them).

In order to investigate the three comparisons of interest, three contrast variables were created. The first contrast variable compared nurses' perception of people with a psychiatric disorder (i.e., people with severe alcohol use disorder as perceived from nurses working with them, people with schizophrenia, and people with severe alcohol use disorder as perceived from nurses not working with them; all coded 1) to people with a cardiovascular disorder (coded -3). The second contrast compared nurses answering the survey focused on people presenting severe alcohol use disorder (both groups, coded 1) and people presenting schizophrenia (coded -2). The third contrast compared the perception of people with severe alcohol use disorder from nurses with high contact with them (coded -1) to those with no/low contact with them (coded 1; see Table 15 for a summary of the contrast codes). Nurses' stigmatization and dehumanization toward their

target population were compared using linear regressions, computed using SPSS 25, with the three contrast variables as independent variables.

Table 15. Summary the contrast codes attributed to each group of nurses according to their target population

	Patients with SAUD	Patients with schizophrenia	Patients with cardiovascular disease	Patients with SAUD with no/low contact
Contrast variable 1 psychiatric vs non-psychiatric patients	1	1	-3	1
Contrast variable 2 patients with SAUD vs patients with schizophrenia	1	-2	0	1
Contrast variable 3 patients with SAUD with or without contact	-1	0	0	1

In addition to these three comparisons, the associations of stigmatization and dehumanization with other variables across the dehumanized groups were investigated through path-analysis models allowing for missing values using STATA 16. We report the standardized coefficients reported from these models.[11]

2.5. Ethical approval and informed consent

All procedures contributing to this work comply with the ethical standards of the Helsinki Declaration of 1975, as revised in 2008. All procedures were approved by the bioethical committee of the University (Cliniques Universitaires Saint-Luc, UCLouvain, Belgium; approval number B403201732246). All participants provided informed consent.

[11] Data are available online via the link below.
https://osf.io/ah6kw/?view_only=5908eb42683a46b08bfa7f201c7cf16c

3. Results

3.1. Comparisons of nurses' attitudes toward their clinical population

Comparison 1: dehumanization and stigmatization of people with or without psychiatric disorder

Results revealed a statistically significant effect of the contrast variable 1 on the general stigmatization (β = .75, p < .001, 95% CI [.36; .43]) and dehumanization (β = .24, p < .001, 95% CI [.05; .13]) scores. Nurses stigmatized and dehumanized people with a psychiatric disorder more than people with cardiovascular disease.

Comparison 2: dehumanization and stigmatization of people with severe alcohol use disorder vs. people with schizophrenia

The second contrast showed that nurses stigmatized people with severe alcohol use disorder more than people with schizophrenia (β = .16, p < .001, 95% CI [.09; .23]). No statistically significant effect of the second contrast regarding dehumanization was found (p = .958, 95% CI [-.08; .08]).

Comparison 3: dehumanization and stigmatization of people with severe alcohol use disorder from nurses with high vs. no/low contact with this population

Only a trend effect emerged from the contrast variable 3 on stigmatization (people with severe alcohol use disorder with high vs. no/low contact; β = .06, p = .064, 95% CI [-.01; .18]), such that nurses without frequent contact with people presenting severe alcohol use disorder tended to stigmatize them more than nurses working with them.

3.2. Determinants of the target population's dehumanization

As people with cardiovascular disease were significantly less dehumanized than people with a psychiatric disorder, the following path analyses were conducted on people with a psychiatric disorder only. Nurses' stigmatization of patients, perception of being dehumanized by their superiors, and quality of contact with patients were placed as independent variables connected to dehumanization, and itself connected to all outcome variables (burnout, general depression-anxiety-stress score, four moral dilemmas). Direct and indirect effects (explained by the dehumanization of their clinical population) were investigated. Results revealed statistically significant standardized regression coefficients for all independent variables on dehumanization:

stigmatization (γ = .20, *p* = .003, 95% CI [.07; .32]), feelings of being dehumanized by superiors (γ = .23, *p* < .001, 95% CI [.11; .34]), and quality of contact with patients (γ = -.42, *p* < .001, 95% CI [-.54; -.29]). Nurses dehumanized people with a psychiatric disorder more if they stigmatized them, and if they felt dehumanized by their superiors (see Figure 17 for a graphical representation of the path-analysis model's results). Nurses tended to dehumanize people with a psychiatric disorder less if their contact with them was of good quality.

3.3. Nurses psychological well-being and patient care

Feelings of being dehumanized by superiors was the only variable directly predictive of nurses' burnout (γ = .54, *p* < .001, 95% CI [.40; .69]). Dehumanization by superiors was also significantly and positively associated with nurses' depression, anxiety, and stress levels (γ = .41, *p* < .001, 95% CI [.27; .56]). A trend toward stigmatization's effect on depression, anxiety, and stress was observed (γ = .15, *p* = .081, 95% CI [-.02; .32]). Regarding patient care, no effect was found on nurses' evaluation of patients' lives (all *p* > .05). There was, however, a direct association between stigmatization and evaluation of patients' pain (γ = -.22, *p* = .018, 95% CI [-.40; -.04]), suggesting that nurses who stigmatized patients more gave less value to their pain when making a medical decision related to their treatment. A direct effect was found between the dehumanization of patients and the evaluation of their consent (γ = -.18, *p* = .048, 95% CI [-.35; -.00]). Nurses who dehumanized their patients more gave less value to their consent. No statistically significant effect was found regarding diagnostic overshadowing; only a trend emerged between stigmatization and diagnostic overshadowing (γ = -.18, *p* = .051, 95% CI [-.36; .00]).

Finally, regarding structural discrimination, stigmatization and quality of contact were significantly associated with resource allocation (γ = .26, *p* = .002, 95% CI [.10; .42] and γ = -.31, *p* < .001, 95% CI [-.47; -.15] respectively). Stigmatizing a psychiatric population was related to a tendency for nurses to show less support to research funding aimed at improving the understanding of their disorders, i.e., more structural discrimination. Conversely, good contact quality was linked to decreased structural discrimination.

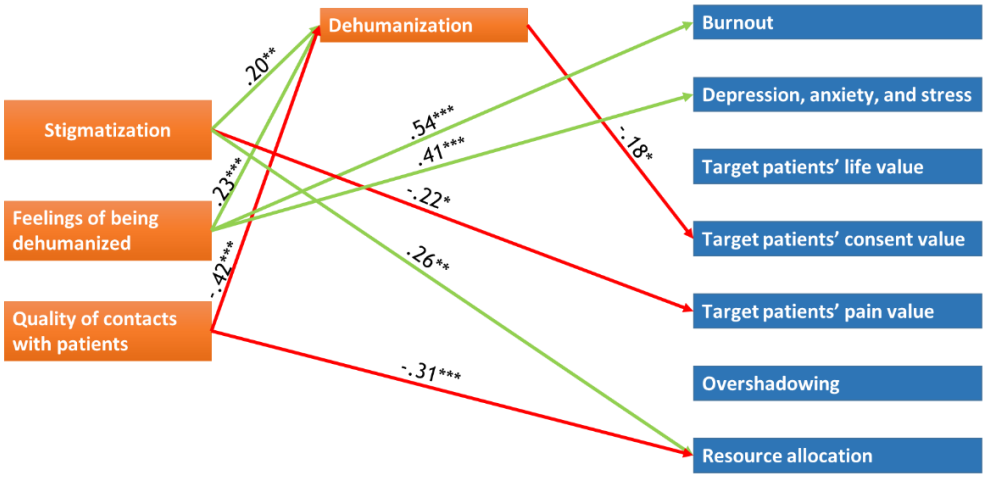

*Figure 17. Path analysis model tested. Non-significant paths are not depicted for the sake of clarity; *p < .05; ** p < .01; *** p < .001*

4. Discussion

Our study had three main goals as it aimed to: (1) compare nurses' stigmatization and dehumanization toward multiple clinical populations (i.e., people with severe alcohol use disorder, schizophrenia, and cardiovascular problems) through three group comparisons; (2) explore how stigmatization, nurses' feelings of being dehumanized by their superiors, and the quality of contact with patients are associated with nurses' dehumanization of patients; (3) investigate how these variables relate to nurses' psychological well-being and patient care.

4.1. Comparisons of nurses' perception of clinical populations

Comparison 1: people with vs. without a psychiatric disorder

As expected, nurses' attitudes varied across clinical populations. Psychiatric populations (people with severe alcohol use disorder or schizophrenia) were more stigmatized and dehumanized by nurses than non-psychiatric ones (people with cardiovascular disease). Our results extend previous findings in the field of mental illness stigma showing that people with mental illness are more stigmatized and dehumanized by the general population (Martinez et al., 2011; Peris et al., 2008). We show that this bias also applies to nurses, even though they are directly involved in patient care. This central result

implies that stigmatization and dehumanization toward people with mental disorders might thus persist even during treatment, within clinical settings.

Comparison 2: people with severe alcohol use disorder vs. people with schizophrenia

Nurses stigmatized people with severe alcohol use disorder more than people with schizophrenia. This is congruent with previous findings showing that the general population stigmatizes more people with addictive disorders such as severe alcohol use disorder than other psychiatric populations because people with severe alcohol use disorder are held more responsible for their condition and are less easily perceived as mentally ill (Schomerus et al., 2011). Nurses' attitudes follow the same trend, which is concerning as stigma has detrimental effects on mental health and well-being. Indeed, a study among people undergoing treatment for substance abuse reported that perceived stigma was associated with lower self-esteem, poorer sleep, and higher depression and anxiety (Birtel et al., 2017). Considering its detrimental effects, tackling stigma among medical staff should thus constitute a priority to improve mental health services. However, doing so might require significant societal and health system adaptations, as the stigma against people with addictive disorders is deeply rooted in our society and can even be expressed in well-intentioned interventions toward this population (Corrigan et al., 2017).

Comparison 3: nurses with high vs. no/low contact with people presenting severe alcohol use disorder

Despite a trend toward reduced stigmatization among nurses presenting frequent interactions with people with severe alcohol use disorder, no statistically significant difference was found between nurses with or without frequent contact with these people, suggesting that an increased contact frequency did not strongly modify the stigmatization or dehumanization of this population. This does not support contact theory, which proposes that contact with a group could lead to improved attitudes toward this group, notably through stigma reduction (Capozza et al., 2014). Past research presented similar results (see Kolodziej & Johnson, 1996).

4.2. Determinants of nurses' dehumanization of patients

The previously reported link between stigmatization and dehumanization was supported by our data (Cameron et al., 2016) as stigmatization was related to increased dehumanization. Interventions dedicated to the improvement of nurses' attitudes toward people with a psychiatric disorder should thus simultaneously address stigmatization and dehumanization for maximum synergetic effects.

Importantly, our results extended the trickle-down effect (Masterson, 2001; Mawritz et al., 2012) to clinical settings: nurses who feel dehumanized by their superiors tend to present increased dehumanization toward patients. We thus offer the first data suggesting that dehumanization could trickle down the hospital's hierarchical ladder.

4.3. Nurses psychological well-being and patient care

Feeling dehumanized by their superiors was strongly associated with nurses' reports of psychological suffering. Indeed, nurses who felt dehumanized by their superiors reported more burnout, depression, anxiety, and stress. This emphasizes the importance of improving how nurses are considered by their superiors and by their organization, notably in view of the above-mentioned trickle-down effect, thus potentially affecting patient care.

