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The role of outgroup dehumanization in healthcare disparities:
A study with medical students

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ABSTRACT

Le disparità nei contesti di cura costituiscono un fenomeno diffuso in grado di produrre conseguenze particolarmente avverse per la salute dei pazienti appartenenti alle minoranze etniche. La ricerca ha indagato i fattori psicosociali alla base delle disparità in interazioni mediche *racially discordant* (ovvero, il medico appartiene alla maggioranza etnica e il paziente alla minoranza). Diversi studi (condotti soprattutto nel contesto statunitense ed indagando il rapporto intergruppi Bianchi-Neri) hanno dimostrato che, in queste interazioni mediche (rispetto a quelle in cui medico e paziente appartengono allo stesso gruppo), il paziente, ad esempio, recepisce meno le informazioni su diagnosi e terapia, ha meno fiducia nel medico, fa meno domande, aderisce meno al trattamento raccomandato e, in generale, è meno soddisfatto della cura e della relazione clinica. Il medico, d'altro canto, mette spesso in atto comportamenti di discriminazione sia nelle decisioni di trattamento (ad es., nella terapia farmacologica e nel tipo di intervento prescritti) sia nella qualità della relazione terapeutica (ad es., nelle comunicazioni durante la visita). La ricerca ha anche dimostrato che uno dei più influenti fattori che determinano tali disparità è il pregiudizio verso la minoranza di cui il medico, nella maggior parte dei casi, non è consapevole (pregiudizio implicito). Lo studio presentato in questo lavoro è innovativo perché indaga nel contesto italiano, attraverso un disegno sperimentale e utilizzando misure esplicite ed implicite, la presenza di disparità etniche nella relazione intergruppi: medico italiano e paziente immigrato. Nello studio, inoltre, è verificata l'ipotesi che, oltre al pregiudizio implicito del medico, un altro fattore psicosociale possa contribuire a spiegare le disparità, ovvero la deumanizzazione dell'outgroup (gli immigrati). Si sono esaminati $N = 253$ studenti di medicina italiani (perlopiù agli ultimi anni del Corso di Laurea), attraverso strumenti somministrati online, in due fasi (a distanza di circa tre settimane l'una dall'altra). I risultati mostrano che il bias intergruppi verso gli immigrati, sia negli atteggiamenti (pregiudizio) sia nelle attribuzioni di umanità, è presente solo nelle misure implicite, ovvero quando i partecipanti hanno poco controllo sulle proprie risposte. Nelle dichiarazioni esplicite (dove il controllo delle risposte è completo), infatti, i futuri medici valutano più positivamente gli immigrati e assegnano loro uno status umano superiore rispetto all'ingroup italiano. Inoltre, non emergono disparità nella relazione di cura con il

paziente che appartiene alla minoranza, nemmeno nelle risposte spontanee di approccio/evitamento (misurate con una tecnica implicita). Tuttavia, tali risposte risultano influenzate dalle attribuzioni di maggior umanità e dalle valutazioni più positive verso l'ingroup: quanto più il futuro medico ritiene il proprio gruppo più vicino al prototipo di umanità rispetto all'outgroup, tanto più mostra risposte automatiche di avvicinamento al paziente italiano; inoltre, quanto più il futuro medico favorisce l'ingroup nelle valutazioni (atteggiamenti) tanto più mostra risposte automatiche di evitamento verso il paziente immigrato. Verranno discussi i risvolti applicativi dei risultati ottenuti e i limiti dello studio; saranno, infine, avanzate proposte per la ricerca futura.

INTRODUCTION

The aim of this paper is addressing the role of intergroup dehumanization and implicit prejudice in healthcare disparities in the Italian context. Healthcare disparities are a widespread phenomenon, extensively studied in the past ten years, consisting in systemic discrimination of patients belonging to minorities (mainly ethnic) by physicians. The effects of healthcare disparities are extremely negative, disrupting patient-physician communication processes, leading to poorer patients' understanding of treatment objectives, fewer treatment adherence, poorer medical decision-making, lower therapy satisfaction and trust, and overall poorer health condition for patients belonging to an ethnic minority.

In Chapter 1, we will discuss the phenomenon, presenting studies demonstrating its pervasiveness, and examining possible determining factors. Causes of healthcare disparities are several, varying from cultural and systemic to intrapersonal, interpersonal, and especially intergroup, psychosocial processes (Penner, Hagiwara, et al., 2013). It is noteworthy that healthcare disparities still persist even when systemic causes (such as Socio-Economic Status) are controlled, suggesting that the roots of healthcare disparities dwell into psychosocial processes in racially discordant medical encounters. Research shows, for instance, that physicians' implicit prejudice towards the ethnic minority is one of the major factors affecting physicians' clinical decisions and quality of care with minority patients.

In Chapter 2, we will discuss intergroup dehumanization, deepening recent theoretical accounts and review of studies. Dehumanization is a socio-cognitive process regarding attribution of humanity to ingroup and outgroup and occurs when the outgroup is perceived as less human than the ingroup. Research shows that dehumanization leads to discriminative behaviors in intergroup contexts. We will discuss also the problem of patient dehumanization in healthcare contexts.

In Chapter 3, we will present the study, carried out for this work, that examined healthcare disparities in the intergroup relation: Italian physician and immigrant patient. The main hypothesis of the study is that, besides physicians' implicit prejudice, another psychosocial factor may contribute to explaining disparities, namely outgroup (immigrants) dehumanization. $N = 253$ Italian medical students (mostly in their final years of the degree program) were surveyed, through online administered

instruments, in two phases (approximately three weeks apart). We used implicit and explicit measure to detect both intergroup bias (humanity attributions and attitudes toward the Italian ingroup and the immigrant outgroup) and disparities in therapeutic relation between the future doctors and the immigrant vs. Italian patients. Finally, results with their practical implications, limits of the study, and suggestions for further research will be discussed.

CHAPTER 1
HEALTHCARE DISPARITIES

Physical and mental health disparities are systemic differences between social groups that have been found in 126 countries (Dorling et al., 2007). Although this problem can be partly addressed to genetic and biological differences among ethnic groups, systemic discriminated ethnic minorities (and disadvantaged social groups) are more likely to be victims of healthcare disparities. Healthcare disparities are a widespread form of discrimination of minorities in medical contexts (Dovidio et al., 2016). Although there are blatant forms of discrimination, healthcare disparities are usually subtle and harm systemically by creating chronic disparities in quality of care among segregated population and disadvantaged minorities (Penner, Hagiwara at al., 2013). The roots of the psychosocial mechanism accountable for healthcare disparities, as it will be discussed next, are nested in the interaction between physician and patients, especially when these interactions are racially discordant, namely an interaction between a healthcare provider and a patient who belong to two different ethnic groups, usually in the United States context, a Caucasian physician and an Afro-American patient (Penner, Hagiwara et al., 2013). Racially discordant interactions represent 75% of medical interactions in the USA (Penner, Hagiwara et al., 2013). During racially discordant interactions, cognitive mechanisms, such as physicians' implicit bias and racial prejudice, have a massive impact, influencing patients' satisfaction, perception of teamness and adherence to therapy. The aim of this research is to investigate for the first time the role of outgroup dehumanization in racially discordant medical interactions (Capozza, Falvo, et al., 2016).

1.1 An overview

Healthcare disparities are a systemic phenomenon, widespread and pervasive (Dovidio et al., 2016; Penner et al., 2012). Healthcare disparities appear as a gap in health status between the majority ethnic group and the minorities ones, with the former suffering of reduced access to healthcare and are exacerbated by poorer physical and psychological health (Penner et al., 2012). Given that there can be differences in health status among ethnicities due to genetic and socioeconomic status (SES), it is crucial to distinguish between these differences and disparities in medical contexts. A notable example of a difference in relative health status is that prostate

cancer rates are overrepresented in Afro-American men (Salami et al., 2007). Differences in health status are caused by genetic, physiological, and biological factors. However, the aim of this paper is not the analysis of those factors. Penner et al. (2012) stated that social, political, and psychosocial factors can be fundamental for increasing or decreasing the health status of an ethnic minority. For instance, although Afro-American women are less likely to develop breast cancer than Caucasian women, breast cancer death rate is 40% higher among Afro-American women (Siegel et al., 2011).

Moreover, The American Institute of Medicine (IOM, 2003) report on health status stated that the poorer access to healthcare by ethnic minorities is largely due to social, political, and economic factors, confirming the assumption that biological and genetic differences can account only for a small percentage of the variability in death rates among cancer patients. This statement implies that the understanding and prevention of healthcare disparities is paramount to the process of reducing them. However, it is unlikely that by eliminating healthcare disparities, there would cease to be any difference in death rates among cancer patients: the role of genetic and biological factors is indeed important in the process of healing from cancer (Penner et al., 2012). Siegel et al. (2011) stated: "The elimination of educational and ethnic disparities could potentially have avoided about 37% of the premature cancer death among individuals aged 25-64 years in 2007 alone." (p.212)

Research shows that SES is a strong predictor of overall health status and access to healthcare facilities (Odgen et al., 2010). In this matter, segregation plays an important role in the accessibility of better healthcare: Afro-Americans and people with low SES are often segregated in poor neighborhoods where the available healthcare facilities are of lower quality (Penner et al., 2012). Moreover, segregated people often gave access to low quality food resources and poorer health education than rich and Caucasian people (Odoms-Young & Bruce, 2018; Penner et al., 2012). Odoms-Young and Bruce (2018) esteemed that 12.3% of the US population (15.6 million people) suffered from food insecurity, a limited access to adequate food. The impact of food insecurity is well documented and, although it is influenced by a set of variables such as unemployment, poverty, and segregation, a growing body of research is finding systemic discrimination of people of color (POC) as a major cause of food

insecurity (Odoms-Young & Bruce, 2018). The effects of food insecurity on physical and mental health are important, leading to a predisposition for anxiety, depression, diabetes, cardiovascular disease, and an overall worse health condition (Odoms-Young & Bruce, 2018).

Healthcare disparities are observable during the physician-patient interactions. Hagiwara et al. (2013) found that Caucasian physicians spent less time talking about treatment, health education and answering questions with Afro-American than Caucasian patients. Eggly et al. (2015) confirmed these results, finding that physicians talked more about clinical tests with Caucasian than Afro-American patients. Conversely, Afro-American patients ask fewer questions and avoid direct questions to the physicians (Eggly et al., 2015). Hagiwara et al. (2013) measured trust during racially discordant interactions, founding a positive association between trust and adherence to physicians' recommendations. Van Ryn et al. (2006) found disparities in decision making on the installation of coronary by-pass between Caucasians and Afro-Americans: the first ones were more likely to receive this medical procedure than the second ones.

In conclusion, healthcare disparities are not only due to ethnic discrimination; a large body of research shows that age, physical and mental disabilities, sexual orientation, and SES are predictors of discrimination in the healthcare context (Penner, Hagiwara. et al., 2013). The main point here is that research shows that systemic racism is a prevalent factor even when socioeconomic status, employment, and segregation are controlled. Psychosocial factors such as aversive racism have a main role in producing systemic healthcare disparities, influencing patients' trust, satisfaction, perception of teamness and adherence to therapy because of racially discordant medical interactions where social-categorization and social identity have been salient.

1.2 Causes of healthcare disparities

Healthcare disparities as other kind of social discrimination have been often analysed by political scientists, economists and sociologists, who addressed the causes of this phenomena to structural factors. However, research shows that, even when

structural and systemic differences are controlled, inequalities in healthcare level persist.

Penner, Hagiwara, et al. (2013) proposed a model for the understanding of healthcare disparities, presented on three levels, and which accounted for psychological factors that may influence healthcare disparities even when other factors are controlled. Clearly, the psychosocial process responsible for a part of healthcare inequalities are intersectional and impossible to disentangle from one another. However, for research purposes and clarity, these processes and causal factors are exposed separately.

