2023

Establishing a Health-Based Social Hierarchy

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ESTABLISHING A
HEALTH-BASED SOCIAL HIERARCHY

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

PROGRAM IN APPLIED SOCIAL PSYCHOLOGY

BY

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CHICAGO, IL

MAY 2023

ACKNOWLEDGEMENTS

I would like to thank everyone who made this dissertation possible, starting with my advisor Dr. Jeffrey Huntsinger who provided me with all the resources and support I needed to complete this project. I'm so grateful to have had the opportunity to work with him and learn from him to become the researcher that I am today.

I am also extremely grateful for the additional funding I received from Dr. Robyn Mallett for this project, as well as the support I've received over the course of my time at Loyola from her and the entire BROAD/ESC Lab.

I would also like to thank my committee members, Dr. Scott Tindale, Dr. Byron Brooks, and Dr. Dana Garbarski, who all provided insightful feedback and suggestions that really elevated the quality of this dissertation.

Additionally, without the co-working sessions (both virtual and in person), memes shared, and emotional support from Alec Gross, Zahra Naqi, Salma Moaz, and Chad Osteen, the completion of this dissertation would have been so much harder to get through and I can't thank them enough.

Finally, I want to extend a special thanks to my parents, Tracy and Philip, my brothers, Abdel and Ahmad, and my Aunt Dorothy without whom I wouldn't have even made it to this point. It is because of their continued support, sacrifices, and love that I am where I am today.

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ABSTRACT

Social dominance theory (SDT) proposes a basic human nature to form social hierarchies based on social group membership with dominant and subordinate social groups. These social hierarchies are maintained through legitimizing myths, or beliefs that work to frame the existing social system as fair by suggesting that individuals receive the social status they deserve based on their actions and contributions to society as opposed to their group membership. The level at which an individual wants to maintain social hierarchies is indicated by their Social Dominance Orientation (SDO). SDT has been extensively studied in the context of race, gender, and age but this dissertation aimed to expand the research by establishing a health-based social hierarchy that would influence health related beliefs and judgements.

I first ran a correlational study to explore the relationship between SDO and various health beliefs and behaviors. I then ran a study that aimed to establish the uniqueness of this health hierarchy which found that people high in SDO tended to blame and dislike an individual who got sick and died regardless of their race or even how healthy they were prior to getting sick, suggesting their judgments are irrespective of the race of a target. Finally, I tested a perspective-taking empathy intervention that aimed to decrease blame and increase feelings of liking. While the intervention was unsuccessful in changing attitudes towards the target in the story, the study did replicate

the results from study 2. Taken together, the findings from these three studies suggest that there is robust relationship between SDO, health beliefs, and attitudes towards sick individuals, suggesting the existence of a social hierarchy based on health.

CHAPTER I

INTRODUCTION

Social dominance theory (SDT) posits that all societies are based on social hierarchies that depend on group membership (Sidanius & Pratto, 2001). The very nature of group-based hierarchies means that there are some groups that are favored highly in society and are the dominant groups, and some that are not and are considered sub-ordinate. Dominant social groups are considered to possess traits that are positively valued in society and are associated with greater power, status, resources, and opportunities. SDT aims to explain the mechanisms that lead to and maintain these social hierarchies. The theory suggests that group-based social hierarchies are driven by three main mechanisms: aggregated individual discrimination, aggregated institutional discrimination, and behavioral asymmetry.

Individual discrimination refers to regularly occurring, and oftentimes subtle, acts of discrimination by one individual against another. These can include discriminate hiring practices of a hiring manager due to a person's race or ethnicity, or the bias a person who belongs to a minority social group experiences when seeking medical care from a physician. The aggregation of repeated acts of individual discrimination over years contributes to and helps exacerbate the differences in power and resources between dominant and subordinate social groups.

In contrast to the interpersonal nature of individual discrimination, institutional discrimination refers to a larger system of actions, rules, and policies set by social

institutions such as judicial courts, schools, and banks. Institutional discrimination can be both direct, such as the Jim Crow laws which explicitly aimed to oppress Black people, or indirect such as the use of standardized tests to gain admission into higher education while many underrepresented minorities do not have the same access to resources as their white counterparts. Both can lead to long-term disparities over generations, maintaining the power imbalances between social groups (Cunningham & Light, 2016).

According to SDT, an individual's preference for social hierarchies and their motivation to maintain them can be measured by a variable known as social dominance orientation (SDO; Ho et al., 2012). SDO is considered to be a strong predictor of intergroup attitudes and behavior and has also been found to be associated with political conservatism, belief in a just world, and endorsement of the protestant work ethic. It's also believed that one's level of SDO can influence their support or lack thereof for social policies as well as the kind of jobs people seek out. Within SDO there are two dimensions, SDO dominance (SDO-D), or the support for group-based hierarchies in which the dominant social group actively oppresses subordinate groups, and SDO anti-egalitarianism (SDO-E), which does not endorse direct oppression but is instead an opposition to equality of resources and opportunities between social groups.