Interestingly, our study does not support the protective role of dehumanization as the previously reported negative link between nurses' dehumanization of patients and burnout levels was not replicated (Cameron et al., 2016; Vaes & Muratore, 2013). These earlier results suggested that health-care workers used dehumanization as a defensive coping strategy to protect themselves against the emotional burden provoked by contact with their patients (Vaes & Muratore, 2013). In nurses with high levels of direct contact with patients, dehumanization was associated with lower burnout levels (Vaes & Muratore, 2013). Another study in support of this proposal found that anticipated exhaustion mediated the influence of stigma on dehumanization so that participants dehumanized more stigmatized targets only if they anticipated high levels of emotional exhaustion (Cameron et al., 2016). However, nurses' feelings of being dehumanized by their superiors were not investigated in these studies. This variable, which is related to

patients' dehumanization, might play a major role in nurses' burnout, thus eclipsing the effect of dehumanization of patients on burnout.

Moreover, while dehumanization of patients might fulfill a protective role for medical staff, it is crucial to consider the many potential deleterious effects of this perception on patient care. Indeed, as previously stated, dehumanization has been associated with numerous interpersonal maltreatments (Haslam, 2006; Haslam & Stratemeyer, 2016). In our study, stigmatization and dehumanization were directly related to harsher responses to moral dilemmas involving patient care. Nurses who stigmatized their patients presented a reduced consideration for their pain (i.e., were more willing to provide pain-inducing drugs) when making clinical decisions. Nurses who dehumanized their patients had less consideration for their consent (i.e., were more willing to disguise a research project as a mandatory health exam to forgo obtaining consent from patients). Stigmatization and dehumanization thus seem to be differentially related to decreased care quality. This finding is congruent with the numerous studies emphasizing the joint but distinct roles of stigmatization (i.e., the negative taint) and dehumanization (i.e., the reduced attribution of humanity) in shaping poor caregiver-patient interactions (Alleyne et al., 2014; Bruneau et al., 2018; Delbosc et al., 2019).

4.4. Clinical recommendations for the reduction of stigmatization and dehumanization

Our results reveal that nurses' stigmatization and dehumanization of patients are related to decreased consideration of patients and increased suffering of nurses. Interventions to reduce stigmatization and dehumanization in clinical settings are thus direly needed. Haque and Waytz (2012) proposed multiple interventions to reduce dehumanization in medicine, such as improving the individuation of patients and medical staff, promoting similarity between patients and staff, and favoring staff moral engagement by decreasing the psychological distance between staff and patients. The presence of dehumanization in medicine should not be perceived as immutable, as there are many ways to reduce nurses' emotional exhaustion. Improved managerial practices and work conditions could potentially reduce the use of dehumanization toward patients (Christoff, 2014).

Furthermore, the association found between nurses' perception of being dehumanized by their superiors and their own dehumanization of patients

suggests that one way to improve patient care might be to improve how nurses are considered by their superiors. This has to be urgently worked upon, as victims of dehumanization undergo numerous aversive consequences such as negative emotions, psychosomatic strains, and reduced self-esteem (Bastian & Haslam, 2011; Caesens & Stinglhamber, 2019; Nguyen & Stinglhamber, 2018; Zhang et al., 2017). In a recent study in people with severe alcohol use disorder, their perception of being dehumanized by others was similarly associated with negative emotions, weaker self-esteem, and dysfunctional coping strategies (Fontesse et al., 2020). Victims of dehumanization thus experience many aversive effects, some of which are directly involved in the maintenance of their disorder. Reducing dehumanizing work practices and increasing humanizing supervision of health-care workers could favor humanized patient care.

Another way to reduce dehumanization is to promote intergroup contact (Capozza et al., 2014). While the comparison between nurses with or without frequent contact with people with severe alcohol use disorder did not reach enough statistical significance to fully support the intergroup contact theory, the associations found between contact quality and decreased dehumanization, as well as increased resource allocation, offer some support to the intergroup contact theory. In accordance with past research (Jorm & Oh, 2009; Keith et al., 2015), our work shows that quality is more important than frequency when it comes to contact. Hospitals should thus follow Allport (1954) and Pettigrew's (1998) characteristics of optimal intergroup contact. Indeed, Intergroup Contact Theory encourages the development of personal bonds between patients and staff, and advocates for the respect of equal status between them (Allport, 1954; Pettigrew, 1998). These characteristics contribute to efficient intergroup contact for the reduction of stereotypes against a group (Pettigrew, 1998), which is why creating opportunities for high-quality contact with people with mental illness in order to tackle their discrimination is essential (Campellone, 2014).

5. Limitations

The cross-sectional nature of this study does not allow for causal interpretations. The measures used are self-reported and could thus be subject to social desirability. The instructions in the survey, however, reinforced the anonymity of participants multiple times throughout the survey to reduce social desirability.

6. Conclusion

Nurses display more stigmatization and dehumanization toward people with a psychiatric disorder than toward people without a psychiatric disorder. These perceptions are associated with poorer patient care and increased structural discrimination. This study also emphasizes that nurses feel dehumanized by their superiors, which is associated with increased dehumanization toward patients. Altogether, these results advocate for more human and less stigmatizing practices in the field of health care to improve how employees and recipients of health-care are treated. Based on this concerning report, we proposed several perspectives to reduce stigma and dehumanization among nurses, notably by humanizing nurses' supervision, increasing individuation, and improving the quality of contact between patients and medical staff.

General discussion

1. Summary of the main results

This Ph.D. thesis' main goal was to investigate metadehumanization in individuals presenting alcohol use disorders. Chapters 1 and 2 provided the theoretical background of this thesis. The reasons to find dehumanization in people with SAUD were also discussed. Notably, the presence in this population of known causes of dehumanization, such as social exclusion and stigmatization, has been highlighted. The correspondence of stereotypes against people with SAUD and dehumanization criteria (e.g., lack of self-restraint) has also been developed.

In Chapters 3, 4, 5, and 6, this Ph.D. thesis investigated the associations between metadehumanization and factors that could be potential causes or consequences of metadehumanization in patients with SAUD. These associations identified key variables linked to metadehumanization.

As expected, metadehumanization was associated with patients' emotions, cognitions, behaviors, and psychopathological status (see Figure 18 for a summary of the main results from Chapters 3-6). Regarding potential antecedents of metadehumanization, stigma and environmental satisfaction have been associated with patients' metadehumanization. Regarding the potential consequences, metadehumanization has been linked to emotions (increased negative emotions, decreased positive emotions), coping strategies (decreased use of functional coping strategies, and increased use of dysfunctional ones, including alcohol use), self-perceptions (decreased self-esteem), and psychopathology (increased psychopathological comorbidity, and decreased drinking refusal self-efficacy, note that the indirect effects are not depicted in the graphical summary provided in Figure 18).

Animalistic self-dehumanization was linked to increased suicidal thoughts interference and decreased sociability. Furthermore, metadehumanization has also been associated with fundamental needs thwarting and self-dehumanization, which are mediators of links reported between metadehumanization and outcomes. Overall, based on these findings, we proposed that metadehumanization is a key risk factor for patients with

SAUD and that self-dehumanization and fundamental needs threat constitute key mechanisms to explain the role of metadehumanization.

In addition to the research conducted in patients with SAUD, Chapter 7 explored if heavy drinkers shared some commonalities with patients with SAUD regarding metadehumanization and its associated processes. To this end, heavy drinkers were compared to light drinkers. Heavy drinkers reported increased metadehumanization, more negative emotions, less positive emotions, decreased self-esteem, increased use of disengaging coping strategies, and increased anxiety and depression compared to light drinkers. Moreover, metadehumanization and fundamental needs threat explained the differences found between heavy and light drinkers, even when controlling for differences in anxiety and depression. These results are thus congruent with our findings in patients with SAUD as heavy drinkers present a high risk of developing SAUD and already exhibit similarities with SAUD patients, which are explained by their level of metadehumanization.

Finally, Chapter 8 introduced the perspective of nurses to complement the perspective of the victims with the perspective of the dehumanizer. This study investigated the dehumanization and stigmatization of patients with SAUD by nurses. The main goal was to compare nurses' stigmatization and dehumanization of psychiatric and non-psychiatric patients. This study also aimed at identifying potential causes and consequences of dehumanization. Nurses showed increased dehumanization of psychiatric patients (patients with SAUD or schizophrenia) compared to non-psychiatric patients (patients with cardiovascular disease). Patients with SAUD were more stigmatized than patients with schizophrenia who were, in turn, more stigmatized than patients with cardiovascular disease.

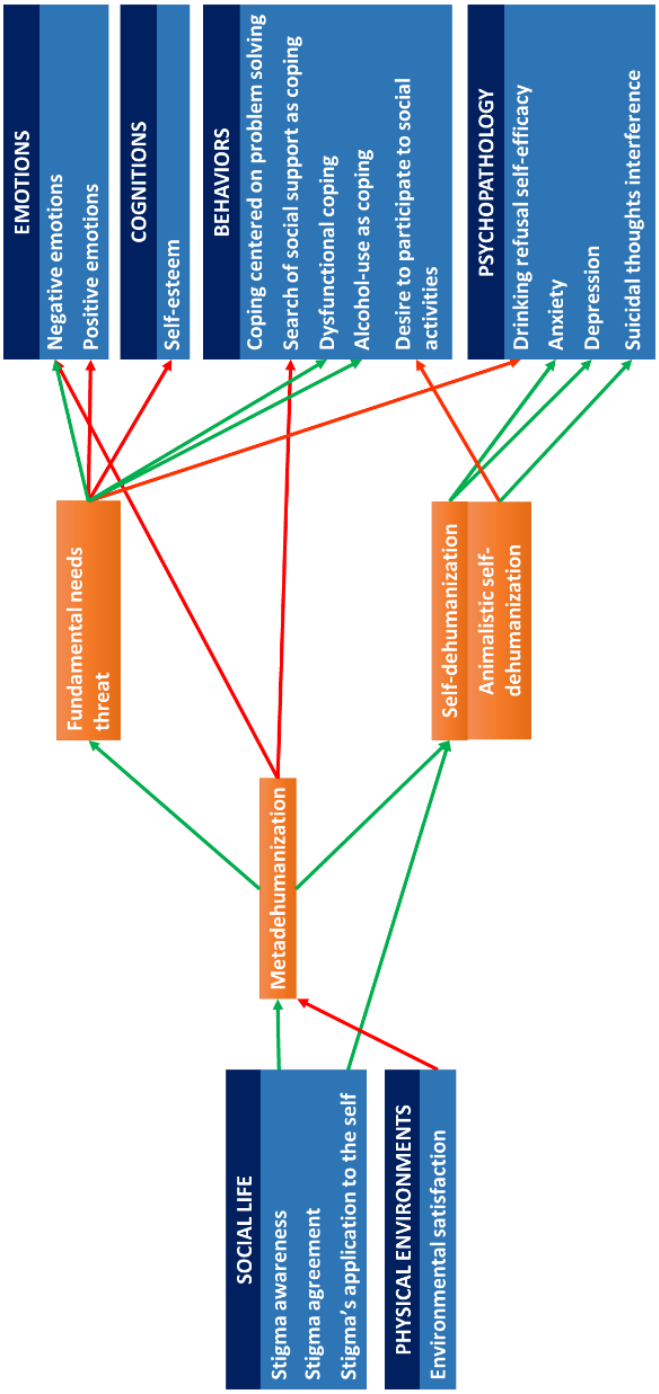

Figure 18. Graphical summary of results from chapters 3-6 in patients with SAUD. Non-significant paths and variables, coefficients, and indirect effects are omitted for clarity purposes.

Moreover, when investigating nurses' attitudes toward psychiatric patients, nurses' metadehumanization (their perception of being dehumanized by their superiors) was linked to their dehumanization of patients. The association between nurses' metadehumanization and dehumanization of patients supports the trickle-down effect of dehumanization in medical settings. Moreover, nurses' metadehumanization was associated with poorer mental health as attested by higher levels of burnout, anxiety, depression, and stress. This study thus showed that nurses and patients' with SAUD perspectives are coherent as nurses report increased dehumanization of patients with SAUD who report feeling dehumanized during treatment. The links between metadehumanization and severity of mood disorders (anxiety and depression) were also found in both patients and nurses.