Language barriers are a factor that can influence healthcare disparities, correlating with decreasing use of preventive services, longer hospitalization, lower health control, and increased medical errors (Penner, Hagiwara, et al., 2013). However, in many countries, healthcare disparities occur among people who are native speakers (Kirby et al., 2006). In Italy, research on physician-patient racially discordant interactions was led by a team composed by a sociologist, an epidemiologist, and a communication expert, highlighting the importance of an effective information exchange during clinical interviews (Russo et al., 2013). Specifically, the authors argue that an optimized communication is paramount for building compliance, increasing adherence to physicians' recommendation, satisfaction of care and information exchange (Russo et al., 2013). Language barriers and SES are related and partly overlapped with health literacy (Penner, Hagiwara, et al., 2013), the capacity to understand basic health information, process and use them. Health literacy in fact is paramount in three processes: the access to healthcare, interaction with the healthcare providers and self-care (Russo et al., 2013). Health literacy is also negatively correlated with low SES status, not allowing poor people and minorities to have high quality interactions with their physicians and high-quality healthcare provided (Penner, Hagiwara, et al., 2013). Furthermore, the assessment of patients' health literacy by the physicians can be biased by their prejudice, cultural knowledge and level of trust (Kelly & Haidet, 2007). Dovidio et al. (2008) suggested that Afro-American patients in US can show a lower level of health literacy because the historical mistrust in healthcare providers. Oyserman et al. (2007) adopted an Identity-Based Motivational Model to understand why people from minorities adopt fewer

healthy behavior than Caucasians. According to the authors, minorities members perceive healthy behavior as prototypical of the Caucasian outgroup, thus being less likely to implement them when social identity is salient (Oyserman et al., 2007).

As discussed before, socioeconomic status has proven to be a major factor influencing healthcare disparities, not only because people with high SES have access to better healthcare, but also because socioeconomic status influences healthcare providers' perception of patients. Specifically, physicians generally provide poorer healthcare to people with low SES (Hall et al., 1988), perceiving them as lazier and less likely to adhere to treatment recommendations (van Ryn & Burke, 2000). Moreover, people with low SES show very low levels of care satisfaction, implying they are less keen to adhere to treatment and thus confirming physicians' stereotypes (Burgess et al., 2010). Therefore, Penner, Hagiwara, et al. (2013) argued that, regardless of SES, race-related psychosocial factors, such as physicians' implicit bias and aversive racism are a major factor influencing healthcare disparities.

Ethnical, historical, economical, and political factors are structural determinants for healthcare disparities, resulting in minority groups experiencing systemic unfair treatment and institutional discrimination. These factors belong to societal-level processes (Penner, Hagiwara, et al., 2013). The first and well-documented consequence of structural discrimination is segregation. In fact, American minorities live in poorer neighborhoods, thus having access to worse educational facilities and low-quality healthcare structures (Beck et al., 2020). Rothstein (2017) argues that numerous federal laws increased the segregation of minorities across the US. It has harmful consequences on the population, which include, psychological and social problems such as high criminality, scarcity of high-quality food resources, and poorer jobs. Reid et al. (2014) found that segregation affects minorities' level of trust toward the majority members, leading to less adherence to preventive interventions. Sims et al. (2012) found that segregation increases levels of stress among African Americans, critically associating discrimination and segregation with hypertension issues. Historical events, such as Tuskegee scandal affects Afro-Americans. The syphilis study of Tuskegee was a criminal study perpetrated by the United States Public Health Service in Tuskegee, Alabama, where with the excuse of finding a cure for syphilis, hundreds of unaware people of color were infected with the deadly

bacteria. The study has been interrupted in 1972, years after the cure for syphilis had been found. The Tuskegee syphilis study had a tremendous impact on the Afro-American community to this day (see Katz et al., 2006). The historical racism and discrimination from the outgroup lead to less trust in healthcare providers, causing less adherence to treatment recommendation, calling fewer healthcare services when needed and general mistrust of outgroup medical advice (Romain & Courtwright, 2016). Distrust in healthcare system also shapes mental healthcare and leads to less request of help and an underutilization of mental health services (Suite et al., 2007)

Continuing with Penner, Hagiwara, et al.'s (2013) model, intrapersonal beliefs, stereotypes, and attitudes play a role during patient-physician interaction and disturbing an optimized trust and exchange of treatment information. The intrapersonal level considers patients and physicians independently.

Regarding patients, research has found that Afro-American patients are more satisfied with care when the physician is Afro-Americans rather than Caucasians (Cooper et al., 2003). Moreover, ethnic minorities are less likely to seek help for mental health problems and have higher drop-out ratios (Kessler et al., 1996). Penner, Hagiwara, et al. (2013) assumed that these negative perceptions and outcomes are due at least partially to mistrust toward physicians by ethnic minorities. This statement is confirmed by research: patients belonging to ethnic minorities have less trust, which is correlated with less adherence to treatment and a smaller chance of seeking help (for a review see, Penner, Hagiwara, et al., 2013). In western countries, ethnic minorities are victims of racism and systemic discrimination from the general population and the institutional actors. The roots of the mistrust in medical care and healthcare providers are nested in the historical relationship between minority and majority groups, in institutional policies, unable to build a trusty relationship with minorities. For instance, during the 19th century, many eugenics scientists, like Sir Francis Galton, thought that people from Africa, South America, China, and Jews were inferior races and the inbreeding within them would lead to the destruction of White people (Galton, 1883). Therefore, historical and political issues may have a significant impact on socio-psychological processes influencing the relationship between physicians and ethnic minorities' patients.

Penner et al. (2009) found that in racially discordant medical interactions, patients who reported more episodes of past discrimination in daily life expressed less satisfaction of care and therefore they were less likely to adhere to treatment recommendation, leading to poorer health status. According to Identity-Based Motivational model by Oyserman et al. (2007), people are more likely to engage in ingroup prototypical behaviors even when those behaviors are unhealthy; conversely, people are less likely to adopt outgroup prototypical behaviors, even when those behaviors are healthy. Penner, Hagiwara, et al. (2013) therefore argued that, since healthy behaviors such as high-quality food diet and physical activity are perceived as prototypical of the Caucasian outgroup, ethnic minorities are less likely to engage in those behaviors.

Healthcare providers are accountable for disparities in the quality of the treatment given to racial minority patients. Research found that racial minorities receive poorer quality treatments, less medications, and less effective therapies in a broad spectrum of diseases, from mental health issues to cardiovascular and oncological diseases (Penner, Gaertner, et al., 2013). Clearly, as said before the causes are multilevel and even though some of them may be at the societal level, several psychological processes pertaining physicians' have an impact on their decision-making and the quality of clinical relationship with minority patients (see the Penner et al.'s, 2013, model). van Ryn (2002) proposed that stereotype contents are activated in healthcare providers due to social categorization processes. Negative stereotype about ethnic minorities' fewer adherence, education, and intelligence impairs physician decision-making, leading them to biased clinical decisions (Moskowitz et al., 2011). Physicians' behavior when the stereotype is activated may result in its confirmation, thus leading to a vicious circle.

A major factor impairing the quality of decision-making and of medical interactions with minority patients is aversive racism (Penner et al., 2013). Aversive racism has been theorized by Dovidio and Gaertner (1986) as a pervasive persistence form of racial prejudice in absence of overt racism. In experimental studies, aversive racism presents itself as high scores in implicit racial bias and low scores in explicit racial bias. Aversive racism is a widespread and more complex form of discrimination and operates on the subconscious level. Among healthcare providers, explicit biases

toward ethnic minorities are rather rare (Green et al., 2007). However, implicit bias is widely spread even among physicians with low explicit bias, as we will discuss later. These factors above mentioned are likely to negatively influence treatment outcome, especially when there is ambiguity in medical practice and the physician do not have a strict protocol to follow (Penner, Hagiwara, et al., 2013). Moreover, Penner, Hagiwara, et al. (2013) suggest that excessive cognitive load can trigger easily implicit social categorization processes and stereotype activation, increasing the chance to discriminate against ethnic minorities. Based on Richeson & Trawalter's (2005) findings, we can assume that self-regulatory processes during racially discordant interactions deplete cognitive resources, and this factor added to the workload, can lead to further cognitive overload and therefore even poorer decision-making.

As mentioned before, during racially discordant medical interactions, Caucasian physicians share less information about side effects and treatment recommendation with Afro-American cancer patients (Penner et al., 2007). Moreover, they answer less to questions to patients and provide poorer explanations about treatment goals (Oliver et al., 2001). Conversely, Afro-American patients ask fewer questions about their treatment (Eggly et al., 2011).

During racially discordant medical encounters, it is likely that other psychosocial processes, such as Social Identity, are triggered by automatic social categorization, typical in interethnic interactions (Penner, Hagiwara, et al., 2013). Social Identity is a widely studied psychological mechanism that is at stake in intergroup relations and motivate people to perceive more favorable, like more and treat better ingroup members than outgroup members (Tajfel et al., 1979). Therefore, during racially discordant medical interactions, both physician and patient tend to strive for a positive social identity as a member of their ethnic group; high salience of social identity may lead to ingroup favoritism (namely ethnocentrism) and, as a result, healthcare disparities among ethnic minorities (Penner et al., 2013).

Another major factor that may disrupts communication during racially discordant interactions is intergroup anxiety (Stephan & Stephan, 1985). Intergroup anxiety increases the discomfort feeling people experience when interacting with members of outgroup. Intergroup anxiety causes aversive reaction anticipating the interaction perceived as potentially threatening, and people who experience this

psychosocial mechanism evaluate the interaction worse, causing negative attitudes toward one another and impoverishing the intergroup encounter (Stephan, 2014). Amodio and Hamilton (2012) found that intergroup anxiety amplifies the effect of implicit racial bias, further influencing worsen intergroup interactions. Intergroup anxiety may cause avoidance, discrimination of the outgroup and overly exaggerated behavior, leading to a vicious circle (van Zomeren et al., 2007). Trawalter et al. (2009) assumed that during an intergroup contact, people go from an initial discomfort to settling with the situation, reducing intergroup anxiety over the time. Since this cognitive settlement requires cognitive resources, people, especially in medical contexts, may be overloaded and, therefore, this adjustment may be not available.

Shelton et al. (2005) assumed that during intergroup interaction, specifically between two different ethnicities, people tend to have divergent goals during the encounter. For instance, a Caucasian physician may be concerned about not showing prejudice, while an Afro-American patient is concerned about not confirming the negative racial stereotype. Divergent goals during interactions may deplete cognitive resources and decrease the perception of teamness between healthcare provider and patient (Shelton et al., 2005).

Finally, implicit attitudes are considered to be the major psychological factor determining healthcare disparities during racially discordant medical interactions. It has been found an association between explicit and implicit bias, this correlation is often small; furthermore, explicit and implicit biases influence behavior in different ways (Penner, Hagiwara, et al., 2013). Explicit bias mainly influences aware and controlled behaviors, while implicit bias mainly influences spontaneous and uncontrollable behaviors. De Houwer (2019) hypothesized that implicit bias is a behavioral phenomenon automatically activated by social clues and guided by their normative implications. Blair et al. (2013) found that physicians' implicit bias is associated with lower perceived patient centeredness among their Afro-American patients. Patient centeredness is a crucial marker of high-quality care provided by the physician, and it is generally associated with many positive outcomes such as patients' adherence to treatment recommendation. Dovidio and Gaertner (1986)'s concept of *aversive racism* (high implicit bias and low explicit bias) fits perfectly in healthcare disparities. People with aversive racism are in distress during intergroup contact and

tend to have negative automatic behaviors toward minorities. Penner et al. (2010) studied the relations of physicians' explicit and implicit bias with different evaluations given by their Afro-American patients such as satisfaction of care, physician friendliness and warmth. It was found that the worst combination of explicit and implicit bias is aversive racism. In fact, Afro-Americans patients who interacted with physicians with aversive racism reported lower scores in each measure (Penner, Hagiwara et al., 2013).

To summarize, according to Penner, Hagiwara, and colleagues (2013), healthcare disparities are a massive problem in most countries in the world. The causes of healthcare disparities can be divided in three levels: societal level, intrapersonal level and interpersonal (but intergroup) level. However social categorization and implicit bias are the most crucial psychosocial factor for healthcare disparities.