There has been extensive research into hierarchies and SDO based on age, gender, and race, however this paper intends to also expand SDT beyond these previously established social hierarchies and explore a hierarchy that is based on health and wellness beliefs and attitudes. This hierarchy would be based on a series of beliefs that suggest that one's health is fully in their control and that poorer health outcomes

are a result of individuals not engaging in and prioritizing health and wellness behaviors, as opposed to a number of systemic inequities that make it difficult for oppressed groups to gain access to adequate healthcare. In this paper I will outline social dominance theory while relating it to other theories that bolster the maintenance of social hierarchies and will conclude with two studies that aim to establish a unique health-based social hierarchy, as well as a potential intervention to reduce reliance on this health hierarchy.

An Overview of Social Dominance Theory

SDT focuses on group-based social hierarchies in which an individual's social power and privileges are based on their membership to a particular group and do not rely on their own personal attributes and characteristics (Sidanius & Pratto, 2001). The theory proposes three main social systems: an age system where adults and middle-aged individuals have a higher status than children and young adults and even older adults, a patriarchal gender system such that cisgender males have a higher status than females and individuals outside of the gender binary, and an arbitrary set system that is an umbrella system that includes socially constructed hierarchies such as racial identity, religious identity, and socioeconomic status. SDT suggests that intergroup conflicts and oppression of subordinate social groups are all expressions of a basic human nature to form social hierarchies based on group membership. Because individuals in dominant social groups are highly motivated to maintain the power and privileges their dominance provides over subordinate social groups, they will often rely on stereotypes and prejudice which drive hierarchy enhancing legitimizing myths that serve the purpose of justifying the existence of social hierarchies and the structures and

institutions in place to support them (Sidanius & Pratto, 2001).

Legitimizing Myths as a Form of System Justification

Legitimizing myths help frame the existing social system as being fair by suggesting that individuals possess the level of social status and power that they deserve based on their own actions, and not necessarily their group membership. They are rooted in stereotypes and prejudice and support the idea that individuals who belong to subordinate social groups deserve their place in society because they possess stereotypic characteristics that place them in an inferior position. When looking at racial disparities for example, it is an easier justification to say that a specific Black person has not achieved the same level of wealth and success as a White CEO because they are lazy (a common stereotype of Black people) and did not put in the same amount of time and effort as the White person. Additionally, a common explanation for gender disparities and gendered social roles is that men and women have different attributes that equip them for different social roles, where men are expected to be more agentic, and women more communal (Eagly & Wood, 2012). While these arguments ignore all the systemic and institutionalized obstacles that Black people and women face in society, they are much more justifiable reasons for why a White person, or a man would be at the top of their respective social hierarchies.

One theory that can help explain these legitimizing myths is system justification theory (SJT) which is based on a general belief in a just world, meaning humans typically have a strong desire to believe that the world around them is fair and operates based on what an individual deserves depending on their actions and contributions to society (Jost, 2020). This leads people to latch onto the status quo and justify why the

existing system structures are fair and should remain unchanged.

While system justification is inherently beneficial to members of dominant social groups by allowing them to justify their position at the top by seeing the more subordinate members as deserving of their lower status, SJT proposes that members of oppressed groups can be just as likely to justify the system in an effort to minimize the negative effects that can stem from being in a powerless position in society (Jost, Banaji, & Nosek, 2004). They too will often legitimize the system and existing hierarchy by perceiving the dominant members of society as more deserving of their status, as opposed to blaming the inequities on the system that is preventing them from achieving more social power.

People are also more likely to justify the existing system when they have a high need to reduce uncertainty in their lives, a high need for order and structure, high perceptions of threat and a dangerous world, or high mortality salience or death anxiety (Jost, 2020). One consequence of system justification is that the inequities and disparities that arise because of the existing system are never mitigated because of a lack of motivation to fight for systemic change from either the people in power or the people at the bottom of the social hierarchy who are more disadvantaged. This is because system justification serves the purpose of reducing any negative affect or moral outrage that can result from being oppressed. System justifying ideologies can also result in increased ingroup favoritism within members of the dominant social group, but also increased outgroup favoritism within members of oppressed groups. This all serves the purpose of maintaining the existing social hierarchy and stifling support for actual social change (Jost & Hunyady, 2005).

Social Dominance Theory and Intergroup Relations

According to SDT, an individual's group membership determines their status and power in society. This means that theories related to intergroup relations are integral to understanding social hierarchies. Intergroup phenomena such as prejudice and social discrimination are key to both establishing and maintaining hierarchies within society.