2. Implications

The results presented in this thesis have the potential to renew clinical practices and to open new avenues in research. Clinical implications will be presented first and will be subdivided into implications for alcohol use disorders and implications for nurses. The implications for research will be developed afterward.

2.1. Clinical implications

2.1.1. Implications for alcohol use disorders

In this Ph.D. thesis, patients with SAUD were shown, for the first time, to report feeling dehumanized by others. The central contribution of this Ph.D. thesis is to establish empirically that metadehumanization is associated with numerous primordial factors regarding patients' treatment, well-being, and prognosis. The implications of these associations will be detailed in the following sections.

Metadehumanization and coping

One of the main results regarding patients' prognosis is that metadehumanization was found to be linked with poor responses to difficult situations, notably characterized by the increased use of dysfunctional coping strategies such as denial, magical thoughts, and alcohol use. Patients with SAUD who report feeling dehumanized by others could benefit from counseling and therapy centered on improving their coping responses when facing problematic situations. On a related note, another aspect of coping responses that could be directly targeted by clinical psychologists during

therapeutic interventions is patients' reactions to dehumanizing interactions, situations, and environments. We proposed that the integration of metadehumanization in patients' self-perspective, i.e., self-dehumanization, might be a mechanism explaining how metadehumanization can affect patients. Changing how patients interpret, react to, cope with, and integrate dehumanizing treatments, situations, and environments could thus constitute a way to tackle the effects of metadehumanization by directly changing how patients integrate it.

However, implementing programs improving victims' resilience to dehumanization should not be the main societal response to this issue. Indeed, our metadehumanization scale focused on patients with SAUD's perception of being dehumanized by other people in society. The focus of the scale was intentionally large, and future work will have to identify more precisely the sources of dehumanization. Nevertheless, there seems to be an issue with how patients with SAUD are perceived, treated, and dehumanized by other members of society. We argue that this dehumanization is unlikely to originate from a single source; it seems more likely that the sources of dehumanization are multiple and ultimately reside in cultural representations of mental disorders and alcohol use disorders. Consequently, in addition to working with patients on this issue, changes will also be required at other levels: among employees working in psychiatric services and health care in general, laypeople, and media depictions of alcohol use disorders. Ultimately, the cultural representations of these disorders will have to be targeted as well.

Fundamental needs threat and self-dehumanization

Self-Determination Theory (SDT) proposes that fundamental human needs, such as belonging and competence, are central determinants of human motivation (Deci & Ryan, 2008). Additionally, SDT postulates that the thwarting of these fundamental human needs greatly impacts the physical and mental health of individuals (Baumeister & Leary, 1995; Deci & Ryan, 2000b). While our results cannot support causal relations, they still indicate that fundamental needs threat is associated with poor psychological well-being (e.g., negative emotions, low self-esteem, and anxiety). Furthermore, our data suggest that metadehumanization, self-dehumanization, and fundamental needs threat are linked to increased severity of alcohol use disorder. If this proposal is verified, it would indicate that fundamental needs threat can indeed indirectly affect physical health as alcohol use disorder

strongly impacts physical health (e.g., increased cancer risk and shrinkage of brain volume; Bühler & Mann, 2011; Dguzeh et al., 2018; Meyerhoff et al., 2005). More research should thus be conducted to assess the dynamic between patients with SAUD's fundamental needs thwarting and the evolution of their disorders. Such research could help to adapt clinical practices in order to make them more attuned to patients' needs.

For the first time, self-dehumanization has been linked to two of the main comorbidities of alcohol use disorder: anxiety and depression. These links suggest that self-dehumanization might be a major contributor to patients' relapse. Indeed, comorbid mood disorders are an important obstacle to long-term abstinence as patients with SAUD who present comorbid anxiety and depression disorders suffer from a four-fold risk of relapse (Driessen et al., 2001). Furthermore, self-dehumanization was also associated with decreased drinking refusal self-efficacy, which further supports the idea that self-dehumanization could increase the relapse risk, as low drinking refusal self-efficacy is directly linked to increased alcohol consumption (Oei et al., 2005). Animalistic self-dehumanization was also associated with increased suicidal thoughts interference and decreased sociability, which have been respectively used as proxies of suicide risk and social isolation.

Overall, these associations and the fact that self-dehumanization is a mediator of metadehumanization links with other variables, further document the need to humanize patients' self-perceptions. Our results thus complement the previous calls for more humanity in medicine and psychiatry (Christoff, 2014; Haque & Waytz, 2012; Pinel, 1806) by empirically documenting that patients with SAUD feel dehumanized by others and that this feeling is associated with poor well-being and prognosis. Patients' self-perspective seems to be a good starting point for interventions aimed at rehumanizing them. The mental health professionals accompanying patients with SAUD during treatment might work with them in this regard by paying close attention to their fundamental needs: belonging, self-esteem, control, and meaning (Deci & Ryan, 2000b, 2008; Williams & Zadro, 2001).

2.1.2. Implications for nurses

Nurses' perception of being dehumanized by their superiors was linked to their burnout, depression, anxiety, and stress levels. These results are consistent with our study of SAUD patients' metadehumanization in relation to anxiety and depression and suggest that nurses who feel that they are treated inhumanly by their superiors could present an increased risk of developing burnout, depressive, or anxiety disorders. As suggested by previous work in organizational psychology, the dehumanization of employees by their organizations is thus detrimental to their well-being and mental health (Caesens et al., 2017, 2019; Nguyen & Stinglhamber, 2018). Additionally, the trickle-down of supervisors' treatment of their employees down the hierarchical ladder (Masterson, 2001; Wo et al., 2019) was supported by the association found between nurses' feelings of being dehumanized by superiors with their dehumanization of psychiatric patients. The trickle-down effect suggests that hospital interventions aiming at improving the attitudes of their employees toward patients should take into account procedures and interpersonal treatments at all hierarchical levels from top to bottom because distal managerial practices might ultimately affect patients. Managers of health care workers should consider this finding and work on humanizing their relations with employees.

Moreover, our results did not support the proposal that dehumanization constitutes an efficient coping strategy for nurses. Previous research proposed that the dehumanization of patients could be used by nurses to protect themselves against burnout (Cameron et al., 2016; Vaes & Muratore, 2013). However, in chapter 8, no significant relation was found between the dehumanization of patients and nurses' burnout. Likewise, depression, anxiety, and stress levels were also assessed to investigate if the previously proposed protective role of dehumanization could extend to them, but no significant relation was found between dehumanization and these variables. At the time, there is no strong empirical evidence supporting a positive effect of dehumanization, while there is much evidence regarding its negative consequences (Bandura, 1999; Mekawi et al., 2019; Morris et al., 2018; Viki et al., 2013). The current state of the literature strongly advocates for a reduction of dehumanization (Christoff, 2014).

2.2. Implications for research

2.2.1. Identification of new variables linked to dehumanization

A multidimensional approach to stigma and dehumanization

The relation between stigma and dehumanization was already reported from the perspective of the dehumanizer (Cameron et al., 2016; Harris & Fiske, 2006), but we showed that this relation is also relevant from the victims' perspective. Besides, self-stigma was decomposed to provide more details regarding the specific pattern of associations with metadehumanization and self-dehumanization. Namely, stigma awareness was associated with metadehumanization, whereas stigma's application to the self was associated with self-dehumanization. Accordingly, research on dehumanization from the dehumanizer's perspective could adopt a similar multidimensional approach of stigma and dehumanization. Namely, in order to acquire a deepened understanding of society's stigmatization and dehumanization of specific groups, it would be interesting to explore how individuals' awareness of the stigma and societal dehumanization against some groups drive their own stigmatization and dehumanization levels against these specific groups.

Environmental factors and metadehumanization

Previous research on dehumanization mainly focused on social or situational variables (Haslam, 2006; Haslam & Stratemeyer, 2016; Yang et al., 2015; Zhang et al., 2017). Environmental factors have not yet been the focus of research, but this thesis has highlighted that patients with SAUD's satisfaction with the hospital environment was negatively associated with metadehumanization. Physical environments might indirectly convey other people's perception of a group; it could thus be a vector of dehumanization. For example, crowded environments and tiny spaces could be dehumanizing because they are less considering of human uniqueness and humans' needs. Common metaphors echo this proposition, as some expressions related to environmental characteristics denote dehumanizing or over-humanizing features (e.g., "We are packed like sardines" or "king bedroom").

In the case of patients with SAUD, more specifically, the quality of their environment during the hospitalization is almost exclusively determined by others. Psychiatric hospital funding is partly decided at the level of the state by politicians; such funding ultimately influences the quality of hospitals'

environment. The architects and the medical directors decide on the design and architecture of the buildings. Day to day aspects of the hospital's environment, such as cleanliness, noisiness, and decorations, are decided or influenced by hospital employees. Dehumanization of patients by politicians, medical directors, and other employees might thus be reflected in the quality of medical environments. We argue that environments are often less qualitative for dehumanized populations, such as older people in nursing homes, prisoners, and psychiatric patients. One could rightly argue that economic factors also play an important role in determining the quality of these environments. However, as we have shown in our study among nurses, dehumanization, and resource allocations are linked. The lack of economic resources dedicated to hospital environments could also be driven by dehumanization. While, at this stage, this proposal is partly based on circumstantial evidence, we argue that more research on this subject would be warranted.

Self-dehumanization in relation to metadehumanization

Very few articles have investigated self-dehumanization (Bastian et al., 2013; Diniz et al., 2019; Sakalaki et al., 2016). In their review of self- and other-dehumanization in health-related contexts, Diniz and colleagues (2019) reported 38 studies on self-dehumanization. However, most studies categorized in "self-dehumanization" actually investigated self-objectifying body metaphors (i.e., metaphors assimilating one's body to an object such as "car with only three wheels," "time bomb," or "faulty machine"). Moreover, to the best of our knowledge, no study investigated the association between metadehumanization and self-dehumanization. The newly found relation between metadehumanization and self-dehumanization suggests that these variables should be studied in concert. Furthermore, the role of self-dehumanization in mediating the consequences of metadehumanization should be further explored, as it is one of the first mechanisms proposed to explain the negative effects of metadehumanization.

Animalistic self-dehumanization was also, for the first time, linked to suicidal thoughts interference. This finding opens new avenues for dehumanization research in relation to suicidality. Future research will have to determine if this association holds in other populations or using other measures. The mechanisms involved in this association will have to be investigated, as well. We propose that one explanatory mechanism could be the disinhibition of violent behaviors. Indeed, Baumeister's (1990) "Suicide as escape from the

self" model proposes that the last step before suicide completion is a reduction of inhibition, in the sense that previously inhibited behaviors can appear as viable options. Congruently, Bandura (1975) demonstrated that dehumanization could unlock violent behaviors such as painful electroshocks that were otherwise inhibited. As dehumanization of others unlocks aversive behaviors directed at them (Fiske et al., 2004; Littman & Paluck, 2015; Mekawi et al., 2016), we hereby propose that self-dehumanization operates similarly, thus unlocking self-directed aversive behaviors such as auto-mutilation and suicide. The link between self-dehumanization and the disinhibition of self-directed aversive behaviors has never been investigated. This could thus constitute the next logical step of this line of research.

Another mechanism that could explain the association between animalistic self-dehumanization and suicidal thoughts interference might be increased mortality salience (Burke et al., 2010). Indeed, according to the Terror Management Theory, mortality salience motivates humans to differentiate themselves from animals as a way to distance themselves from the mortality associated with humans' animal nature (Goldenberg et al., 2001). According to this theory, cultural worldviews and affirmation of self-esteem are used to buffer the anxiety that is provoked by mortality salience, a proposition that found empirical support in a meta-analysis (Burke et al., 2010). If mortality salience can motivate humans to differentiate themselves from animals to reduce the anxiety provoked by mortality salience, then an increased association with animals as measured by an implicit association test of animalistic self-dehumanization could be associated with increased mortality salience. Mortality salience might be the missing link between animalistic self-dehumanization and increased suicidal thoughts interference.