1.3 Reducing healthcare disparities

If healthcare disparities are a multilevel phenomenon, so too must the solutions be multilevel. Penner, Hagiwara, et al. (2013) suggested a reduction in the cognitive load of healthcare providers, hiring more people and thus allowing physicians to have personalized contact with patients, further reducing racial bias. Havranek et al. (2012) hypothesized that healthcare disparities can be reduced influencing key factor in the intrapersonal level by reducing stereotype threat in minority patients by empowering them, the researchers reduced stereotype threat, therefore Afro-American patients asked more questions, had a more positive mood and the interactions were more positive overall (Havranek et al., 2012). These authors conducted a blinded experiment with 99 Afro-American patients. In the experimental condition, patients performed exercise of self-affirmation and empowerment. Self-affirmation exercise used by the researchers included restating important personal values, for instance writing down a brief paragraph about their values and positive self-traits. In the control condition the participants performed a neutral experiment. The visits were recorded. In the experimental condition, visits were evaluated more interested, responsive, friendly, interactive, and respectful. Moreover, patient-physicians racially discordant interactions were perceived as less sad, and less depressed (Havranek et al., 2012)

Regarding physicians' intrapersonal level, Penner, Hagiwara, et al. (2013) suggest specific trainings which may reduce intergroup anxiety, explicit and implicit prejudice, based on intergroup interactions during the training years, to accustom healthcare providers to racially discordant interactions. Finally, reducing physicians' cognitive load by increasing the quality of healthcare services is paramount to prevent healthcare disparities, for instance introducing organizational changes which may ease the cognitive burden. Introducing team reunions lead by psychologists specialized in organizational stress and work overload may be an effective strategy. However, considering the condition of healthcare services in many Countries, such changes are unlikely to happen.

According to Penner, Hagiwara, et al. (2013), to prevent healthcare disparities at the intergroup level, it is paramount to create a peer-to-peer relationship and interaction between physician and patient. The nature of the healthcare context generally leads to asymmetrical interaction. However, there are strategies which could reduce the status differences. The Patient-Centered Communication Model (PCCM) is a package of skills aiming of building the most equal communication possible between physicians and patients (Hashim, 2017). This medical training enhances the ability of taking patients' perspective, specifically focusing on their emotions, feelings and thoughts about their illness and diagnosis. Empathic listening is one of the key concepts, which allows the physicians to detach from their perspective, and emphasizes recognizing and expressing feelings of both patients and physicians (Hashim, 2017). Moreover, PCCM includes involving the patients in the decision-making process, empowering them, and increasing the chances of adherence to treatment recommendations. Penner et al. (2013) argue that implicit bias may disrupts the communication dimension included in PCCM, which is central in improving patient-physician clinical relationship (Hashim, 2017). However, more research is needed to test its efficacy during racially discordant medical interactions.

Penner, Hagiwara, et al. (2013) suggest a series of interventions to change social categorization that occurs during intergroup contact, which is a powerful factor disrupting racially discordant medical interactions. Specifically, it is proposed to elicit in physicians the individuation process of patients as a mean to reduce social categorization (Penner, Hagiwara, et al., 2013). For instance, individualization can be

facilitated by sharing personal information and relevant details during medical interactions, therefore personalizing the relationship. However, this process may increase the physician's cognitive load, thus producing rebound effects. Eggly et al. (2013) proposed to train patients to ask specific questions to physicians during racially discordant medical interactions. According to their study, teaching minority patients to ask more questions and to not hold back during medical encounters may contrast physician's stereotype. Specifically, the researchers argued that medical perception may change, when perceiving minority patients as medically literate. Furthermore, Eggly et al. (2013) assumed that the also perception of patients about physicians would change anti-stereotypically.

Penner, Hagiwara, et al. (2013) proposed an intervention based on Common Ingroup Identity: the perception that both patients and physicians belong to the same social group, which can lead to more positive attitudes and prosocial behaviors. In the study by Penner, Gaertner, et al. (2013) the Common Ingroup Identity was triggered in the experimental condition by a series of instructions and tasks, given both to physicians and patients before the medical visit. Racially discordant medical interactions in the experimental condition were more pleasant, the patients had more trust in the physicians, and enhanced perception of teamness, and therefore they were more likely to adhere to treatment recommendation, compared with control condition.

van Ryn and colleagues (2015) tested the effect of intergroup contact in medical students as a preventive factor for healthcare disparities. Specifically, according to literature (for a review, see Molina et al. 2016), intergroup contact has proven to decrease both implicit and explicit prejudice when the situation embodied several conditions, such as equal status. Onyeador et al. (2020) examined the importance of interethnic contact during medical school. More frequent and favorable interethnic contact before medical school is associated with lower implicit racial bias independently of contact during college. This result is consistent with previous studies, confirming that early high quality interethnic contact is the crucial factor for reducing implicit racial bias (Onyeador et al. 2020). These authors suggest that a more favorable racial climate in medical schools is not associated with lower level of implicit racial bias; on the contrary, racial climate may have backlash effect, increasing implicit prejudice (Onyeador et al. 2020). van Ryn et al. (2015) found that diversity training

during medical school years is an effective mean to reduce future healthcare disparities, reducing physicians' racial bias. Diversity training is designed to lower the prejudice and discrimination toward minority people such as people of color in organizational context. On the contrary, Onyeador et al. (2020) found that diversity training has a rebound effect, strengthening implicit racial bias. However, more research is needed because evidence on the effectiveness of diversity training is conflicting and, as noted by Onyeador et al. (2020), methodological problems were difficult to overcome during the study.

van Ryn et al. (2015) studied the effectiveness of some major factors in reducing implicit bias toward Afro-American in the healthcare context. The researchers assessed formal curricula (which includes educational experience of training targeting Afro-American people), informal curricula (which included informal organizational culture and organizational racial climate), and the amount of positive interethnic contact. In the research made by van Ryn et al. (2015) formal diversity training had small-to-zero effect on implicit racial bias; informal curricula, often associated with positive racial modelling, had a great impact in reducing racial bias; finally, interethnic contact had positive effect on implicit bias toward Afro-American when the contact was favorable, and negative effect when the contact was unfavorable. However only a few students reported negative (46) and very negative (17) intergroup contact (over the 4500 experimental subjects), thus these results are difficult to interpret. These findings prove the importance of positive intergroup contact to reduce implicit and explicit prejudice and therefore healthcare disparities, combined with specific training within medical practice. The researchers pointed out that role modelling is another important factor in racial bias, highlighting the importance of cultural climate inside medical schools (van Ryn et al., 2015).

Finally, Wilbur et al. (2020) highlighted the fundamental role of ethnic diversity in medical context, not only from a social justice perspective, but also for a positive role modelling for reducing healthcare disparities. In fact, Wilbur et al. (2020) noted that the scarcity of diversity in high status position in medical facilities and medical schools and the lack of high-status Afro-American is both a cause and a consequence of healthcare disparities, leading to a vicious circle. Research shows that physicians who identify themselves as racial or ethnic minority provide better care to

people with low SES, people belonging to minority and uninsured people (Wilbur et al., 2020). Moreover, they are more likely to have a personalized medical interaction, thus having a better medical relationship with the patients. However, research shows that ethnic minorities are underrepresented in US healthcare system, due to financial and cultural barriers (Wilbur et al., 2020).

To overcome these huge social barriers, these authors suggest specific economic and social changes in US healthcare system and education, such as reducing financial fees for medical school, specific carrier pathways for physicians, and specific educational programs for people who identify themselves as ethnic minority in universities (Wilbur et al., 2020)

To summarize, healthcare disparities are discrimination patterns that tend to stay constant due to the nature of the medical context and the society in which they are displayed. To prevent healthcare disparities, it is important to implement adequate training in medical schools, to change organizational culture and racial climate, both in universities and in the healthcare system, to foster interethnic positive contact and to teach patients to act counter-stereotypically and reaffirm their values. However, these changes may not be enough. Western societies have to change in order to allow people of color (and people who belong to a minority group in general) to have power position in the healthcare system.

As we have seen, implicit racial bias is a key factor for understanding and preventing healthcare disparities. However, other psychosocial mechanisms may play an important role during racially discordant medical interactions: outgroup dehumanization and infrahumanization. We will discuss dehumanization processes in intergroup relations and medical context it in the next chapter.

CHAPTER 2

DEHUMANIZATION IN THE HEALTHCARE CONTEXT

The properties that define a
concept's boundaries may not be the same ones that capture its
meaning.
Haslam et al. (2006, p.938)

For years, researchers have thought implicit prejudice was the major process underlying healthcare disparities (Penner, Hagiwara, et al., 2013). Rothbart and Taylor (1992) theorized that people tend to consider social groups as "essences", in other words having fixed traits which are natural within the groups. The fixed traits attributed include intellect, language, moral values, and emotions. In 2006, Haslam proposed a theory of attribution of humanness which explained intergroup discrimination better than implicit prejudice (although these theories are not mutually exclusive). In other words, Haslam (2006) theorized that infrahumanization, as intended by Leyens (1999), is a major factor in intergroup discrimination. Capozza, Di Bernardo et al. (2016) found infrahumanization in medical contexts. These researchers thought infrahumanization is a major factor responsible for healthcare disparities. Before we discuss the role of dehumanization in the medical practice and the present study, it is important to see the earlier conceptualization of dehumanization and infrahumanization.

2.1 Dehumanization, infrahumanization and toxification: theoretical background

Dehumanization is a widely studied intergroup process, in which members of another group are seen as less than human (Bar-Tal, 1989). It has been associated with genocide, atrocities, and mass violence (Volpato, 2014). A study analyzing the language of Hitler (Capozza & Volpato, 2004) found animalistic and mechanistic dehumanization of minorities and political opponents (Jews, the Roma, communists) in Hitler's speeches. Romeo Dallaire and Beardsley (2003) illustrated the progressive dehumanization of Tutsi during the genocide in Rwanda (1993-1994). To summarize,

a dehumanized group is perceived by the outgroup as non-human, therefore common moral values does not apply to it. Dehumanization is correlated with moral disengagement (Bandura, 1999; for a recent review see Bandura, 2016) and justification of atrocities committed against the discriminated group. An emerging field of research linked another cognitive process, called toxification, as a more precise antecedent to genocide and mass atrocities (Neilsen, 2015). Toxification is a social cognitive process included in dehumanization, in which a social group is perceived by the outgroup not only as non-human but also as a threat to the ingroup. Research shows signs of toxification in the Rwandan genocide (Scala, 2020) and during the genocide in Cambodia by the Khmer Rouge (Williams & Neilsen, 2019). However, more research is needed.

The first theory of dehumanization was formulated in 1989 (Bar-Tal, 1989). The author proposed dehumanization as a stereotyping mechanism in which the outgroup is perceived as sub-human, with traits typically associated to animals, such as dogs, worms, parasites. Bar-Tal specifies that often the group dehumanized is associated with evil and super-human creatures, dangerous for the ingroup, such as devils, monsters, and demons. Years later Nielsen (2015) will call this form of dehumanization, toxification.

Studying dehumanization, Leyens et al. (2000) found that it is a more common phenomenon than previously thought. These researchers theorized a socio-psychological mechanism in the spectrum of dehumanization called infrahumanization, a subtler phenomenon that occurs commonly during intergroup contact even without conflict. The authors thought that, although most people do not dehumanize, they tend to think one's group is more human than the outgroup. Infrahumanization, as conceptualized by Leyens et al., is a process that occurs also in absence of extreme violence and discrimination. Attribution of humanness shapes the perceived outgroup values, characteristics, and behaviors.

Leyens and colleagues (2003) conceptualized humanity attributions using emotions. The researchers divided the spectrum of human emotions into two categories: primary and secondary, the latter are more complex and thus more associated with humans than animals. Secondary emotions, such as sorrow, pride, disillusion, admiration, are more complex, socially grounded emotions. Paladino et al.