Prejudice and social discrimination are based on a preference for members of one's social ingroup as well as greater dislike for outgroup members (Mummendey & Wenzel, 1999). Social discrimination can be defined as unequal treatment of outgroup members, simply based on their group identity, by ingroup members who oftentimes find ways to justify the unfair treatment. One explanation of social discrimination is social identity theory (SIT) which suggests that individuals rely on social categories to define their own self-identity and they are also motivated to maintain a positive self-image based on that identity (Tajfel, 1979). A large part of maintaining this self-image relies on social comparisons to outgroups and social discrimination is one way for dominant social groups to maintain a level of distinction from outgroup members.

In order to form social comparisons to outgroup members, individuals will often use stereotypes that align with the legitimizing myths that are integral to SDT (Quist & Resendez, 2002). When a perceiver encounters a member of a social group, they will first categorize them which will lead to the activation of stereotypes (Macrae & Bodenhausen, 2000; Fiske & Neuberg, 1990). Examples of legitimizing myths that are often used to justify why some individuals have a higher social status are the protestant work ethic, which places high value on hard work which is believed to lead to success (Rosenthal, Levy, & Moyer, 2011), and the idea of meritocracies which are systems

where power is provided to people based on their ability and contributions to society. These myths once again feed into certain stereotypes (e.g., that black people are lazy) and suggest that some people simply do not work hard enough to advance themselves in a society in which theoretically, anything should be achievable.

Because self-efficacy plays such an important role in legitimizing myths, it is also important to review the stereotype content model (SCM). The SCM suggests that that there are certain social groups that are subjected to worse prejudice than others and this theory is based on two dimensions: warmth and competence (Fiske, Cuddy, & Glick, 2008). The basis of the SCM is that different social groups are perceived as either having the intent to help or harm the perceiver (warmth) and as either being able to or unable to act on these intentions (competence). The model suggests that a social group's placement on the competence dimension can be predicted based on their relative social status. So, for example, someone higher in socioeconomic status would be seen as more competent than someone with a lower socioeconomic status. The model states that this tendency to link social status to competency and ability is often due to people's predisposition to overlook the role that context or situations play and instead focus on individual dispositions. This is aligned with SDT which suggests that people will use legitimizing myths to deemphasize the role the system can play in maintaining social hierarchies and place the blame on the individual.

Dual Process Model of Prejudice

SDO has widely been considered an individual difference trait that is a strong predictor of attitudes and behaviors such as political conservatism (Matthews et al., 2009), hostile sexism (Austin & Jackson, 2019), prejudice towards immigrants and

minorities (Guimond et al., 2010; Troian et al., 2018), and support for hierarchy enhancing institutions (Haley & Sidanius et al., 1994). One model that has tackled intergroup prejudice is the Dual Process Model (DPM) which states that SDO represents a perception of the world as competitive with winners and losers (Duckitt, 2001; Duckitt & Sibley, 2010). The DPM argues that SDO works to mediate relationships between personality traits and prejudice.

While both SDT and the DPM suggest that SDO results from low empathy, the DPM further argues that the relationship between SDO and personality traits such as empathy is unidirectional and SDO is incapable of influencing one's personality traits. There is evidence to suggest that trait empathy is a root cause of SDO, however much of the original research conducted was cross-sectional making it difficult to draw conclusions about the causal and directional relationship between empathy and SDO. Thus, SDT did not rule out the possibility of empathy and SDO instead having reciprocal effects on each other.

SDO and Empathy. Both SDT and the DPM have proposed that the personality trait that is the most predictive of SDO is empathy. However, while DPM argues that the relationship between SDO and empathy is unidirectional, there is evidence to support the theory that SDO can also influence one's level of empathy (Sidanius et al., 2013). Not only did SDO prove to affect one's level of empathy and concern for others, but the effect SDO had on empathy was stronger than the effect of empathy on SDO.

Research has also found that SDO predicts higher counter-empathy, or pleasure at another person's pain, specifically for outgroup members (Hudson, Cikara, & Sidanius, 2019). This was found in white participants reacting to Asian and Black people

experiencing negative events, and it's theorized that feeling counter-empathy for outgroups makes it easier to justify the system and maintain hierarchies because this counter-empathy facilitates competition between social groups and creates a greater distinction between outgroups.

Proposing a Social Health Hierarchy

As previously mentioned, SDT has been extensively studied in hierarchies related to gender, age, and arbitrary set hierarchies such as race, however this dissertation aims to explore the possibility of an additional arbitrarily set social hierarchy that is based on health and wellness status. This would include a set of legitimizing myths similar to those relevant to previously researched hierarchies that would serve the purpose of enforcing and justifying this health hierarchy. This health hierarchy would also be driven by the theories of intergroup relations, system justification, and morality. As with the other social hierarchies, there would be a dominant group at the top with better health outcomes and increased access to healthcare, while the disadvantaged group would suffer from worse health outcomes with decreased access to adequate healthcare. While the hierarchy would function with its own beliefs and legitimizing myths to maintain it that are separate from those that exist to maintain race and gender hierarchies, it could also intersect with already established social hierarchies based on gender and race.