2.2.2. Dehumanization as coping

In the current literature, the dehumanization of patients is largely believed to serve as a coping strategy allowing protection from burnout through distancing from patients suffering (Cameron et al., 2016; Capozza et al., 2016; Trifiletti et al., 2014; Vaes & Muratore, 2013). However, no such effect was found in our results. Nurses' metadehumanization might be more closely associated with their burnout levels, thus suppressing the effect of dehumanization of patients. While a null finding does not necessarily mean that an effect is absent, a non-replication still calls for caution regarding the previously reported association between dehumanization and reduced

burnout. Furthermore, in light of the identification of self-dehumanization and fundamental needs threat as key variables regarding metadehumanization, research on this topic should be replicated with assessments of self-dehumanization and fundamental needs to check if other effects of metadehumanization are also mediated by self-dehumanization and fundamental needs.

2.2.1. Bridging research fields

Too often, researchers' choice of methods and variables of interest are dictated by their discipline and by the paradigm in which they are inscribed. While this Ph.D. thesis does not fully escape this predicament, one of its virtue is to bridge the fields of clinical psychology, social psychology, and psychiatry in a way that might benefit these three fields. Indeed, metadehumanization, a variable originating from social psychology, provided meaningful information for alcohol use disorders, thus deepening our understanding of these disorders and informing clinical treatment.

As metadehumanization is supposed to be mainly based on social interactions (Bastian & Haslam, 2011; Kteily et al., 2016; Zhang et al., 2017), this thesis also further documents the need to take into consideration other social factors (such as quality of contacts, stigma, micro-aggressions[12], social exclusion, and social support) when exploring alcohol use disorders and other mental disorders. Previous research projects have also demonstrated the benefits of using methods from the field of neuropsychology and neurology to improve the study of social processes such as dehumanization (e.g., Harris & Fiske, 2006; Jack, Dawson, & Norr, 2013). Overcoming the limits of current paradigms and crossing research fields' boundaries have the potential of deepening and renewing current knowledge and should remain research priorities.

[12] "Brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional" (Sue et al., 2007, p. 1)

2.2.2. Dissociation of direct and indirect assessments of dehumanization

Despite its recency, the field of research on dehumanization used a widely diversified panel of methods and measures encompassing qualitative interviews (Raja et al., 2015), analyses of mediatic content (Steuter & Wills, 2010), various questionnaires (Haslam, 2006), secondary emotions attribution (Leyens et al., 2000; Martherus et al., 2019), and neuroimaging (Harris & Fiske, 2006; Jack, Dawson, & Norr, 2013). Much variety can be found in the questionnaires used as well, as researchers have used multiple versions of human traits attribution (Andrighetto et al., 2014; Bain et al., 2009; Vaes et al., 2014), the Human Ascent Scale (Kteily et al., 2015), as well as dehumanizing metaphors (Loughnan et al., 2014), to cite a few. Overall, this considerable variety might suggest that we have not yet identified a gold-standard measure of the concept of dehumanization.

Furthermore, while research on dehumanization is characterized by a high diversity of assessments, there is arguably little discussion on the implication of such variety on the comparisons across findings. Likewise, differences in the explicit-implicit nature of these measures are also seldomly discussed despite this distinction being highly influential of how measures relate to attitudes, emotions, and behaviors (Krieger et al., 2010; Peris et al., 2008; Stier & Hinshaw, 2007). Our findings illustrate that implicit animalistic self-dehumanization is associated with suicide thoughts interference as assessed by a suicide Stroop Task, but not with suicidal ideations as self-reported by participants using the Scale for Suicidal Ideations (Beck et al., 1979). Our work calls for more consideration of the differences in measures used in dehumanization research, notably regarding their explicit-implicit nature. A simple but important contribution to dehumanization research would be to examine if the various measures proposed present sufficient covariance to be compared.

3. Limits and perspectives

While this Ph.D. thesis lays some of the foundational knowledge needed in the field of dehumanization in psychiatry and SAUD, more research is needed to replicate, deepen, and extend its findings. As psychology research is based on cumulative evidence, the results presented in this Ph.D. thesis should be replicated in similar designs, measures, and populations. However, these results should also be tested with different designs,

measures, and populations to determine the scope of their generalization. While the results of our different studies are congruent between them, replications will verify their robustness in other clinical populations, clinical settings, and cultures. The need for replication is a general consideration that applies to any project; however, other limits more specific to this Ph.D. thesis will be presented in the following sections. Some limits mentioned below specifically apply to this Ph.D. thesis; others apply more generally to the literature on dehumanization in which this Ph.D. thesis is inscribed. Identifying such limits is primordial as, once identified, they can be overcome, ultimately pushing the discipline forward.

Altogether, this thesis unveiled new associations between dehumanization processes and clinical factors. From the perspective of patients with SAUD, the associations reported between metadehumanization and patients' coping strategies, emotions, and psychopathological comorbidities suggest that metadehumanization could be closely linked to patients' clinical prognosis. From the nurses' perspective, their perception of being dehumanized by their superiors was linked to the dehumanization of patients and increased burnout, depression, anxiety, and stress. These findings open new avenues for research on these topics. Multiple perspectives will thus be proposed on this basis.

3.1. Cross-sectional designs

The most limiting aspect of this Ph.D. thesis may be the use of cross-sectional designs that do not allow for causal interpretations. Cross-sectional designs are useful to study new topics, such as the one we investigated. However, once this groundwork is done, it is important to transit toward other methods, which allow drawing conclusions regarding causality. The theoretical models proposed in this thesis have been designed to be the most logical regarding their plausible causalities. Nevertheless, while we tried to build our models on evidence brought by past research, we cannot provide any information regarding the directionality of our effects, and interpretations were thus made cautiously to avoid causal interpretation. However, it is important to overcome this limitation, and new research is being conducted using experimental and longitudinal designs to allow for causal inferences.

3.2. Multiplicity control

The models tested in this document include multiple variables, and many links were thus investigated in each study. Many parameters have been estimated throughout the manuscript and with the multiplication of the parameters estimated comes an increased risk of finding a significant effect where none should be found (Smith & Cribbie, 2013). This is a common problem in research using structural equation modeling, of which path analyses are part, and this issue should thus be addressed in future works (Smith & Cribbie, 2013). The Bonferroni method has been criticized as overly conservative for models with high correlations between factors, but adapted procedures such as the false discovery rate controlling step-up Bonferroni or hierarchical Bayesian models might address this issue (Gelman et al., 2012; Smith & Cribbie, 2013). The analyses conducted in this thesis were, however, all based on a priori hypotheses drawn from state-of-the-art studies in the domain.

3.3. The shortcomings of dehumanization research

3.3.1. Dehumanization without a threshold and relative dehumanization

The literature is filled with examples of dehumanized populations (e.g., women, employees, patients, black people, children, cyclists); our work contribute to these examples (Boccato et al., 2015; Caesens et al., 2019; Delbosc et al., 2019; Goff et al., 2014; Trifiletti et al., 2014). Yet, despite the numerous claims that a certain population is dehumanized by others, no threshold of dehumanization exist. Most often, authors conclude that dehumanization is present when one target is less humanized than another target. However, dehumanization is defined as the denial of humanity (Fincher et al., 2018), not the relatively diminished attribution of humanity to one target compared to another. In this regard, we argue that the word “infrahumanization” (Leyens et al., 2007) would be better suited to describe what is currently studied in most of the dehumanization literature as it is defined as the relative reduced attribution of humanity to one target compared to another. While this might appear as a simple terminology issue, the fact that dehumanization is often identified based on comparison feeds other critical problems for the dehumanization literature.

First, dehumanization, as currently operationalized, cannot be distinguished from over humanization. Indeed, if two targets are compared, and one is less

humanized than the other, it could mean that one target is infrahumanized, that one target is over humanized, or both.

Second, as dehumanization is the dominant term, research on the topic is characterized by an “all or nothing” perspective in which targets are either humanized or dehumanized. However, instead of this bimodal perspective, it is much more plausible that dehumanization and humanization are the two ends of a single continuum. Adopting a continuum perspective of dehumanization would allow for more nuanced interpretations and hypotheses.

Third, in relation to the first point mentioned, as dehumanization is always defined in relativity to another group, the conclusion that one group is dehumanized is heavily dependent on the groups chosen. For example, using the fictive groups proposed in Figure 19, comparing group B to group A would lead to the conclusion that group B is dehumanized (or group A is over humanized). In contrast, a comparison of group B with group C would lead to the conclusion that group C is dehumanized (or group B is over humanized). Thus, even with a fixed dehumanization score, group B can be considered as dehumanized or over-humanized depending solely on the group to which it is compared.

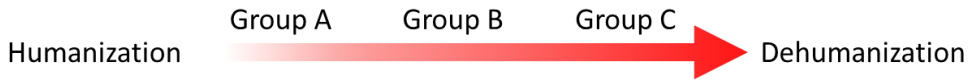

Figure 19. An illustrative example of the relative dehumanization issue

These issues, which involve problems of terminology and methods, heavily affect the quality and reliability of dehumanization research. Researchers in this field should thus react hastily to be more rigorous in their terminology, methods, and interpretations. Some research on blatant forms of dehumanization in which participants explicitly categorize a target as closer to animals than humans might, however, be closer to dehumanization than to infrahumanization. We propose that infrahumanization could be used instead of dehumanization for all research based on targets’ comparisons. In the absence of a shared agreement on a dehumanization threshold, the term dehumanization could be misleading. Researchers should also consider the possibility that one target is over humanized, especially when the ingroup is used in the comparison. Finally, humanization, infrahumanization, and

dehumanization should be considered as belonging to a single humanity attribution continuum.

3.3.2. Two forms of dehumanization

The most dominant model of dehumanization is Haslam's (2006) bidimensional model of dehumanization upon which part of our work was based. Alternative models proposing four or nine subtypes of dehumanization have also been proposed but were not empirically investigated, to the best of our knowledge (Li et al., 2014; Tipler & Ruscher, 2014). We recognize that the bidimensional model of dehumanization has benefits (such as being easy to grasp and experimentally implementable), but its limitations and replicability issues call for caution. Indeed, the distinction between animalistic and mechanistic dehumanization was repeatedly not found in our scales of dehumanization, self-dehumanization, and metadehumanization even though they were based on Haslam's proposed dehumanization characteristics and metaphors. Our measures of implicit self-dehumanization did distinguish between animalistic and mechanistic dehumanization. However, the implicit association test evaluated the associations between the self and animal- or object-related words and did not use the traits proposed by the bidimensional model of dehumanization. This type of assessment might have "forced" a differentiation. Numerous articles do not use the two forms of dehumanization (Bruneau & Kteily, 2017; Caesens et al., 2017; Cameron et al., 2016; Costello & Hodson, 2010; Hodson & Costello, 2007; Kteily et al., 2016; Trounson et al., 2015; to cite a few) but reasons for measuring dehumanization unidimensionally can vary, and these are, most of the time, not explicitly mentioned.