(2002), through a survey distributed to students of Autonoma University of Barcelona and to people from Tenerife Island (also Spanish-speaking), they found that people perceived secondary emotions as typically human whilst primary emotions as simpler, less specific to humans, and animal-like. Moreover, participants tended to attribute more secondary emotions to the ingroup than the outgroup, thus infrahumanizing others. Infrahumanization can occur independently of negative outgroup evaluation because primary emotions can be positive (e.g., surprise). Infrahumanization has been found in a large body of research (Leyens et al., 2003; for recent review, see Haslam & Loughnan, 2014).

Haslam (2006) proposed a dual model of dehumanization. The starting point of Haslam's (2006, see also Haslam et al., 2005) model is the distinction between human traits shared with other animals, ("Human Nature", HN later on), and features perceived as exclusively humans ("Uniquely Humans", UH later on).

Haslam et al. (2008) postulated that the two categories of traits are both essentials to describe humanity of social groups. Haslam et al. (2008) found that people tend to attribute less UH traits to the outgroup than the ingroup, but more HN traits. These findings suggest that people do not completely deny the human features of the outgroup but rather they perceive the ingroup as a better incarnation of humanness than the outgroup. According to Haslam (2006), uniquely human features emerge later in human development and include higher cognition, refined secondary emotions, openness to experience, and consciousness (dedication, inhibition, patience). Human nature traits are, in contrast, defined as core essential human characteristics which are shared with other species, such as primary emotions, basic cognitive processes, basic socialization processes.

Psychological essentialism is the tendency to ascribe to both individuals and groups specific and intrinsic traits which are deep-rooted and unobservable (Landry et al., 2021). Research has shown that people tend to attribute to other people fixed characteristic which determine sexual orientation, political opinions. These entities, which form boundaries from one group to another, are perceived consistent and constant across time; essential beliefs have been found across cultures (Gelman, 2003), and early developed in children (Bastian & Haslam, 2011). Essentialism plays an important role in dehumanization, because dehumanized groups are deprived from

common human essence and thus perceived as less than humankind. Tsukamoto et al. (2018) found that different cultural frames may influence the psychological essentialism of a group. Although there is little-to-zero research on this subject, also due to the theoretical difficulties to individuate a common definition, cultural differences in psychological essentialism may indirectly influence the psychosocial mechanisms of dehumanization and infrahumanization, shaping differently the phenomenon. Due to the role of psychological essentialism in group perception it is important to specify which is the perceived boundary of attribution of humanness and what happen when this boundary is crossed.

Haslam (2006) argued that if there are two core concepts of humanness, there should be two corresponding types of dehumanization. When UH traits are denied, outgroup member are perceived as uncultured, lacking in self-control, and unintelligent. This perception associates the dehumanized group to other animals, and the actions are perceived as unplanned, and behavior less cognitively mediated than that of the ingroup. Therefore, the attribution of fewer UH characteristics to an outgroup is called *animalistic dehumanization*. As UH traits emerge later in human development, animalistic dehumanized outgroup can be perceived childish and immature and, due to the denial of moral dimension, the same outgroup can be also perceived as amoral and dangerous. The exclusion from common moral domain is an important factor noted by Bandura (1999) which influence intergroup violence and moral disengagement.

Conversely, an outgroup can be perceived as lacking UN characteristics, which are emotional responsiveness, warmth, depth, agency, and cognitive openness. The dehumanized outgroup's behavior is perceived as a passive reaction to external stimuli, rather than internally motivated; is perceived as cold, and superficial. People who belong to this categorization are viewed as closer to tools and machines rather than humans or living creatures. Therefore, Haslam (2006) defined the denial of UN characteristics as *mechanistic dehumanization*.

These two types of dehumanization, although they belong to the same psychological phenomenon, have specific implications and phenotypes. As previously stated, UN traits are essentialized, perceived as fixed and consistent within a person and an outgroup; therefore, denial of HN is perceived as inborn and rooted deep in the

essence and soul of the dehumanization target (Haslam, 2006). UH is the result of socialization, a process that, if did not happen in the early stages of development, can always be corrected. Conversely, HN are perceived as essence, which means that are rooted in the "core" of humanness; they are viewed as inborn, natural, genetically determined, being an ancestral and fundamental part of humanity even more ancient than humanity itself. Haslam argue that essentialism in mechanistic dehumanization can play a different role than in the animalistic one. Research has shown that people of lower status tend to mechanistic dehumanize people of higher status, such as brokers, entrepreneurs, and rich people. Conversely, people with high status tend to animalistically dehumanize people of lower status (Sainz et al., 2019).

It is worth to mention that Nielsen (2015) thought that dehumanization and infrahumanization are not enough to be a reliable predictive factor of intergroup violence and, above all, genocide. Speaking of dehumanization, research has shown the link between this phenomenon and intergroup violence (Lang, 2020), but researchers have proven dehumanization to be a more reliable explanation mechanism when the violence is instrumental rather than moral: alone, it rarely leads to extreme violence and genocide (Rai et al., 2017).

Toxification is a form of dehumanization, in which the outgroup is deprived of its humanity; moreover, the toxificated outgroup is perceived as "toxic", dangerous, and an existential thereat to the ingroup (Nielsen, 2015). Toxification is fueled by metaphorical language, pairing the outgroup with medical or biological analogies (bacteria, tumors, parasites, etc.), consistent with the psychological notion of social pollution (Douglas, 2002). The outgroup is therefore perceived destructive for the ideas and the ingroup's identity. As well documented during Khmer Rouge genocide, the threat is not only existential. Toxification spreads the message that the threat is real, and the toxificated outgroup will without a doubt kill the ingroup members given the chances. William and Nielsen (2019) addressed both Khmer Rouge propaganda and toxification intrapersonal influence through official documents and testimonies. Pol Pot affirmed on many occasions that the reactionaries [to the revolution] were everywhere, especially in the Party, and "the microbes" would "rot the party from within". Genocide was described as purification from parasites and that citizens' duty was to "weed out" the "poisonous plants of capitalism". Khmer Rouge merciless

propaganda is an example of toxification (for more, see William & Nielsen, 2019). The researchers found toxification at the individual level. They reviewed soldiers' reports and interviews, in which killing the enemy was perceived as a glorious cleanse of evil. Quotes such as "It is better to kill ten innocent people than to let one guilty person go free" were common sayings among soldiers and civilians. The William and Nielsen found that soldiers perceived "the enemy" as extremely dangerous, so much that they ate ritually human livers to "become the tiger themselves" and "be able to kill those monsters". This internalized ferocity demonstrates the hold that dehumanization can have on people.

Toxification excludes the outgroup from the common morality sphere and in addition, it leads to perceive the violence toward the outgroup not only allowed, but even necessary (Williams & Nielsen, 2019). In this process of real and ideal threat, victims are perceived as necessary deaths for the ingroup's survival and therefore Nielsen (2015) pinpoints toxification as the most predictive mechanism for extreme violence, stating also that toxification's traces have been found in numerous genocide propaganda (Nielsen, 2015; Scala, 2020; William & Nielsen, 2019). It is noteworthy that toxification, dehumanization and infrahumanization are not mutually exclusive and the theories appear to be consistent one another.

Infrahumanization, dehumanization and toxification have specific antecedents and consequences which overlap each other. Individual differences are accountable for people tendency to dehumanize. People more self-seeking, people who experience more aversion toward outgroups (such as xenophobia, misogyny, homophobia), and people with little capacity for empathy and mentalizing are more prone to dehumanization (Haslam & Loughnan, 2014). People who have strong national beliefs, associated with group derogation, are more likely to dehumanize other outgroups. This effect has not been found when there is strong ingroup identification, implying that intergroup derogation is a key component of dehumanization (Haslam & Loughnan, 2014). Research has shown strong association between SDO and dehumanization in multiple domains; Costello and Hodson (2013) found that SDO levels in Caucasian parents are strong predictors of discriminative behaviors and beliefs of their children toward Afro-American peers. Moreover, Costello and Hodson (2010) found that beliefs of a clear distinction between humans and other animals,

paired with a belief of superiority of the humankind, are strongly associated with dehumanization of ethnic minorities, enemy victims of war, and marginalized people. Finally, narcissistic and psychopathic traits, as well as hostile attitudes toward others are a fertile terrain in which dehumanization can grow (Haslam & Loughnan, 2014). Research has shown that "dark personalities" (psychopathy, narcissism, and Machiavellism) are strongly associated with outgroup dehumanization, mediated by social dominance orientation (Capozza et al., 2019). Aside from individual differences in dehumanization, the emotion linked with dehumanization appear to be disgust (Hodson & Costello, 2007).

Dehumanization has motivational components. Moreover, dehumanization has motivational components. Haslam and Loughnan (2014) divided dehumanization's motives in four categories: sociality, sexuality, moral equanimity, and group protection. People's need for sociality may exacerbate dehumanization. In a study made by Wayz and Epley (2012), people who felt more connected to others tended to dehumanize social distant outgroups. Researchers argued that this effect has been found because, fulfilled the need for sociality, people invest fewer mental resources in empathy and mentalization of other groups. Conversely, people whose social needs remain unmet tend to dehumanize themselves (Bastian & Haslam, 2011).

Sexual motivation may occur in sexualization of others, specifically of women, and the literature on this matter is flourishing (Vaes et al., 2011). Furthermore, Haslam and Loughnan (2014) argue that groups, finding collectively guilty of crimes against other social groups tend to dehumanize their victims to shift the blame and avoid negative feelings.

Finally, social groups tend to exacerbate ingroup humanization, when ingroup identity is threatened, and to maintain a positive ingroup identification, justifying errors as "purely humans" (Haslam & Loughnan, 2014). As above mentioned, perception of threat is a key factor in intergroup dehumanization and toxification. Perception of threat also mediates the relation between dehumanization and aggression, consistently with the toxification hypothesis (Viki et al., 2013).

Regarding social structural factors, power performs an important role in dehumanization. Research has shown that people who belongs to high status groups tend to animalistically dehumanize people who belong to low status groups. Hetey and

Elberhardt (2013). These researchers have found that police personnel animalistically dehumanized people who committed a crime, and conversely, criminals tended to mechanistically dehumanize police personnel.

The consequences of dehumanization cover a broad range of phenomena. Although traditionally dehumanization has been associated with extreme violence and discrimination, modern research has shown that dehumanization and infrahumanization have milder expressions with less extreme consequences (Leyens et al., 2000). Infrahumanization has been associated with reduced pro-sociality toward the target group, reduced thrust and reconciliation, and worse judgement overall. Dehumanization and infrahumanization strongly impact on moral beliefs toward the outgroup (Haslam & Loughnan, 2014): dehumanized groups are excluded from common moral terrain and, therefore, criminal and violent behaviors are generally accepted, namely moral disengagement (Bandura, 1999). Toxification worsen the effect of dehumanization, and intergroup violence and discrimination is perceived not only allowed but necessary to ingroup and personal survival (Nielsen, 2015).

There are social categories that are more likely to be a target of dehumanization than others. Women, who suffer from sexualization, may be a target of dehumanization. People with lower status are more likely to be dehumanized (Haslam & Loughnan, 2014). Dehumanization clearly has racial (we use "racial" because people often dehumanize categorizing by races rather than ethnicity) components. Research has shown that African people are perceived by Caucasian people as closer to animals, while East-Asian people are perceived similar to machines, respectively animalistic dehumanization and mechanistic dehumanization (Haslam & Loughnan, 2014). Moreover, mentally ill people, disabled people, and physically ill people are more likely to be target of dehumanization.

It should be mentioned that there are contexts more prone to dehumanization than others. Mechanistic dehumanization has been found in medical practice (Capozza, Falvo, et al., 2016). These authors argued that physicians may need to see patients as mechanical tools, to reduce the cognitive burden and work better. However, infrahumanization in healthcare facilities may have negative effects on patients' prognosis and treatment. This hypothesis will be discussed in the next paragraph.

2.2 Dehumanization in medical contexts[1]

Haque and Waytz (2012) pointed out that the attribution of a lower human status to patients may have beneficial effect during medical practice, in contrast, Capozza, Falvo, et al. (2016) specified that disadvantages of dehumanization far surpass advantages. In healthcare contexts, dehumanization is caused by impaired. Deindividuation may lead to dementalization: the perception that patients lack agency, experience, and overall depth compared to healthcare providers.