In the development of the bidimensional model of dehumanization, participants have been asked to rate personality traits to assess how they represent human uniqueness or human nature (Haslam et al., 2005). The item used to assess the human uniqueness attribute of these personality traits was "This characteristic is experienced solely by human beings and is not experienced by animals." For human nature, the item was "This characteristic is an aspect of human nature" (Haslam et al., 2005). The authors proposed that human uniqueness is defined in comparison with animals, whereas human nature is perceived as essential to humans but not defined in comparison with anything else. Other aspects, such as desirability,

valence, consistency, inherence, and morality, have also been explored by the authors. While the comparison with animals was clearly stated in their first article (Haslam et al., 2005), the definition of mechanistic dehumanization as being the comparison with objects or automaton was only proposed, without additional data to support this proposal, in another article whose first purpose was to review the literature on dehumanization (Haslam, 2006). Surprisingly, a dimension of dehumanization that was defined as not being based on comparisons became another metaphorical comparison, without empirical evidence to support this change. While this might appear like a detail, the consequences of this post hoc interpretation are far-reaching, as the use of metaphors of people as objects, tools, machines, or automaton is now widespread. We recognize that these metaphors are stimulating and facilitate the emergence of hypotheses. However, we deplore that mechanistic dehumanization has been accepted without strong empirical evidence and now has a wide and potentially misleading influence on research.

In summary, while the animal and object metaphors are easily grasped, the interpretation of the human nature dimension of dehumanization as being the comparison with objects has not been developed based on empirical evidence. While human nature traits, which are based on empirical evidence, are still used, they are often used in conjunction with the object metaphor. However, there is no evidence that human nature traits and the object metaphor measure the same thing. This point might explain part of the replication issue of the bidimensional model of dehumanization.

3.3.3. The dehumanization literature is dehumanizing

As we have previously stated, some dehumanization criteria are present in stereotypes against certain mental disorders. However, beyond stereotypes, some dehumanizing traits are objectively present in some people or clinical populations. For example, patients with SAUD are characterized by a lack of self-restraint over their alcohol consumption. This feature is at the core of their disorder and is thus not an evaluative judgment of them. If we had to evaluate the “true” characteristics of a patient with SAUD or another mental disorder, this patient would thus intrinsically score lower on some human traits, which does not mean that they are less human than others are.

Nevertheless, using these traits as the basis of humanity judgment would lead to the conclusion that they are indeed less human. Using the paradigm

of human traits, there is thus no way to combine the reduced attribution of human traits that are inherent to some mental disorders and their humanization. An objective evaluator would have no choice but to admit that they lack some characteristics such as self-restraint, which would be interpreted as dehumanization toward this population in our current paradigm, even though dehumanization might be completely absent in this person's opinion of patients.

Similarly, people with a mental illness can have a drastically altered mental life. As such, inferring their mental activity can be difficult. People might thus express a reduced tendency to consider their minds, simply because they lack the capacity to do so or because inferring their minds might require considerable cognitive resources. Nevertheless, a reduced consideration of their minds, while somehow functional, is still to be interpreted as dehumanization from the perceiver toward the persons with a mental illness.

Even when considering people with no mental disorder, not all individuals and groups can possibly present equal levels of Haslam's (2006) human traits. As differences in attribution of these traits are interpreted as evidence of dehumanization, this paradigm inevitably produces data attesting of dehumanization. Nothing else could be expected considering that Haslam's traits are originally produced using the Big Five Personality Traits (Haslam et al., 2005), and that personality evidently varies across individuals. These traits have nevertheless been selected and tested to represent human nature and human uniqueness, and their reduced attribution could thus remain somewhat indicative of dehumanization. However, using these traits, one cannot distinguish dehumanization from the correct differential perception of people's personality traits.

A good theory has to be falsifiable. However, by using attribution of human traits/personality traits, research on dehumanization inevitably "succeeds" in finding evidence of dehumanization. Consequently, the field of dehumanization research should steer away from the assessment of dehumanization using personality traits. Alternatively, researchers should embrace existing unambiguous assessments of dehumanization involving clear association to non-humans (e.g., the Human Ascent Scale or implicit association test with non-humans categories such as animals or objects) or clear denials of humanity (e.g., items such as "This person is less human than others").

3.3.4. Dehumanization is the rule, not the exception: dehumanization by default and passive inconsideration

Since its conceptualization, dehumanization has been considered as a process enabling interpersonal violence and has been proposed to appear under certain conditions encompassing the presence of conflicts, differences in power status, or particular mediatic or political coverage (Baysha, 2020; Dalsklev & Kunst, 2015; Kelman, 1973; Lammers & Stapel, 2010). A large part of research on dehumanization aimed at identifying the situational or interpersonal factors favoring the apparition of dehumanization (Haslam, 2006; Haslam & Stratemeyer, 2016). Such research identified the presence of dehumanization in intergroup relations, education, medicine, technology, pornography, disability, technology, sport, and art, to cite a few (Haslam, 2006). Dehumanization has also repeatedly been documented to be used by young children (Chas et al., 2018; Costello & Hodson, 2014; McLoughlin et al., 2018; McLoughlin & Over, 2017; Van Noorden et al., 2014). Accordingly, dehumanization is considered to be a pervasive phenomenon, occurring in everyday life, and taking subtle to blatant forms (Bastian & Haslam, 2011; Kteily & Bruneau, 2017b).

Previous research on anthropomorphism showed that lonely people tended to use anthropomorphism more easily (Epley et al., 2008). Conversely, people who were led to feel more socially connected were less likely to humanize others (Waytz & Epley, 2012). Authors reasoned that people who lack social connection might be more motivated to anthropomorphize while satisfying the need for belonging might reduce the motivation to humanize others. These projects indicate that human motivations and needs might drive humanization. However, the underlying assumption of research on dehumanization is that dehumanization is a process that manifests itself depending on certain conditions. Indeed, the literature focused on the identification of the conditions under which people would reduce humanization, thus postulating that humanization is attributed by default. Nevertheless, this proposal is hardly compatible with the wide berth of situations, groups, and cultures in which dehumanization has been documented (Bain et al., 2009; Haslam, 2006; Haslam & Stratemeyer, 2016; McLoughlin et al., 2018). Accordingly, we propose a radical change of perspective on dehumanization. Our proposal is that dehumanization could be the default state. More precisely, people would initially dehumanize

everyone else until a humanizing stimulus or motivation provokes the humanization of others. Following this proposal, humanization could be the phenomenon that occurs under certain conditions such as friendship, high-quality contact, or when the individual is in need of social interactions (Capozza et al., 2014).

In line with this proposal, it is hard to identify groups that should be fully humanized when combining all the factors that are proposed to induce dehumanization. In the same vein, one can hardly imagine that people humanize everyone except the people who present the characteristics necessary for dehumanization (or the list of dehumanized people would be much longer than the list of fully humanized individuals, thus making this theory inefficient). Indeed, if humanization was the rule and not the exception, then people should be concerned with everyone else's well-being, mental states, and suffering. On the contrary, it is much more logical, considering research on the topic, to consider that people dehumanize everyone except those who meet the conditions to be humanized.

Alternatively, researchers could distinguish dehumanization, i.e., the denial of others' humanity, from a lack of humanization, i.e., the non-perception of others' humanity. To illustrate this proposition, we will use the example of an individual walking in a particularly busy area where he/she will cross thousands of others during the day. In this instance, the individual cannot possibly fully humanize every other person. However, this does not mean that the individual dehumanizes these others, i.e., denies their humanity. The starting point when glancing at another individual for the first time might then be a middle ground, in which the other individual is neither humanized nor dehumanized, i.e., a passive non-consideration of others' humanity or inhumanity (see Figure 20, for a graphical representation of the three perspectives presented). This proposal differs from the other two by differentiating humanization from the absence of dehumanization and dehumanization from the absence of humanization. In this perspective, events and interactions could activate the consideration of others' humanity and drag the perception toward humanization or dehumanization depending on the nature of the information gained (e.g., being told "X is my friend" could trigger humanization whereas being told "X is homeless and an addict" could trigger dehumanization).

Current empirical evidence does not allow distinguishing, which perspective fits better to humans' perception of others' humanity. However, we argue that the "dehumanization by default" and "passive non-consideration" perspectives are more aligned with our current understanding of humanity attributions. Besides, most humans are arguably relatively passive regarding the suffering of unknown others, which is more congruent with the dehumanization or the absence of humanization of these others (Andrighetto et al., 2014; Cameron et al., 2016). Furthermore, cognitive capacity might also limit humans' ability to attribute full humanity to others as apprehending others' minds in all their complexity would be more cognitively demanding than not doing so (Haque & Waytz, 2012; Qureshi et al., 2010). Dehumanizing or not humanizing the majority of people that we come across is more cognitively efficient than humanizing them. This is also more consistent with the ever-increasing list of people and groups that are found to be dehumanized (Delbosc et al., 2019; Haslam, 2006; Haslam & Stratemeyer, 2016). Future research should investigate these proposals by taking into account the temporal dynamics of the humanization-dehumanization process since doing so could completely renew our understanding of these mechanisms.

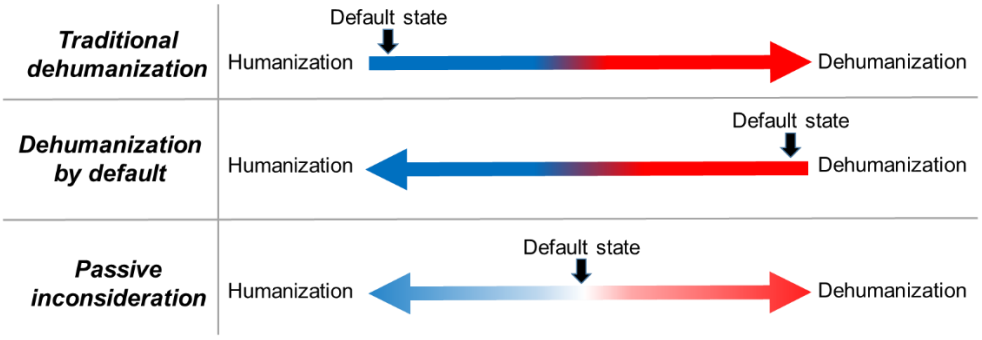

Figure 20. Three perspectives on the humanization-dehumanization continuum: traditional dehumanization, dehumanization by default, and passive inconsideration

3.3.5. A social process studied in isolation

Dehumanization is deeply anchored in social relations (Bastian et al., 2013). Some situational factors have been found to be involved in dehumanization, but most factors proposed to drive dehumanization are social (Andrighetto et al., 2016; Bastian & Haslam, 2010; Kteily et al., 2016; Zhang et al., 2014, 2017). In stark contradiction to its social nature, dehumanization is usually studied in isolation, i.e., in non-social designs where participants do not interact with others (e.g., Castano & Giner-Sorolla, 2006; Kunst et al., 2017; Martinez et al., 2011; Utych, 2018; Vasquez et al., 2014). When experiments include or pretend to include multiple individuals, they often limit the interactions to the minimum or use avatars (Bandura, 1975; Bastian & Haslam, 2010; Zhang et al., 2017). Studies in isolation are useful because they are more controlled and adjustable. However, parts of the phenomenon of dehumanization might be lost, and these paradigms lack ecological validity.

In line with the criticism that dehumanization research relies too much on designs that isolate participants, most studies generally focus on either the perspective of the perpetrator (i.e., the dehumanizer) or the victim (i.e., the dehumanized). Much insight could be gained from social designs allowing interactions as both perspectives could be connected. Such designs could provide information on how victims react to dehumanization expressed by others. For instance, some studies hinted that dehumanization could be reciprocal (Kteily et al., 2016); this proposal could thus be tested. Besides, in real life, people could be, at the same time, perpetrators and victims, but little is known about these processes, as the majority of current research paradigms restrict participants to one predetermined role.

Research designs allowing for natural interactions between participants should thus be proposed to study dehumanization. Future studies should capture the characteristics that define how dehumanizing treatments are perceived by victims, notably to address the identification of the explicit (e.g., verbal information) and implicit (e.g., voice tone, facial micro-expressions, or body posture) ways by which dehumanization could be conveyed. The behaviors and attitudes that victims could adopt to reduce dehumanization could also be of interest. New designs capturing aspects of dehumanization that were previously missed, such as the behavioral markers of dehumanization and its perceptions by victims, are needed. New paradigms

could implement dyadic or group dynamics both inside and outside the lab. Other fields studying social processes have already developed paradigms that are way ahead of what is currently done in dehumanization research, such as naturalistic interactive designs simultaneously using an eye tracker and physiological trackers to investigate pupil mimicry and physiological synchrony in the study of shared trust or attraction for example (Kret & De Dreu, 2019; Prochazkova et al., 2019). These designs should be adapted to investigate essential questions such as how people interact with dehumanized targets, why people might feel dehumanized in an interaction, or how interactions can lead to the rehumanization of an individual.

3.4. Dehumanization in alcohol use disorders

3.4.1. Metadehumanization as a risk factor in alcohol use disorders

Our studies indicate that metadehumanization and self-dehumanization could be associated with a more negative prognosis for patients with SAUD. Nevertheless, the cross-sectional nature of our research prohibits causal interpretation, and we thus do not know if metadehumanization is a key mechanism in the maintenance of SAUD or a by-product of these disorders. This point will thus have to be addressed extensively in future research. Nevertheless, our research in heavy drinkers brings valuable information regarding this aspect as heavy drinkers report metadehumanization levels that are quite similar to patients with SAUD. Our results suggest that metadehumanization is not a consequence of SAUD as it is already present in people whose alcohol consumption has not yet evolved toward SAUD. Whether metadehumanization is directly involved in the emergence of SAUD is, however, a question that we are unable to answer at the time. Cohort studies in non-clinical populations could provide an answer by examining whether metadehumanization levels are predictive of people's development of alcohol use disorders. Additionally, following the associations reported between metadehumanization and depression and anxiety in patients with SAUD in Chapter 4 (and the same associations reported in nurses in Chapter 8), metadehumanization might also be implicated in the development of other psychopathological states. A large cohort study investigating the development of mental disorders in the general population could thus provide essential information regarding the potential role of metadehumanization in the development of alcohol use disorders and other mental disorders.

3.4.2. Metadehumanization's role in SAUD maintenance

In the same vein, we found metadehumanization to be closely related to factors implicated in the maintenance of SAUD, among which negative emotions, reduced self-esteem, alcohol use as a coping strategy, depression, and anxiety. Considering these associations, we argue that metadehumanization could be a factor implicated in the maintenance of alcohol use disorders. To test this hypothesis, longitudinal studies among patients with SAUD could follow the evolution of their metadehumanization levels in relation to their abstinence status, to check if the metadehumanization levels reported by patients could predict their relapse risk. Another way to approach this proposition could be to use Ecological Momentary Assessment (EMA) protocols, which allow for the frequent assessment of multiple factors to investigate their temporal associations. By multiplying the number of measures, these designs also allow smaller samples; this aspect could constitute an important benefit for the study of hard-to-reach clinical populations such as people with SAUD.

Understanding the temporal dynamics of metadehumanization in relation to social conflicts is an aspect that is currently lacking in research. Such designs could reveal the potential role of social conflicts in eliciting metadehumanization, alcohol craving, and relapse. Successive causal relations between these variables would make sense, considering that metadehumanization arises from interpersonal maltreatments and social exclusion (Bastian & Haslam, 2010, 2011). Moreover, social conflicts have been identified as one of the main reasons for relapses (Zywiak, Stout, Trefry, et al., 2006), and alcohol craving is extensively documented to predict alcohol relapse (see Sliedrecht et al., 2019, for a review). Using EMA to investigate the temporal associations between these variables could thus bring essential information regarding the roles of interpersonal conflicts and metadehumanization in the relapse of patients with SAUD. These designs could also be used to investigate the causal relations proposed by the theoretical model that can be derived from our results (see Figure 21). This model connects the social life and physical environments of patients with SAUD to their metadehumanization, which in turn is linked to fundamental needs threat and self-dehumanization. These two mediators are connected, in turn, to patients' emotions, cognitions, behaviors, and psychopathology.

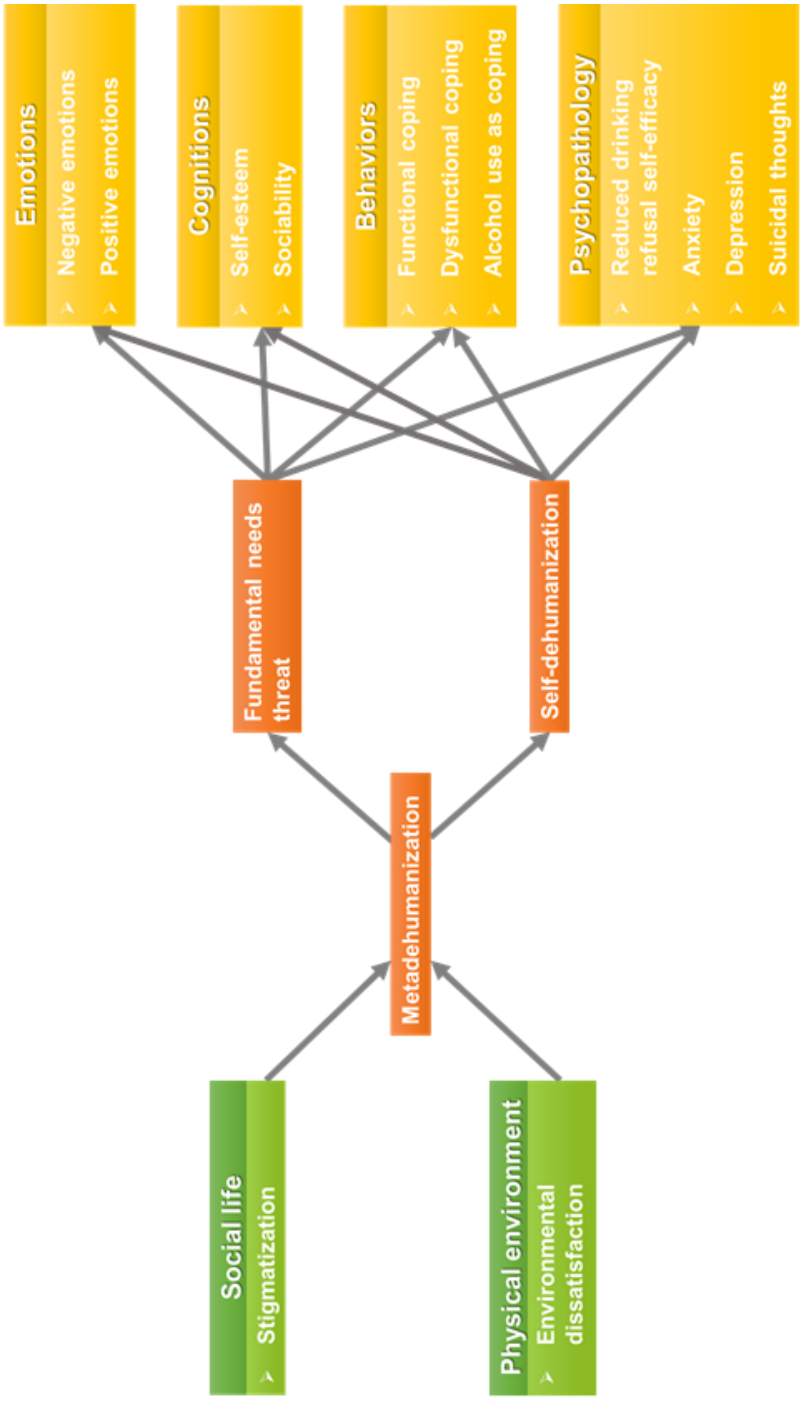

Figure 21. The theoretical model proposed based on the integration of findings in patients with SAUD

3.4.3. Metadehumanization and detoxification treatment

This thesis unveiled that patients with SAUD feel dehumanized during treatment, and nurses tend to express more dehumanization toward patients with SAUD than toward other types of patients, such as patients with cardiac disorders or schizophrenia. These findings provide valuable information regarding patients' experience in clinical settings but also opens many additional questions that will have to be answered in upcoming research projects. Indeed, while we documented that patients with SAUD could feel dehumanized during treatment, nothing is currently known regarding the potential impact of clinical treatment on patients' perception of being dehumanized by others.

Depending on the perspective taken, medical treatments could be perceived as humanizing or dehumanizing. On the one hand, multiple elements point toward clinical settings as potentially dehumanizing (Christoff, 2014; Haque & Waytz, 2012; Robbins, 2018). Dehumanization has been observed in medical staff toward patients (Vaes & Muratore, 2013). Our results showed that this dehumanization might be particularly strong against patients with SAUD (Chapter 8). Being labeled as suffering from a mental disorder can be dehumanizing in itself (Martinez et al., 2011), but other types of patients have also expressed feeling dehumanized in qualitative interviews (Raja et al., 2015).

On the other hand, detoxification treatment can provide patients with an opportunity to recover some human characteristics such as self-restraint. While dehumanization can be found in hospital settings, patients could also potentially benefit from humanizing contacts with medical staff and co-patients (Capozza et al., 2014, 2016). Not much evidence currently exists to support the potential humanizing effects of treatment, but what better place to be rehumanized than a place of care?

3.5. Dehumanization has to be explored in other clinical populations

Nurses' perception of being dehumanized by their superiors was linked to their burnout, depression, anxiety, and stress levels. These findings agree with our results regarding SAUD patients' metadehumanization in relation to anxiety and depression. This suggests that metadehumanization and self-dehumanization could be relevant in the study of mood disorders. Metadehumanization's associations with psychopathological states do not

seem to be limited to patients with SAUD and might also extend to other clinical populations. The novel findings linking self-dehumanization with suicidal thoughts interference suggest that metadehumanization could be studied in suicidal individuals. Moreover, our study of nurses' dehumanization of patients revealed that patients with schizophrenia were also more dehumanized than patients with cardiovascular disease. Overall, these results broaden the range of populations in which metadehumanization and self-dehumanization should be investigated. Not only do they emphasize that these processes are of particular interest in psychiatric populations, but they also complement past studies showing that these processes might also be relevant for not-stigmatized populations such as nurses and heavy drinkers.

3.6. The temporal dynamics of dehumanization

Some benefits of investigating the temporal dynamics of metadehumanization in SAUD have already been developed above. However, studying these temporal dynamics could yield benefits beyond the SAUD field. Indeed, it might provide answers to current gaps in our understanding of dehumanization and its related processes. The methods used in the field have not explored temporal fluctuations of dehumanization, so that the unfolding of dehumanization in interpersonal interactions remains unexplored. While it has been proposed that dehumanization and humanization might operate alternatively depending on contextual changes (Harris, 2017), future empirical research will have to investigate such fluctuations. Research in this domain will provide the much-needed knowledge on how an individual in an interaction might change his/her perception of another's humanity. For example, previous research has established that some information can lead to the dehumanization or, conversely, to the humanization of a target. However, nothing is known about situations where dehumanizing and humanizing information are provided in succession, which might lead to successive dehumanization and humanization of the same target in reaction to the assimilation of such information.

3.7. The neural correlates of dehumanization

Since there is abundant evidence showing that dehumanization can cause much harm from the dehumanizer toward the victim, it is interesting to gain a better understanding of the neural processes underpinning

dehumanization and its disinhibiting effects. The very first neuroimaging study exploring dehumanization compared participants' neural activations when passively observing pictures of people belonging to various groups (Harris & Fiske, 2006). These groups were categorized in terms of competence and warmth based on known stereotypes. More precisely, this study used the stereotype content model (Fiske et al., 2002) to categorize these groups in four quadrants: high competence high warmth (e.g., Olympic athletes), high competence low warmth (e.g., business professionals), low competence high warmth (e.g., older adults), and low competence low warmth (e.g., drug addicts; Harris & Fiske, 2006). Participants' brain activations differed when observing highly stigmatized groups (i.e., groups categorized as low in competence and low in warmth) compared to the other groups (Harris & Fiske, 2006). The medial prefrontal cortex (mPFC), an area essential for social cognition, was less activated for the highly stigmatized groups (Harris & Fiske, 2006). A similar pattern of brain activation was found when people were observing objects instead of people (Harris & Fiske, 2006).