Impaired agency is another cause of dehumanization. In fact, patients are often dependent on other people, and some hospitalized people may have lost mental abilities temporarily or permanently. As above mentioned, the denial of agency implies lacking UH traits, leading to the attribution of a lower human status (Capozza, Falvo, et al., 2016). Perceived dissimilarity may be also a non-functional cause of dehumanization. Medical personnel embody better the prototype of "human being" than hospitalized people, because the definition of *human* includes good health and a well-functioning entity.

From the functional perspective, dehumanizing patients may serve as a coping mechanism reducing stress (Trifiletti et al., 2014) and may facilitate clinical problem solving. These researchers found that humanizing patients increases stress levels in healthcare providers, and in people with high organizational commitment. Haque and Waytz (2012) argue that if physicians focused only on problem solving, without worrying about patients' mental states, they would be more efficient and deliver more accurate diagnosis. Decety et al. (2010) in a study on acupuncture practitioners have found accurate fRMI images, which showing immediate suppression of empathy related brain areas while practicing. Neumann et al. (2011) have found that empathy toward patients decreased in physicians during medical practice.

The effectiveness of dehumanization in increasing problem solving has been addressed by Capozza, Falvo, et al. (2016). According to Jack, Dawson, Norr, et al. (2013), humanizing people causes the activation of the default mode network (DMN, a neural network deputed to reasoning about mind), and the deactivation of the task positive network (TPN, a neural circuit involved in the elaboration of mechanical and non-social processes). Moreover, Jack, Dawson, Begany, et al. (2013) demonstrated

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[1] from now on I use dehumanization in the sense of attribution of a lower human status.

that mechanistic dehumanization does not enhance the problem solving; in their study found that when people mechanistic dehumanize a target population, both TPN and DMN are deactivated. Capozza, Falvo, et al. (2016) interpreted these findings, arguing that suspension of mentalization process is not helpful in a therapeutic relationship. Research has shown the fundamental role of empathy in medicine, reducing patients' cognitive and emotional burden, and fundamental for better responses to therapies. Capozza, Falvo, et al. (2016) argued that medical personnel cannot worry about patients' mental states during complex clinical tasks and, therefore patients must be warned about low-level of empathy during difficult types of treatment.

Considering racially discordant medical interactions, they were attributed to implicit bias (Penner, Gaertner, at al., 2013), but for the first time Capozza, Falvo, et al. (2016) hypothesized that healthcare disparities may be due to dehumanization by physicians. The prevalence of dehumanization on prejudice has been shown in another field by Capozza, Di Bernardo, et al. (2016). These authors have studied the attribution of humanness to people with IDO (intellectual and developmental disabilities) by their educators. The researchers thought educators would attribute less humanness to disabled people: the attribution of a lower human status should be correlate with avoidance behavior, and this correlation should be found after controlling for implicit attitude.

The results showed more attribution of NUH traits by care providers toward disabled people. Moreover, Capozza, Di Bernardo, et al. (2016) showed that educators attributed more primary emotions to the group target and less secondary emotions; in other words, educators dehumanized disabled people. Capozza, Di Bernardo, et al. (2016) measured implicit attitudes (by using SC-IAT), explicit attitudes, attribution of secondary and primary emotions, and approach/avoidance tendencies (by using SC-IAT). Analysis showed strong positive explicit attitudes, probably due to social desirability and stereotype suppression. More interestingly, the study showed a significant correlation between emotion attribution and approach avoidance inclinations: the higher the infrahumanization, the stronger the avoidance measures. Furthermore, SC-IAT scores indicated neutral implicit attitudes toward the target group, and approach/avoidance tendencies were only predicted by the attribution of primary and secondary emotions. The third study by Capozza, Di Bernardo, et al.

(2016) replicated the same protocol as the second study above mentioned, but this time the ingroup was the target. The resulting measures showed neutral scores of implicit attitudes, but high implicit approach scores. Explicit attitudes were positive. More importantly, there were assigned more secondary emotions to the ingroup than the outgroup, confirming humanity bias previously hypothesized.

The attribution of a lower human status to patients has severe consequences on treatments outcomes and Capozza, Falvo, et al. (2016) argue that it may be the leading sociopsychological factor causing healthcare disparities. In the long run, dehumanization may cause patients' alienation and mistrust in medical personnel, and this effect may be greater on social categories more sensitive to mistrust toward institutional system, such as the Afro-American community in the USA (Penner, Hagiwara, et al., 2013). Haque and Waytz (2012) argued dehumanization may have positive effect for physicians in the healthcare context, but research evidence suggests that negative effects outnumber the advantages in medical practice (Capozza, Falvo, et al., 2016). Patients may feel the incongruence between explicit and implicit attitudes, and experience confusion and disorientation. Intergroup dehumanization may also impair patients' self-efficacy perception and self-esteem, and a perceived deterioration of their cognitive abilities, even in the case in which there is no deterioration. These factors may lead to less adherence to treatment recommendations, and an overall negative attitude toward healthcare providers and the self. As we have already seen in Chapter 1, these are some of the major factors contributing to healthcare disparities.

The research on the attribution of a lower human status to patients in healthcare contexts focused on patients' self-dehumanization. Ill people often refer to their body as "time bomb" or "car with three wheels", but the machine-body metaphor is used also by healthy people to describe their body (Diniz et al., 2019). The body-machine comparison has devastating effects for people with chronical illness, increasing social disconnection and sensations of unworthiness. The perception of having a second-class body indicates a hierarchical view of body, in which the ill ones are lower in status than healthy ones. According to these authors, self-dehumanization is a fundamental process in women's self-objectification and its negative effects, such as increasing the tendency to develop depression and eating disorders (Diniz et al., 2019). Moreover,

people with infectious diseases may refer to themselves with dehumanizing adjectives, such as "dirty" and "contaminated", highlighting the feelings of disconnection and social isolation associated with the self.

To summarize, dehumanization in healthcare contexts may be useful to care providers, decreasing burnout feelings, especially in people with high organizational commitment (Trifiletti et al., 2014). Dehumanized patients express less adherence to treatment, and an overall worse mental health. These findings are specifically valid for women, who seems to suffer more from mechanistic dehumanization than men (Diniz et al., 2019). Moreover, people with high self-esteem express more sadness and anger when are target of mechanistic dehumanization. Finally, men showed more compliance when mechanistic dehumanized by physicians, perceiving more competence in their physician (Diniz et al., 2019). As these authors highlight, dehumanization in medical contexts have a disruptive influence on treatment's outcomes, worsen medical practice and increasing feelings of mistrust and unworthiness. Diniz et al. (2020) have found a positive correlation between classism (the perception that people with lower SES [Socio-Economic Status] are worse than people with high SES) and dehumanization in medical context. Medical personnel perceived L-SES [Low Socio-Economic Status] people lacking agency and planning, animalistically infrahumanizing them. Moreover, they were less willingly to adopt a patient-centered communication model, which addresses patients' point of view, needs, and values. Healthcare providers also perceived that people with L-SES felt less pain and denied their feelings of discomfort.

Dehumanization is a sociopsychological process found also in the mental disease contexts. Fontesse et al. (2019) highlight the strong presence of animalistic dehumanization in psychiatric facilities, where patients are perceived as dangerous, aggressive, and cognitively impaired to the point they are compared to animals or children. Dehumanization of psychiatric patients leads to social avoidance and stigmatization, which are detrimental to patients' rehabilitation, specifically harmful to severely mentally ill patients (Fontesse et al., 2019). Fontesse et al. (2021) found that dehumanization mediates the correlation between stigmatization and patients' consent value. This study has been conducted in psychiatric healthcare facilities. Researchers argue that dehumanization leads to harsher responses to moral dilemma,

and potentially may lead to the disposition to mistreatment in healthcare facilities, scarce value of patients' pain and overall poorer decision making. Taylor (2020) researched the disruptive effects of dehumanization in women seeking help for suicidality after intimate partner violence (IPV): dehumanization by educators and mental health professionals. The investigator named *system entrapment* the spiral of emotional and trauma invalidation, which erodes the feelings of worthiness, and increases social isolation, stigma, blame, and shame resulting trauma (Taylor, 2020). A woman may experience system entrapment when care providers do not take her suicide feelings seriously, leaving her alone and abandoned. Taylor (2020) in her research found that invalidation by crisis line workers is mainly due to dehumanization from the care providers to the victims. Invalidation and dehumanization further worsen women's mental condition and their thrust in healthcare system, discouraging them to seek help again.

Researchers hypothesized over the years methods to overcome patients' dehumanization in medical facilities. Falvo et al. (2021) pointed out that patient-centered therapies place a heavy burden over healthcare providers' shoulders. Patient centered therapies use emotional involvement, empathy, sharing information and high patient's personalization to improve the treatment's quality and outcomes. This approach has proven working in numerous medical context (Delaney, 2018). However, medical personnel who adopt patient-centered therapies are more likely to suffer from burnout and develop compassion fatigue (Falvo et al., 2021). These researchers found that secure attachment is a protective factor from dehumanization. To overcome the proneness of certain healthcare roles to burnout, stress, and compassion fatigue, it may be helpful to identify personnel with secure attachment. Moreover, as we know, secure attachment can be triggered using comforting images and thought (Mikulincher & Shavers, 2007). Having a positive and supportive organizational climate may also be a protective factor, which also triggers secure attachment. Organizational changes can shift the coping strategy from infrahumanization to more adaptive ones.

Fontesse et al. (2019) highlight the necessity of organizational support in healthcare facilities, including teaching of adaptive coping skills (mindfulness, stress management, close supervision of healthcare providers by superiors), and monitoring whereas the risk of dehumanization is higher. These authors pinpoint the research need

to distinguish between sporadic dehumanization, which may occur because high stress periods or specific practitioners' unmet needs, and chronic, systemic dehumanization in healthcare facilities, which more likely lead toward healthcare disparities (Fontesse et al., 2019).

As infrahumanization is often an implicit mechanism (Haslam & Loughnan, 2014), it may be helpful to increase medical practitioners' awareness of dehumanization. Luna et al. (2019) proposed to increase empathy trainings to fill the perceived gap between healthcare providers and patients. As this strategy seems appropriate, it may exacerbate medical personnel's burnout, especially people with high work engagement (Falvo et al., 2021).

Intergroup contact seems to be the most effective strategy for reducing intergroup dehumanization. Capozza et al. (2013) found in two studies that intergroup contact is associated with more attribution of uniquely human traits to the outgroup, therefore reducing intergroup dehumanization. Moreover, the positive effect of intergroup contact was mediated by intergroup emotions (anxiety and empathy). Falvo et al. (2015) have showed the effectiveness of imagined contact in reducing intergroup infrahumanization. Visintin et al. (2017) showed the importance of mass extended contact in reducing humanity bias. The association was mediated by intergroup anxiety, empathy, and trust, confirming the results of Falvo et al. (2015). Intergroup empathy also mediates the correlation between primed personal security and intergroup dehumanization (Capozza et al., 2022). These amount of research shows the importance of intergroup feelings in reducing dehumanization. The chapter that follows describes the present study.

CHAPTER 3
THE PRESENT STUDY

3.1 Aims and Hypotheses

As we have discussed, healthcare disparities are a massive phenomenon disrupting medical interaction, influencing patients' prognosis and overall impoverishing healthcare quality among people who belongs to ethnic minorities. Penner, Hagiwara, et al. (2013) addressed the cause of healthcare disparities to the discrepancy between physician's implicit and explicit prejudice. Penner et al. (2013) addressed the cause of healthcare disparities to the discrepancy between physician's implicit and explicit prejudice. Capozza, Falvo, et al. (2016) suggested that humanity attributions to outgroup may influence healthcare disparities even more than implicit and explicit attitudes, impacting the quality of communication, patient's satisfaction of care, and adherence to treatment recommendation. The aim of this study is to analyze, for the first time in the Italian context, the effects of outgroup dehumanization in racially discordant medical interactions on healthcare disparities.