Furthermore, these highly stigmatized groups elicited increased insula and amygdala activations, which were interpreted by the authors as a sign of disgust from participants toward these specific groups (Harris & Fiske, 2006). The reduced mPFC activity for extreme outgroups has been replicated (Harris & Fiske, 2007). However, this effect can be partly counteracted by asking participants to infer individuating information (food preferences in this case) about the groups observed (Harris & Fiske, 2007).

Two other studies investigated dehumanization-related neural correlates to disentangle the neural signatures associated with mechanistic and animalistic dehumanization, as proposed by Haslam's bidimensional model of dehumanization (Haslam, 2006). The first study manipulated the perception of animalistic and mechanistic dehumanization using pictures and text descriptions of different situations involving people (Jack, Dawson, & Norr, 2013). These people could be either humanized or dehumanized according to the two dimensions of dehumanization, resulting in four conditions (animalistic humanization, animalistic dehumanization, mechanistic humanization, and mechanistic dehumanization). The second study investigated the direct observation of humans, machines, and animals without social context. Jack, Dawnson, & Norr (2013) focused on two cortical networks: the default mode network (DMN) and the task-positive network

(TPN). Previous brain imagining studies revealed that these networks share a mutually inhibitory relationship (Jack, Dawson, Begany, et al., 2013). The default mode network is activated during social reasoning tasks during which the task-positive network is deactivated. On the contrary, tasks centered on mechanical reasoning activate the task-positive network and deactivate the default mode network (Jack & Robbins, 2012).

Data from both studies supported the idea that humanizing conditions are associated with higher activity in the default mode network and lower activity in the task-positive network (Jack, Dawson, & Norr, 2013). Comparisons between animalistic dehumanization and humanizing conditions were mostly marked by differences in regions associated with mechanistic reasoning, i.e., the task-positive network (Jack, Dawson, & Norr, 2013). Furthermore, they identified a medial-parietal region central to the default mode network as the main marker of human perception (Jack, Dawson, & Norr, 2013).

Research has thus started mapping the activations associated with the dehumanization of others (Harris & Fiske, 2006; Jack, Dawson, & Norr, 2013). Gaining this information is invaluable; however, the neural correlates of individuals' perception of being dehumanized by others remain unexplored. The next logical step for the identification of brain activations in the field of dehumanization would therefore be to explore victims' brain activations when experiencing metadehumanization. The procedures used in the literature to induce metadehumanization (e.g., false feedbacks from others or recall of dehumanizing treatments; Bastian & Haslam, 2011; Zhang et al., 2017) could be used to this end. This first investigation could be coupled with a study comparing the cerebral activity of patients with SAUD's and control participants.

Multiple characteristics of patients with SAUD support the assumption that they would experience metadehumanization differently than people without SAUD. Indeed, patients with SAUD are characterized by specific impairments in social cognition (Bora & Zorlu, 2016). The affective subcomponent of their Theory of Mind abilities is impaired (F. Maurage et al., 2015). In the same vein, patients with SAUD display decreased abilities to infer other individuals' emotions from facial expressions, prosody, and body postures (Bora & Zorlu, 2016; P. Maurage et al., 2009). Finally, they are particularly sensitive to social rejection. They exhibit increased brain activations associated with social rejection, and these activations remain

observable for a longer period than controls after re-inclusion (P. Maurage et al., 2012).

In conclusion, patients with SAUD are impaired in their ability to accurately perceive others' mental states, particularly regarding their emotions, and they are also particularly sensitive to ostracism (Bora & Zorlu, 2016; P. Maurage et al., 2012). Their increased sensitivity to social rejection might extend to dehumanization, and their impaired social cognitive abilities could disrupt the accurate interpretations of how others treat them. Based on these studies, future work will have to investigate patients with SAUD's reactions to dehumanizing interpersonal treatments.

4. Interventions and improvements of medical settings to reduce dehumanization

Many have denounced medicine as dehumanizing (Capozza et al., 2016; Haque & Waytz, 2012; Robbins, 2018). Characteristics of medical settings that are considered to favor dehumanization have thus been identified. Most often, researchers have proposed guidelines to humanize care. However, most of these guidelines have not yet been empirically tested. These guidelines will be described to inform clinicians and researchers, but future research will have to determine their effectiveness. In addition to these general guidelines that have been proposed to humanize clinical care, other proposals have been empirically investigated outside the field of medicine. These interventions will also be presented because many of those could be applied or adapted to clinical settings.

4.1. Clinical recommendations for humanizing care

Researchers have emphasized that caretakers should be concerned by the patients and should perceive them as unique and irreplaceable persons (Howard et al., 1977). Patients should also benefit from equal status and be treated with empathy and warmth (Howard et al., 1977). Nevertheless, most factors proposed to contribute to dehumanization pertain to the organization or the institution (Christoff, 2014; Haque & Waytz, 2012; Taskin et al., 2019). As a result, guidelines to favor humanizing practices often focus on the improvement of institutional rules and procedures.

To reduce dehumanization, the institution should let patients act as autonomous persons with the right to make decisions regarding their own destinies (Howard et al., 1977). Moreover, decisions regarding their care

should be taken and discussed with them to favor reciprocal relationships instead of patronizing ones. Of course, these propositions can be operated when conditions are favorable enough to permit them. They might not always apply depending on patients' mental disorders, legal dispositions, and physical constraints. These authors emphasized that the same considerations should be applied to health care workers (Howard et al., 1977), which makes sense for both health care workers' and patients' sake (Wo et al., 2019).

As deindividuation has been identified as a factor reinforcing dehumanization perception, individuation is proposed to favor humanizing contacts in hospital settings (Haque & Waytz, 2012). Concretely, medical staff uniforms could be personalized to improve the identification and individualization of the wearer (Haque & Waytz, 2012). Some features could be kept to favor the identification of the function of the individual (e.g., long white coats for doctors), while others could be modified to enable the individual to express its uniqueness. The same process could be applied to patients' hospital gowns and rooms to ease the recognition of patients as unique individuals by the staff. The positive effect of individuation as a method to increase humanization has been supported by a neuroimaging experiment in which asking participants to infer dehumanized individuals' food preference elicited increased mPFC activations (Harris & Fiske, 2007).

A lack of agency also drives dehumanization (Haslam, 2006) and is one of the dysfunctional causes of dehumanization in medicine identified by Haque and Waytz (2012). Hospital settings should thus incorporate procedures to favor patients' agency. This could be implemented by giving responsibilities to patients (e.g., caring for plants or mentoring another patient; Haque & Waytz, 2012). Patients should also be included as much as possible in the decisions regarding their care. All behaviors that can contribute to patients' recovery should also be communicated to them, even if these factors are only distal (e.g., short daily walks, meditation, listening to music). These directions, besides improving patients' mood, could also give them the feeling of acting toward their recovery and improve their perceived agency.

Furthermore, patients-staff dissimilarity could also be tackled to favor patients' humanization. Haque and Waytz (2012) emphasized that physicians tend to differ largely from the general population on multiple aspects such as socioeconomic status, gender, and ethnicity. Improving

access to medical training could thus increase the diversity of the physicians' population and thus make it more similar to that of patients. Improving access to medical training could thus make the physicians' population more diverse and thus more similar to patients. In addition to this strategy, it is also important to humanize contacts even when patients and medical staff differ on one or multiple aspects. One way to do so could be to emphasize the supraordinal human identity (Haque & Waytz, 2012). Indeed, we are all humans, even if we are all different. This calls for the end of the usage of the term "race" to categorize groups of humans in all scientific, medical, media, and political communications, as this term is a major contributor to disparity, notably regarding health care (A. R. Green et al., 2007; Kimball et al., 2014; Profit et al., 2017; Sharma et al., 2016).

As previously stated, Haque and Waytz (2012) also identified three functional causes of dehumanization in medical settings: mechanization, empathy reduction, and moral disengagement. These causes are qualified as functional because they serve a purpose and thus present benefits, at least for the medical professionals, but maybe also for the quality of patient care. However, medical settings modifications have been proposed to counter these three functional causes of dehumanization. Personification[13] and humanizing procedures could be implemented to counteract the dehumanizing effects of mechanization (Haque & Waytz, 2012). In concrete terms, patients' personal information could be used in routine procedures to favor the consideration of patients as humans. Namely, during hospital rounds, medical staff could develop the habit of providing at least one personal information about the patient before discussing the clinical case per se (Haque & Waytz, 2012). A similar procedure is recommended before surgical procedures; it is proposed that medical staff could shortly describe the personal information that they have about the patient life narrative (Haque & Waytz, 2012).

[13] Regarding the distinction of personification and individuation, personification focused on distinguishing persons form objects whereas individuation focus on distinguishing individuals from individuals (Haque & Waytz, 2012). Personification is thus the opposite of mechanistic dehumanization whereas individuation is the opposite of deindividuation.

It is surprising that Haque and Waytz (2012) present these causes as functional and then proceed to propose ways to reduce them in medical settings without considering and balancing the beneficial aspects that could be lost by this reduction. For example, they suggest improving patients' humanization before and during surgical procedures, notably through the use of transparent rather than opaque covering materials, so that the patient remains identifiable and thus humanized during the whole procedure (Haque & Waytz, 2012). However, mechanization is proposed to be beneficial to analytical thinking and precise procedures (Jack, Dawson, & Norr, 2013; Jack, Dawson, Begany, et al., 2013). While it is important to reduce mechanization, especially in contacts with patients, Haque and Waytz (2012)'s proposition to reduce mechanization during surgical procedures should be considered with care as the benefits of reducing mechanization during surgeries should be compared to the costs coming from these alterations.

On the plus side, reducing mechanization might improve physicians' involvement in the procedures, reduce medical errors, and encourage caution in patient handling (Haque & Waytz, 2012). Nevertheless, favoring humanization in surgical operations and other precise interventions could also have dangerous side effects that should be investigated. Following the neurophysiological conceptualization of the task-positive network and its bidirectional inhibiting relationship with the default mode network (Jack, Dawson, Begany, et al., 2013), humanization could reduce the quality of analytical and operational thinking. While this would not be a problem for relatively easy tasks that do not challenge physicians' cognitive capacities (e.g., diagnosing common diseases), more complex tasks could be affected, thus potentially threatening patients' care. Indeed, surgeons often have to perform long-winded and extremely exhausting surgical interventions where small errors can induce life-threatening long-term consequences. During these operations, surgeons' concentration and cognitive abilities are sorely put to the test. The additional distractions and worries that could come with humanizing a patient during an operation could have potentially devastating consequences when medical staff capacities are already at their limit. While, at the time, we cannot affirm with full confidence that these risks would exceed the benefits stemming from patients' humanization in these types of procedures, we cannot state the opposite either. We would thus recommend

conducting more research to evaluate the balance of risks and benefits when promoting patients' humanization during demanding operations.

Finally, even though humanizing care appears as a noble goal, dehumanization should not be considered as exclusively negative. Despite being implicated in many detrimental interpersonal behaviors, dehumanization could also fulfill a functional role for the dehumanizer. For example, dehumanization could protect the dehumanizer's wellbeing by allowing a distance from others' suffering, thus granting protection against emotional exhaustion (Cameron et al., 2016; Vaes & Muratore, 2013). Another use of dehumanization might be to preserve cognitive resources. Indeed, recognizing the mind of others should logically demand more cognitive resources than not doing so (Harris, 2017). Dehumanizing others might thus free up mental resources. Tackling dehumanization might thus have a cognitive cost. Ironically, this cognitive cost might reduce people's ability to act without negative bias toward stigmatized individuals such as people with SAUD (Krendl, 2018). The side effect of reducing dehumanization might thus be, in some cases, to increase discrimination. Future work on dehumanization reduction should thus examine whether an increase in discrimination and cognitive load emerges from considering minds that were previously neglected. More generally, both dysfunctional and functional uses of dehumanization will have to be considered simultaneously to ensure that interventions on dehumanization tackle its negative consequences but still manage to fulfill its functions, potentially through alternative strategies (e.g., organizational changes to alleviate medical staff's emotional exhaustion and cognitive load).