To test the hypothesis, we performed an experimental study on Medicine students coming from all over Italy, examining racially discordant medical encounters: Italian physician and immigrant patient. The study is structured in two phases. In the first phase, we analyzed, both with implicit and explicit measures, disparities predictors, that is, intergroup prejudice and dehumanization. Participants were contacted three weeks after for the second part of the experiment, in which we created an experimental manipulation by introducing a clinical case scenario. Our aim was to compare quality of care in the different conditions: Italian vs. immigrant patient and female vs. male patient (four between participants conditions). To detect explicit attitudes, we used two measures: feeling thermometer and semantic differential. We used a subtle self-report measure for humanity attributions based on Uniquely Human (UH), Non-Uniquely Human (NUH), and Human Nature (later HN) traits (for UN and NUH traits, see Capozza et al., 2013). On all the measures, Moreover, we used two IAT-tasks (Greenwald et al., 1998) to measure, respectively, implicit intergroup attitudes and implicit humanity bias (for stimuli used in the IAT-Humanity, see Capozza et al., 2012).

We hypothesize that Medicine students may not explicitly express their prejudice nor their dehumanizing perceptions toward the outgroup, thus masking their bias due to social desirability issues. However, intergroup bias should be revealed in the implicit measures.

In the second part of the study, we verified the presence of healthcare ethnic disparities. We utilized a clinical case regarding a patient affected by gastric carcinoma, asking participants to imagine taking care of the patient. The clinical case was the same in the four conditions, except the patient's name attached (for female immigrant: Joana Dragomir, male immigrant: Alecu Dragomir, male Italian: Paolo Tosato, female Italian: Chiara Tosato). Participants had to answer to a questionnaire about their medical relationship with the patient. Specifically, variables investigated were: number of medical examinations prescribed to the patient, therapeutical protocol proposed, number and type of contact details given to the patient (e.g., secretary's e-mail address, personal cellular), participants' expectations about patients' recollection of the medical encounter, expected trust and satisfaction of care, expected adherence to treatment recommendations. Furthermore, we asked to participants what their behavior would be if the patient was incurable. We also measured implicit approach/avoidance tendencies by using a Single Category IAT task (Karpinski & Steinman, 2006) at the end of the questionnaire, in which participants were asked to classify avoidance and approach words and the name of the patient presented in the clinical case. This measure has been used only for a part of the sample, as it will be discussed later.

We hypothesize that participants answer to the clinical case questions and to the SC-IAT accordingly to patient's ethnic origin (and gender). Healthcare disparities occurs if, for instance, the participant prescribed fewer medical exams to the immigrant patient than the Italian one, if he/she expected less trust or adherence to treatment when the patient is immigrant or if he/she showed avoidance spontaneous tendencies towards the immigrant patient in the SC-IAT measure. Moreover, we could expect a stronger effect of healthcare disparities when the patient is male rather than female. It is worth to highlight that some of the measures used in this study to detect disparities are quite subtle, such as the quantity and quality of contact details, or even implicit, such as the SC-IAT approach/avoidance.

Finally, we explore whether intergroup humanity perceptions can predict, besides prejudice, healthcare disparities.

For the second phase, we analyzed only data regarding the approach/avoidance measure. Explicit measures and the respective results regarding this phase are described extensively in Picca (2021/2022).

3.2 Methods

3.2.1 Participants

Participants were $N = 253$ undergraduates from different Italian Schools of Medicine We examined, for the present work, $N = 109$ medicine students; data from these participants were analyzed jointly with previously collected data ($N = 144$), and include approach/avoidance responses, measured through the SC-IAT (this implicit task was the last measure of the second phase only for these participants).

The recruitment was by snowball sampling. The participants' mean age was $M = 25.80$ ($SD = 2.62$); 125 were females and 128 males. All participants had both Italian parents, while four of them reported one parent from another nationality. Most of the participants (77%) attended the 5th, or 6th year of medical school (9.5% were medical residents).

3.2.2 Procedure

Both first and second phase of this study were conducted online. Participants were recruited by experimenters' social networks: the experimenters published an announce and the experimenters' contacts by social media (Facebook, Instagram, Whatsapp, and Telegram). Participants were told the aim of the study was to examine interpersonal and intergroup relationships; moreover, any information that could bias the first or the second phase of the experiment was disclosed, and a full explanation of the research objectives was available at the end of phase 2.

The researchers sent a brief script with useful information to participants with the link to phase 1 and 2. In the script there were information about the study: participants were aware that the study was divided into two distinct phases, three weeks apart one another. The experimenters proceeded to send the access link to the subjects. After they clicked on the link, participants had to download the program plugin to run the experiment. At the beginning of phase 1, participants had to use a personal code known only to them, which was fundamental to link phase 1 and 2. For

this reason, subjects had to write their password down. Before starting phase 1, participants agreed to an informed consent form (it was assured the complete anonymity of their responses). Participants were told to choose a quiet moment and place to run the experiment with their pc. They were informed that the questionnaire consisted of some questions and a stimulus discrimination task. At the end of phase 1, participants were told to write an e-mail to the experimenters to inform them the day in which they completed the experiment; thus, the experimenters were able to schedule the next session three weeks later.

For phase 2, participants were randomly assigned to one of the four experimental conditions. As the experimental conditions were different, the experimenters sent different links and materials accordingly. At the end of phase 2, there was an explanation of the actual research aims and afterward a final informed consent form.

3.2.3 Measures

To collect data in both phase 1 and 2, the software INQUISIT was used. The software allowed programming both explicit and implicit tasks (the questionnaire plus the two IAT tasks for phase 1, and the questionnaire plus the SC-IAT task for phase 2).

Phase 1 measures.

Explicit attitudes. We used two measures for explicit attitudes toward ingroup and outgroup: feeling thermometer and semantic differential. In the feeling thermometer, participants had to express their attitudes toward a target group on a response scale ranging from 0 (*extremely negative*) and 100 (*extremely positive)* (scores were coded from 1 to 11; 6 was the neutral point of the scale). The scale was represented by a thermometer image. We included many different groups: besides Italians and immigrants, which are the target of the study, we used filler groups, such as homeless people, United Europe, and intellectual disabled people.

The semantic differential was articulated in five 7-step scales expressing the evaluation factor. At one end of the scale there was a positive word, such as desirable, and on the other end, its opposite, in this case undesirable. Participants evaluated the outgroup (immigrants) prior to the ingroup (Italians). Higher scores indicate better evaluations of the target category (4 was the neutral point of the scale).

Perceived discrimination. We included two items to detect how much the students believed the immigrants feel discriminated. An item was "The immigrants believe that opportunities available to other people are denied to them." Participants answered on a 7-step scale (1 = *completely disagree*; 4 = *I don't agree nor disagree*; 7= *completely agree*). Higher scores indicate higher levels of perceived discrimination.

Humanity attributions. We used the items developed and validated by Capozza et al. (2013) to detect humanity attributions. The items were four Uniquely Human traits, such as morality and rationality, and four non-Uniquely Human traits, such as instinct and impulsiveness. We also included five traits detecting Human Nature, taken from Bastian and Haslam (2010), such as interpersonal warmth and empathy. Finally, we used some filler items (e.g., efficiency and intelligence). Participants evaluated immigrants first, and Italians afterward. We used a 7-step scale (-3= *absolutely false*, 0 = *not true nor false*, +3 = *absolutely true*; scores were coded from 1 to 7). The items were preceded by an initial sentence "The immigrants [Italians] are defined by the following traits" followed by the traits randomly presented.

IAT-Attitudes. We used a first IAT task (Greenwald et al., 1998) to measure implicit attitudes toward ingroup and outgroup (IAT-A). The task is a computerized categorization procedure, in which we registered participants' response time. Participants have had to classify as fast as possible, the stimuli appearing in the middle of the screen, presented one at a time, by pressing the "W" (on the left) and "P" (on the right) button on the keyboard. Every mistake impeded the task continuation until response was corrected, implying longer response time.

The stimuli we used in the IAT-A consisted in typical Italian names, both male and female (e.g., Ciro, Marzio, Livia, Diana) and typical immigrant names, both male and female (e.g., Radu, Abdoul, Fatima, Irina). Evaluation was expressed by positive (e.g., paradise, joy) and negative (e.g., venom, prison) words. The test is divided into compatible and incompatible blocks: in the two compatible blocks (the first was of practice trials), ingroup names and positive words were to be classified with the left response-key while immigrant names and negative words with the right one. In the two incompatible blocks (the first was of practice trials), outgroup names and positive words were to be classified with the left button, and ingroup names and negative words with the right one

IAT-Humanity. IAT-H is structured analogously to IAT-A, with one difference: negative words are replaced by animal concepts (e.g., animals and cub) while positive words are replaced by human concepts (e.g., young boy and citizen). These words are designed to express humanity and animality (Capozza et al., 2012). When the IAT-H effect is positive, the ingroup is associated more with human concepts than the outgroup, and animal concepts are more associated with the outgroup than the ingroup, providing an implicit measure of outgroup dehumanization.

For each of the two IAT tasks, order of compatible and incompatible blocks was counterbalanced between participants.

Phase 2 measures.

We designed four questionnaires, corresponding to the four experimental conditions: ingroup male (Paolo Tosato), ingroup female (Chiara Tosato), outgroup male (Alecu Dragomir) and outgroup female (Joana Dragomir). The questionnaires differ one another only for the patient's name presented in the clinical scenario. Participants were told that this second part of the study would be about their future relationships with patients. A clinical scenario of a patient affected by gastric cancer was presented. Participants were asked to identify with the role of an oncologist, imagining caring for the patient, and to answer the questions even though, in some cases, they might not feel prepared to do so.

SC-IAT-Approach/Avoidance. The phase 2 consisted in a questionnaire detecting the future doctor's perceptions of the therapeutic relationship with the patient presented in the scenario (see Picca, 2021/2022) and a final stimuli classification task, that is, the SC-IAT (Karpinski & Steinman, 2006) that we designed to capture implicit approach and avoidance tendencies (see Capozza et at., 2016). The SC-IAT is a test for a single target-category. In our case, the task measured approach and avoidance tendencies towards the patient (accordingly with the experimental condition). We used five words as stimuli for approach ("I move close", "I approach", "I match", "to approach", "I touch")[2], five words for avoidance ("I avoid", "I escape", "I move away", "I distance myself", "to avoid")[3], and five stimuli for the patient's name (e.g,

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[2] It is worth to mention that the word we used were in Italian and, although we translated them as best as possible, the meaning is subtly different. The original words used were: "mi avvicino", "mi accosto", "approccio", "approcciare" "toccare

[3] The same issue can be applied to avoidance words. The original words were: "evito", "sfuggo", "mi allontano", "mi discosto", "evitare".

for the condition in which the patient was a male outgroup member, the words were: "Alecu Dragomir," "Alecu," "Dragomir," Dragomir Alecu," "A.D."). The computerized task included two practice and two experimental blocks, with 24 trials each, presenting one stimulus at time in the center of the screen; participants were instructed to answer as fast as possible. As the It, two blocks were compatible: approach words (5 stimuli, 2 of which were repeated twice, for a total of 7 trials) and the patient's name (5 stimuli, 2 of which were repeated twice, for a total of 7 trials) were to be classified with the left button, while avoidance words (the 5 stimuli were repeated twice, for a total of 10 trials) with the right button (instructions were given to the participants before starting each block of trials). In the incompatible blocks, the patient's name and avoidance words (7 + 7 trials) were to be classified with the right button and approach words (10 trials) with the left one. As for the two IAT tasks, also for the SC-IAT, order of compatible and incompatible blocks was counterbalanced between participants. The SC-IAT implies a response window of 1500 ms: if participant does not give the answer within this period, a reminder is shown for 500 ("Please respond more quickly" presented for 1500 ms). The response window is intended to speed up responses (the task, compared to the IAT, is easier because there are 3 categories of stimuli, instead of 4) thus preventing controlled processes. The SC-IAT also gave feedbacks: if the answer was correct, a green "O" was shown, if it was incorrect, a red "X" was presented. The intertrial interval was 250 ms.