4.2. Evidence-based interventions to reduce dehumanization

Considering the wide range of aversive interpersonal behaviors and attitudes associated with dehumanization, multiple interventions have been developed and have empirically demonstrated their effectiveness in reducing dehumanization: intergroup contact, increasing intergroup emotional similarity, favoring human-animal similarity, favoring multiple categorizations of outgroup members, and increasing metahumanization. It should be noted that these interventions could be used in complement to evidence-based interventions reducing stigma (e.g., see Pescosolido et al., 2020 for an example) to foster synergetic effects.

4.2.1. Intergroup contacts, direct friendship, and imagined contacts

Improving intergroup contacts constitutes the main avenue to reduce dehumanization (Capozza et al., 2014). Capozza, Trifiletti, and colleagues (2013) proposed that the effect of intergroup contacts on dehumanization is mediated by participants' perceptions and attitudes toward the outgroup. In two studies, intergroup contacts were associated with increased adoption of a common identity and decreased salience of group boundaries, and these altered group perceptions were associated with increased empathy toward the outgroup and lower anxiety (Capozza, Trifiletti, et al., 2013). These attitudes were, in turn, associated with less outgroup dehumanization (Capozza, Trifiletti, et al., 2013).

In the same vein, friendship with outgroup members was linked to increased humanization of this outgroup through the inclusion of the outgroup in the self (Capozza, Falvo, et al., 2013). Extended contacts with outgroup members were also associated with decreased dehumanization mediated by the improvement of ingroup norms (i.e., perceiving that the ingroup has more positive norms toward the outgroup; Capozza, Falvo, et al., 2013).

The effects of intergroup contacts, direct friendship, and extended contacts are interesting, but they are not easily put into practice in real-life situations. However, imagined contacts show promising results and are easily implementable. For instance, imagining contacts with an immigrant child improved children's attitudes toward the immigrant child (Vezzali et al., 2012). More humanity was attributed to the immigrant child, and children were more willing to meet, play, and invite the immigrant child; both effects were mediated by outgroup trust (Vezzali et al., 2012). In adults, imagined contacts were also sufficient to elicit the humanization of homeless people, namely an extremely stigmatized outgroup (Falvo et al., 2015; Harris & Fiske, 2006).

4.2.2. Increasing intergroup emotional similarity

Originally designed to increase attraction and liking, the promotion of a sense of interpersonal similarity has been adapted to dehumanization in intergroup settings. In order to avoid producing a threat to one's unique social identity, which could provoke a counter effect, researchers focused on emotional similarity rather than value or attitudinal similarity. To manipulate intergroup

emotional similarity, participants read an anger-eliciting story and were led to believe that outgroup members reacted similarly. Interestingly, the study was implemented in an ecological long-lasting conflict where strong dehumanizing tendencies are observed, namely the Israeli-Palestinian conflict (McDonald et al., 2015). Israeli participants were thus led to believe that their emotional reactions were similar to Palestinians. The emotional similarity was associated with increased humanization of the outgroup as well as increased willingness to support policies aimed at conciliatory efforts with Palestinians (McDonald et al., 2015). Increasing intergroup emotional similarity thus seems to be a promising avenue for dehumanization reduction and conflict resolution. Something as simple as documenting and promoting the idea that people share the same emotional reactions might thus be sufficient to make dehumanized others appear more human.

4.2.3. Favoring animal-human similarity

Dehumanization is, by definition, based on the identification of what is and what is not human. By extension, changing the relative conceptual similarity of what is human and what is not human can influence dehumanization. While it is clear that humans can be dehumanized and animals can be anthropomorphized, how beliefs on the similarity between humans and animals can influence dehumanization is far less known. Costello and Hodson (2009) revealed that increasing animal-human similarity could reduce dehumanization toward a dehumanized outgroup, i.e., immigrants. They showed that people with stronger social dominance orientation tended to reject animal-human similarity, potentially explaining why they also dehumanized and rejected immigrants more (Costello & Hodson, 2010).

Figure 22 depicts one interpretation of this effect. The upper part of the figure represents the cognitive categorization of an individual with low animal-human similarity. For this individual, humans and animals are clearly two separate entities. Group B, who is perceived by this individual as presenting some attributes similar to animals, is more easily dehumanized as it clearly stands out of the human category. In the second example (low part of the figure), the animal-human similarity is increased; the light green box illustrates that the individual's representations of animals and humans partly overlap. Group B, whose position is the same as in the first example, is more humanized by this second individual because animals and humans are judged as more similar. Group B is positioned in the "grey zone" between

humans and animals and is thus more humanized. It no longer clearly stands out of the human prototype, as in the first example. Favoring humans' knowledge of animals and their similarities with humans might thus surprisingly make humans act more humanely toward others.

However, our society keeps drifting apart from nature (Nisbet & Zelenski, 2011). People desert rural areas to aggregate in cities (Johnson & Taylor, 2019; Lucas, 2004; Shaker, 2015), and natural environments are often minimal or absent (Aaron & Witt, 2011; Hand et al., 2017). This disconnection with nature and its associated decreased knowledge of animals could make citizens perceive less humanity in others, which can have dramatic impacts on interpersonal relations. Introducing green spaces capable of hosting wildlife in cities could contribute to increasing the knowledge of human-animal similarity. Furthermore, school curriculums could include more content on animals and their similarities with humans to favor more humanizing tendencies through education.

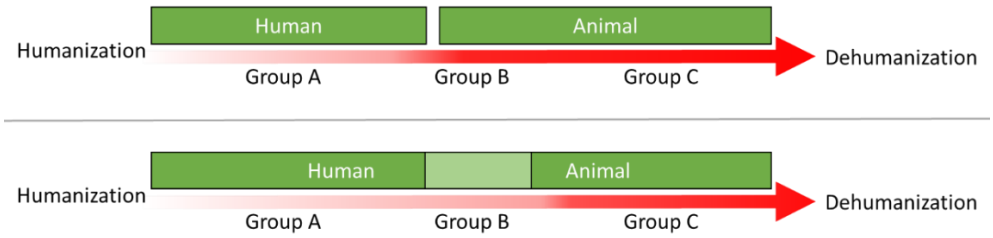

Figure 22. Comparison of low (upper part) and high (lower part) animal-human similarity and their effects on the attribution of humanity

4.2.4. Favoring multiple categorizations of outgroups members

Multiple categorizations of immigrants lead to more humanization than simple categorization (Prati et al., 2016). Multiple categorization is the process of categorizing an individual or a group multiple times in different categories. It involves attributing multiple social identities to one individual or group. For example, whereas single categorization would lead one person to be categorized as an immigrant only, multiple categorization could lead to recognizing that this immigrant is also a father, an artist, a sports fan, and a cook. The process of multiple categorizations was shown to reduce perceived outgroup threat and to increase the individuation of the outgroup; these two processes sustaining the attribution of humanity to the outgroup

(Prati et al., 2016). Psychological interventions in patients with SAUD could target patients' awareness of other facets of their personality to increase their self-humanization. Future anti-dehumanization campaigns could also use this process as a guideline, notably by illustrating that patients are much more than their disorders and by developing and putting forward other social identities that are valorized in society.

4.2.5. Increasing metahumanization

Just as feeling dehumanized by others leads to dehumanizing them in return, feeling humanized by others can lead to humanizing them in return (Kteily et al., 2016).

The first part of this statement provides meaningful but grim information about ongoing violent conflicts. Fortunately, one study investigated an alternative to the reciprocal dehumanization and its related perpetuation of violence. American participants were led to believe that Muslims humanize Americans. This metahumanization led participants to humanize Muslims in return (Kteily et al., 2016). Publicizing examples of mutual humanization might thus contribute to reducing intergroup conflicts. However, the sensational aspects of dehumanization might increase its media coverage. Guidelines on coverage of conflicts could be developed based on the research of Kteily and colleagues to reduce the propagation of dehumanization. Such guidelines have already been developed in other life-threatening issues (e.g., guidelines on media coverage of suicide to limit the propagation of suicide by imitation; Niederkrotenthaler & Till, 2019; Ownby & Routon, 2019)

Just as reciprocal dehumanization can lead to long-lasting conflicts, fostering mutual humanization has the potential to end such conflicts and to build long-lasting peace. We have previously shown that media portrayals of a group could generate dehumanization toward this specific group (Dalsklev & Kunst, 2015). Media thus have the potential to shape intergroup relations. If media portray an outgroup as disgusting, violent, having different emotional reactions, and dehumanizing the ingroup, then members of the ingroup will likely dehumanize this outgroup (Dalsklev & Kunst, 2015; Kteily et al., 2016; McDonald et al., 2015). On the opposite, media may also have the power to humanize outgroups by reporting their emotional similarity with the ingroup as well as their humanization of the ingroup (Kteily et al., 2016; McDonald et al., 2015).

Finally, the code of ethics in journalism should ban the use of dehumanizing terms, especially when describing entire groups. While future studies will have to investigate Medias' descriptions of patients with SAUD, we argue that some stereotypes and dehumanizing portrayals of these patients are fueled by media. Special consideration should be taken when depicting patients with SAUD and other psychiatric populations as these portrayals might ultimately contribute to patients' perception of being dehumanized by society, which in turn, could affect their mental health and treatment.

General conclusion

This Ph.D. thesis explored patients with SAUD's perception of being dehumanized by others, i.e., their metadehumanization. In line with our assumptions, patients with SAUD reported feeling dehumanized, and this perception was associated with poor mental health. We proposed that metadehumanization could ultimately foster the maintenance of their disorders. Furthermore, self-dehumanization and fundamental needs were identified as mechanisms of special interest regarding the issue of metadehumanization in patients with SAUD as they could act as central mediators.

The metadehumanization reported by patients with SAUD was congruent with nurses' attitudes since patients with SAUD and patients with schizophrenia were dehumanized more than patients with cardiovascular disease. Interestingly, nurses' perception of being dehumanized by their superiors was associated with their dehumanization of psychiatric patients, which might suggest that dehumanization could trickle-down the hospital's hierarchical ladder. Across samples, metadehumanization was consistently associated with increased psychopathological states such as depression, anxiety, or burnout, which further reinforces the proposal that metadehumanization could be linked to the onset and maintenance of psychopathological states. Furthermore, animalistic self-dehumanization was linked to suicidal thoughts interference. These results warrant additional research in patients with SAUD as well as other psychiatric populations.

Overall, this Ph.D. thesis identified the field of psychiatry as being a central hub for dehumanization for both patients and employees. Complementary work should be conducted to determine the prevalence and impact of this issue. Considerable empirical evidence points toward dehumanization as being detrimental to interpersonal interactions and quality of care. Clinical recommendations and state of the art interventions to reduce dehumanization have thus been reviewed and proposed. Perspectives regarding the future of dehumanization research in alcohol use disorders and psychiatry have also been developed. Centrally, the potential role of metadehumanization in the onset of SAUD and other mental disorders

deserves more research. Current limitations of dehumanization research call for more rigorous assessments and terminology in the field. More elaborated experimental designs should also be developed to allow for the identification of causal relations, temporal dynamics, and behavioral markers of dehumanization. We also proposed that the neural correlates of dehumanization should be identified from the victim's perspective. Even more so since patients with SAUD's display social cognition impairments and may be especially sensitive to dehumanizing experiences. Neuroimaging studies will thus have to investigate how patients with SAUD process these experiences.

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