The SC-IAT effect is obtained as the difference between mean latencies in the incompatible and compatible blocks: the higher the positive difference the more approach concepts (vs. avoidance) are associated with the patient, indicating implicit approach tendencies towards him/her.

3.3 Results

In the following section, we describe the results of the study, initially discussing those obtained in the first phase, in which future doctors' intergroup attitudes and humanity perceptions were detected with explicit and implicit measure and, subsequently, those of phase 2, in which we introduced the experimental manipulation (the four clinical scenarios) to detect healthcare disparities. Finally, we evaluate the effects of humanity attributions and attitudes on ethnic healthcare

disparities. As we said before, for the second phase, we analyzed only results of the SC-IAT, embedded to detect potential ethnic disparities in the approach/avoidance spontaneous tendencies (results of the explicit measures collected in the phase 2 are reported in Picca, 2021/2022).

3.3.1 Phase 1: Attitudes and humanity attributions towards immigrants and Italians

Explicit attitudes. Regarding explicit attitudes measured in the first phase, for the feeling thermometer, we found that the mean score for the ingroup is $M = 7.49$ ($SD = 1.91$), and for the outgroup is $M = 8.52$ ($DS = 2.03$). Both means resulted significantly greater than 6 (the midpoint of the response scale), $ts \geq 12.44$, $ps < .001$. Therefore, both target groups are evaluated positively. However, comparing the two means, we found that the evaluation toward immigrants is significantly better than toward Italian, $t(252) = 6.40$, $p < .001$. For the semantic differential, mean for Italians ($\alpha =.74$) is $M = 4.36$ ($DS = 0.66$) and, for immigrants ($\alpha = .82$), is $M = 4.55$ ($DS = 0.74$). The two means are significantly higher than 4 (the midpoint of the response scale), $ts \geq 8.61$, $ps < .001$. These results confirm the positive attitudes for both groups. Moreover, the two means are significantly different, $t(252) = 4.15$, $p < .001$, indicating, once again, more favorable attitudes towards the outgroup.

Humanity attribution. The composite scores regarding UH, NUH, and HN traits, for both ingroup and outgroup, have been computed, after calculating the α coefficients (that were all satisfactory, ranging from .64 to .89). We applied to the six composite scores an ANOVA 2 (target: immigrants vs. Italians) x 3 (traits: Uniquely Human vs. Non-Uniquely Human vs. Human Nature) with both as within-subjects factors. The analysis showed that the interaction between the two factors is significant, $F(2,554) = 6.94$, p = .001. Results of simple effects analyses are shown in Table 1.

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Table 1: Humanity attributions to ingroup and outgroup

Target Traits	Italians	Immigrants
UH	4.40 a	4.55 b
NUH	4.79 c	4.66 b
HN	4.69 c	4.60 bc

Note: different letters in row and columns indicate that mean scores are significantly different, p < .02

As can be observed, medicine students attributed more distinctive human (UH) traits to the outgroup than the ingroup whereas Non-Uniquely Human traits are attributed more to the ingroup than the outgroup; no significant difference in attribution of Human Nature traits was found. Moreover, there is no significant difference in participants' attributions to Immigrants of UH, NUH, and HN traits; however, participants attributed less Uniquely Human traits to their ingroup than NUH and HN traits. These results show no trace of ingroup bias in humanity attributions; quite the opposite, future doctors show dehumanizing perception towards the Italian ingroup.

Perceived discrimination. The mean of perceived discrimination ($r = .47$, $p < .001$) is $M = 5.57$, significantly different from the midpoint (4), $t(252) = 27.93$, $p < .001$. This result indicates that participants believe immigrants in Italy perceive themselves discriminated.

IAT-Attitudes. To calculate the IAT effect for implicit attitudes, we used the *D* score, following Greenwald et al. (2003) procedure. In this procedure participants had to eventually repeat their answer until a correct answer was given. This procedure forces a delay in reaction time (penalty). Before computing the *D* scores for each participant, we excluded a subject who has made too many errors (66.67% on a combined block) and gave too many anticipated responses (more than 10% of the trials with latency inferior to 300 ms). The *D* scores mean is $M = 0.46$ ($SD = 0.36$), which is

significantly higher than 0, $t(251) = 20.30$, $p < .001$. This result shows implicit prejudice toward immigrants among future doctors, and it is opposite to the results of both the explicit attitudes measures. We also controlled the possible influence of blocks order (compatible first vs. incompatible first) which did not produce any significant effect (we conducted this analysis only for a part of the sample due to a programming error).

IAT-Humanity. Regarding IAT-H, we calculated the *D* scores with the same procedure as IAT-A. In this analysis, we had to exclude five participants ($N = 248$) due to an excess of errors and/or anticipated responses. The mean of *D* scores is $M = 0.44$ ($SD = 0.28$), significantly different from 0, $t(247) = 24.07$, $p < .001$. This result indicates humanity bias at implicit level among medicine students: participants show automatic associations of humanity concepts more with Italians than immigrants, and automatic associations of animal concepts more with the outgroup than the ingroup. Therefore, as for intergroup attitudes, implicit humanity measure shows an opposite result to that found with self-report humanity traits attributions.

For the IAT-H, we found a significant effect of the blocks order: the mean *D* score is higher when participants started the task with the incompatible blocks ($M = 0.49$) than the compatible ones ($M = 0.35$), $t(165) = 3.07$, $p = .003$. We then controlled separately the IAT-H effect, and we found that it is significant in both conditions, $ts \geq 12.17$, $p < .001$.

To summarize, we found discrepancy between controlled and automatic responses, both for attitudes and humanity. The explicit attitudes scores indicate immigrants are evaluated more positively than Italians, but IAT-A score shows that medicine students have implicit preferences for the ingroup. Consistently, participants attributed, in the self-report measure, more human traits to the outgroup than the ingroup; however, the implicit measure registered stronger humanity associations with the ingroup than the outgroup, confirming the presence of humanity bias. These incongruencies are maybe due to strong social desirability issues. Participants can control their responses and eventually mask prejudiced evaluations and beliefs toward the outgroup only in the explicit measures. It worth noting that although we used a subtle self-report measure based on humanity traits attributions, it may be possible that

participants successfully understood the goal of the questionnaire, thus controlling their responses.

3.3.2 Ethnical disparities. Experimental manipulation effects.

We now analyze results regarding phase 2, where the participants were assigned to one of the four experimental conditions: the patient presented in the clinical scenario was immigrant vs. Italian (and male vs. female), considering, as dependent variable, the SC-IAT approach/avoidance responses ($N = 109$). The D scores were calculated according to the algorithm developed by Karpinski and Steinman (2006). We excluded six participants because they made too many errors (more than 25% of the total trials). A positive D score indicates approach tendencies toward the patient (that was different according to the experimental condition). The mean D score is $M = 0.31$, significantly different from 0, $t(102) = 5.99$, $p < .001$. Therefore, on average, medicine students show approach tendencies toward the patient. However, the 2 x 2 ANOVA does not reveal any significant effect, suggesting that future doctors may not have different approach/avoidance responses, whether interacting with an Italian or immigrant patient. Thus, our hypothesis regarding disparities in spontaneous behavioral tendencies is not confirmed.

Is worth noting that the blocks order effect in the SC-IAT is significant. Half participants started with the compatible blocks (patient's name and approach first) and the other half started with the incompatible blocks (patient's name and avoidance first). The mean score for the former condition is $M = 0.14$ and for the latter is $M = 0.45$, $t(101) = 3.12$, $p = .002$. Participants that started with incompatible blocks could have found even more difficult to avoid the patient (i.e., to classify patient's name and avoidance words with the same response key), thus lengthening reaction times in this block and increasing the SC-IAT effect (D scores), compared when they started with approaching the patient (i.e., to classify patient's name and approach words with the same response key). This result may indicate the effort participants made to control their responses so as not to appear biased.

3.3.3 Attitudes and humanity attributions as predictors of approach/avoidance tendencies

To test the effects of intergroup attitudes and humanity attributions (measured in the first phase) on approach/avoidance implicit tendencies (measured in the second phase), we conducted moderation analyses with PROCESS (Hayes, 2017, Model 1). We used comparative measures as predictors, one at a time, considering the others as covariate. These measures are: infrahumanization index (the difference of Uniquely Human traits attribution to ingroup and outgroup; a positive score indicates higher humanity of the ingroup), dehumanization index (the difference between attributions of UH and NUH traits to immigrants; a positive score indicates dehumanizing perceptions towards the outgroup), the difference between attributions of HN traits to ingroup and outgroup (a positive score indicates more human nature assigned to the ingroup), and explicit attitudes scores (higher scores indicate more positive evaluations). We did not use the implicit measures of intergroup bias (IAT-A, IAT-H) because they did not correlate, in a preliminary analysis, with approach/avoidance scores. The outcome variable in each analysis was the SC-IAT D score. Patient's ethnicity was the moderator variable, specifically the experimental conditions of Italian patient in the clinical scenario (codified by 0) and immigrant patient (codified by 1). Patient's gender was not considered because it was not correlated with the variables of interest. We conducted parallel analyses, considering for explicit attitudes, the Feeling Thermometer in one case and the Semantic Differential in the other.

Three interaction effects (indicating the moderation of the experimental condition) were significant. The first concerns the infrahumanization index ($b = -0.36$, $p = .004$), that was associated differently with the SC-IAT for the two experimental conditions. The results of simple slopes analysis are reported in Figure 1.
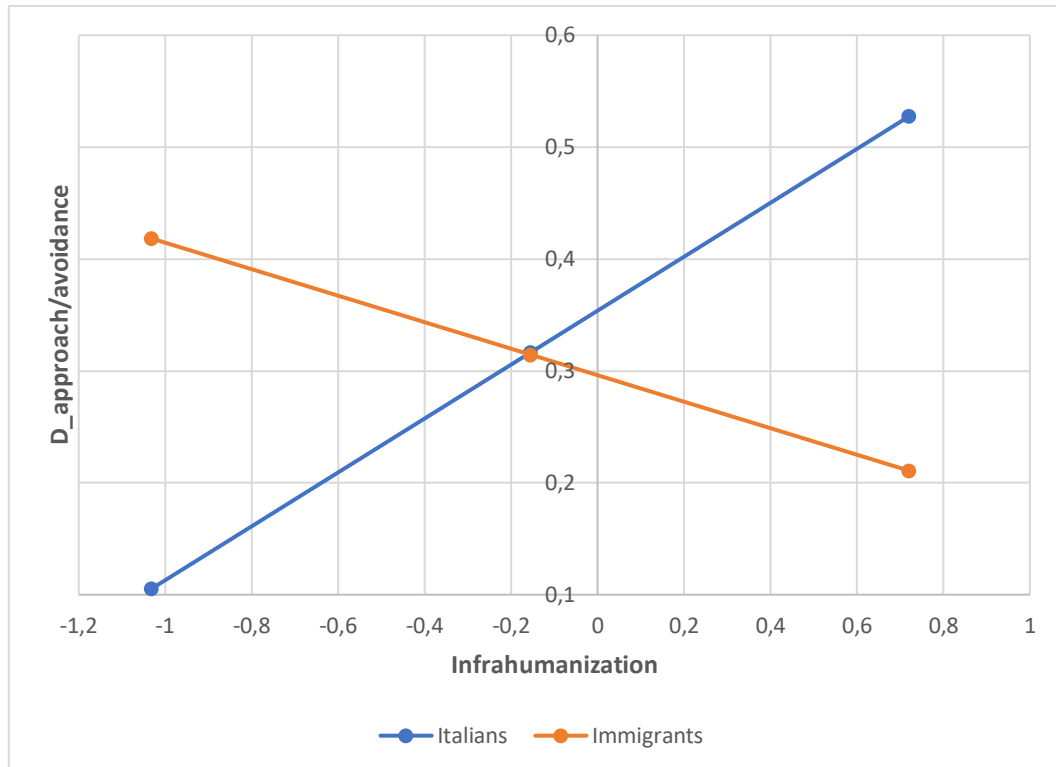
Figure 1. Moderator effect of the experimental condition (Italian vs. immigrant patient) in the relation between infrahumanization and approach/avoidance scores

It was found that infrahumanization is positively associated with spontaneous approach tendencies when the patient is Italian (b = 0.24, *p* = .01). Although the relation is negative when the patient is immigrant, it was not significant. Therefore, the more future doctors perceive their Italian ingroup as more prototypical of humanity (compared to immigrants), the stronger approach tendencies toward the Italian patient are.

The second significant interaction regards the relations between the perceived intergroup difference on Human Nature traits and approach/avoidance tendencies (b = 0.26, *p* = .042). Simple slopes analysis (see Figure 2) shows that the correlation is positive and significant only when the patient is Italian (b = 0.16, *p* = .072, marginal effect; when the patient is immigrant, the relation is negative, but not significant). Therefore, again, the more Italians are perceived as closer as the humanity concept on human nature dimension (compared to immigrants), the stronger the approach tendencies toward the Italian patient are.
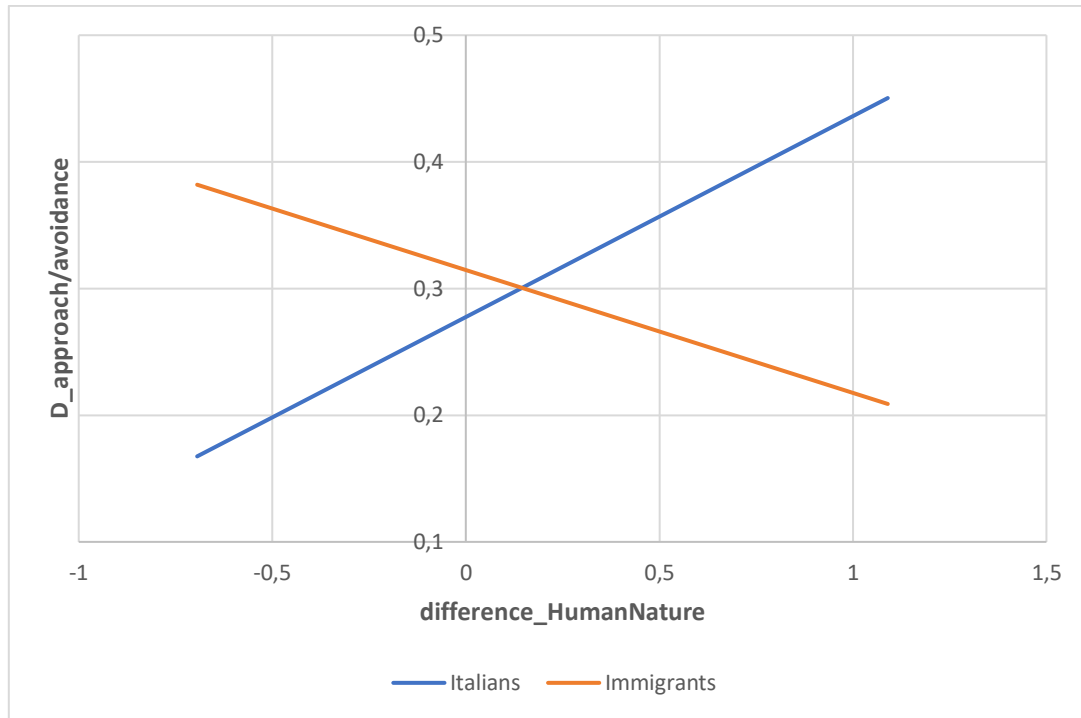
Figure 2.Moderator effect of the experimental condition Italian patient vs. immigrant patient in the relation between differential scores in Human Nature attribution and approach/avoidance scores

The third significant interaction concerns the different evaluation between ingroup and outgroup in semantic differential (b = -0.38, *p* = .034). The simple slopes analysis (see Figure 3) shows that the relation, this time, is significant only for the outgroup patient. As we can see, to a stronger evaluative ethnocentrism toward the ingroup corresponds higher avoidance tendencies toward the patient belonging to the outgroup (b = -0.27, *p* = .009).
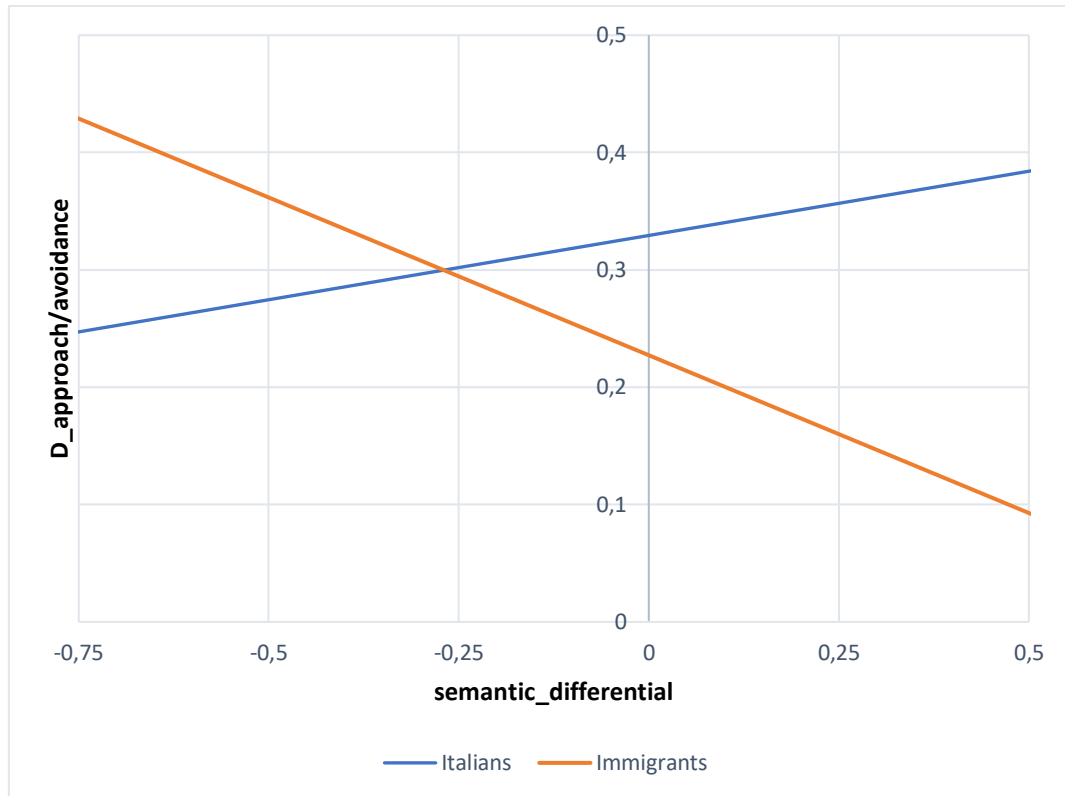
Figure 3. Moderator effect of the experimental condition Italian patient vs. immigrant patient in the relation between semantic differential scores and approach/avoidance scores

To summarize, the most influential variable on approach/avoidance scores appears to be intergroup humanity attributions, both for UH traits and HN traits, especially when the future doctor interacts with an Italian patient. The only significant predictor of approach/avoidance tendencies, when the patient is immigrant, is explicit intergroup attitudes (measured with semantic differential).

3.4 Conclusions

This study addressed, for the first time in Italy, the issue of healthcare disparities. We explored intergroup relation with the immigrant minority. Our sample included Italian medicine students, mostly at the last year of Medical School, which participated in two phases of this study.

The results of first phase show there is no intergroup bias in explicit measures: participants evaluate better immigrants than Italians in both attitudes measures and attributed more humanity to the outgroup than the ingroup). However, implicit measures clearly detected intergroup bias: IAT-A shows participants' implicit ingroup preference and IAT-H stronger associations of human concepts with the ingroup than the outgroup. Therefore, Medicine students favor the outgroup in the explicit measures, where they have control over their answers, but they show prejudice and ingroup humanity bias in the implicit measures, where they can control more scarcely their responses. These results might be caused by the need to mask possible negative evaluations and beliefs toward immigrants and thus to give socially acceptable answers. The results of explicit measures collected in the second phase seem to confirm this interpretation. In fact, participants expected more trust from immigrant patients and left them more contact details (see Picca, 2021/2022).

Thus, contrary to the hypothesis, we did not find healthcare disparities, that is, discrimination in the subtle behavioral measures, and in physicians' expectations of patients' reactions to the medical encounter. Consistently with what found in the first phase, participants favored immigrant patients. Disparities are not revealed also in the implicit measure of approach/avoidance: future doctors tend to approach the patient regardless of his/her ethnic origin. Taken together, these results suggest that the medicine students examined seem to make a considerable effort to suppress their prejudice and to behave as fairly as possible. The effect of the blocks order in the SC-IAT is consistent with our interpretation.

Covid-SARS19 pandemic might have sharpened the students' awareness on ethnic disparities: in this historical moment, social norms against ethnic disparities may be particularly salient, probably canceling in our research the chances to detect medical discrimination based on patients' ethnic origin.

The results of the block order analysis are consistent with our interpretation: reaction time were longer when participants started their task with incompatible blocks in the immigrant patient condition (immigrant patient name and avoidance are codified with the same key button and approach with the other one), causing an approach SC-IAT effect even stronger than the one registered in compatible blocks.

Covid-SARS19 epidemic might have sharpened the students' awareness on ethnic disparities, thus influencing the characteristics of our experimental sample. Moreover, in this historical moment, social norms against ethnic disparities may be particularly salient, canceling the chances on detecting medical discrimination based on ethnic origin in our research.

Future research may address the role of some variables that may influence healthcare disparities. For example, it could be useful to explore the role of motivation to control prejudice, which might be internal (based on personal standards and values), or external (based on social norms dictated by professional roles or social context; for the distinction between internal and external motivation, see Plant & Devine, 1998, and Dunton & Fazio, 1997). Social dominance orientation (SDO) might be another fundamental individual factor in physicians influencing healthcare disparities (Pratto et al., 1994). In fact, we would expect to find more healthcare disparities in physicians with high levels of SDO. Moreover, it may be interesting to address participants' tendency to give socially desirable answers (Paulhus, 1991).

The last result regards the effects of attitudes and humanity attributions (explicit measures collected in phase one) on behaviors, evaluations of quality of care and approach/avoidance measures toward the Italian vs. immigrant patient (measures collected in phase two). Participants expectations on patients' reactions to the therapeutic encounter depend on both attitudes and humanity attributions toward the patient' ethnic group, and in some cases (e.g., for contact details given to patient), they depend only on humanity attributions (see Picca, 2021/2022). Approach/avoidance tendencies are influenced by humanity attributions (both UH and HN traits) when the patient is an ingroup member. This result is consistent with what found by Capozza, Falvo, et al. (2016), that observed that humanity attributions are better predictors of approach/avoidance tendencies than attitudes. Finally, we note that patient's gender (the second factor experimentally manipulated), was found to be generally less influent.

The innovation of this study is the exploration of healthcare disparities in Italy with both explicit and implicit measures and the investigation of humanity perceptions' effects on disparities. A limit of this study is the analysis of participants' expectations on the patients' reactions to the medical encounter rather than the actual

patients' reactions. Future research might address this issue. Another limitation is intrinsic in the sample. Medicine School students represent a different population as compared to professional physicians. Research shows that physicians with more years of experience tend to have lower levels of empathy (Neumann, 2011). Future research might focus on experienced physicians with different length of service levels. Moreover, future research should explore also physicians' non-verbal behavior and paraverbal communication during racially discordant medical interactions,

Our results have practical implications. Medical education on healthcare disparities (and their psychosocial causes) is a priority. Implicit prejudice and outgroup dehumanization may negatively influence physicians' spontaneous behaviors, disrupting the therapeutic alliance with minority patients thus leading to poor health outcomes. Intergroup contact is a simple and effective strategy to reduce implicit prejudice and intergroup dehumanization, even during students' medical training (for prejudice reduction among medicine students, see Onyeador et al., 2020; for outgroup humanization, see Capozza et al., 2014, 2017).

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