In addition to legitimizing myths, another key part of maintaining social hierarchies are institutions known as hierarchy enhancers (Sidanius, Liu, Shaw, & Pratto, 1994). These enhancers work to enforce the relationship between the different levels of the social hierarchy and for the already existing social hierarchies, can include

institutions such as police forces, judges, and private lending institutions. On the other hand, there are also hierarchy attenuating institutions which fight the hierarchies by promoting social justice and include institutions such as public defenders, civil rights organizations, and non-for-profit charities. When establishing a hierarchy based on health it would be important to also consider institutions that serve the purpose of enhancing the hierarchy and those that work to attenuate it. Hierarchy enhancers could include private insurance companies which continue to treat healthcare as a product due to healthcare being treated as a for-profit-system by the government as opposed to a basic human right, whereas Medicaid, while not a perfect system, is hierarchy attenuating in nature because it does help to provide disadvantaged individuals with healthcare. We also see individuals such as lifestyle coaches and fad diet developers acting in the role of hierarchy enhancers because they are selling the idea that taking control of one's life and diet can lead to improved health outcomes, both physically and mentally.

While there has not yet been a direct link specifically between SDO and health and wellness beliefs, there is research linking SDO to anti-fat attitudes (Elison & Ciftci, 2015), as well as the medicalization of schizophrenia and discrimination against people with the disorder (Lampropoulos & Apostolidis, 2018). Both research studies emphasized the relevance of self-control, suggesting that people with higher SDO are individualizing these issues as opposed to taking into consideration possible external and and other social determinants of health, and this aligns with the previously established legitimizing myths in SDT that state that one's actions ultimately determine one's place in society.

The Social Determinants of Health

In order to establish this health hierarchy and its accompanying legitimizing myths, it is important to first understand the social determinants of health which are at the root of the health inequities seen in our society. Research has found that health behaviors and outcomes are heavily influenced by social factors such as income, education, and employment (Braveman & Gottlieb, 2014). As one's education, employment status, and social status increase, so do their chances for better health outcomes and life expectancy. One study explored life expectancy changes from 1990-2018 in the U.S. and found that for individuals with a Bachelor's degree or higher, the number of expected years of life from ages 25-75 was significantly higher by 2018 (48.2 years out of the 50) than the population as a whole (46.1 years), which in turn was higher than individuals without a Bachelor's (45.1 years; Case & Deaton, 2021). Additionally, they found that Black people overall had a lower life expectancy than White people (a difference of 1.8 years for all Black people, 2.1 years for Black men, and 1.2 years for Black women) and while Black people with a Bachelor's degree had a higher life expectancy than White people without a Bachelor's degree, they still had a lower life expectancy than White people with a Bachelor's (a difference of 1 year for all Black people, 1.1 years for Black men, and 1 year for Black women).

Another study that looked at life expectancy disparities between different racial groups found that from 2000 to 2019 the life expectancy for Black people increased to narrow the gap between Black and White people, however the life expectancy for Black people remained lower than for White people (Dwyer-Lindgren et al., 2022). While this study predated the COVID-19 pandemic, the researchers provided provisional estimates

for 2020 life expectancy which showed declines for all races but the greatest decline for the Black (2.9 years) and Latine populations (3.0 years) compared to the White population (1.2 years). This was largely due to the higher rates of COVID-19 mortality in the Black and Latinx populations (Alcendor, 2020; Rogers et al., 2020; Dalsania et al., 2022). Furthermore, compared to White people, Black people are at a greater risk of hypertension (CDC, 2022), asthma (CDC, 2022; Job et al., 2022), having and dying from a stroke (CDC, 2022), being diagnosed with diabetes (CDC, 2022), and obesity (CDC, 2022).

Discrimination as a Social Determinant of Health. Not only can disparate health outcomes be attributed to social factors such as income, education, and employment, but experiencing structural and interpersonal discrimination (two additional social determinants of health) have been shown to cause psychological distress which in turn can lead to negative health outcomes or health behaviors such as disrupted sleep, smoking, and increased alcohol consumption (Todorova et al., 2010; Paradies, 2006).

Structural discrimination is defined as "the totality of ways in which societies foster discrimination via mutually reinforcing systems of discrimination (e.g., in housing, education, employment, earnings, benefits, credit, media, health care, criminal justice, etc.) that in turn reinforce discriminatory beliefs, values, and distribution" (Krieger, 2014). Extensive research over the years has identified structural discrimination as particularly harmful to health in a multitude of ways (see table 1 for examples of structural inequities; Bailey et al., 2017). One example of a form of structural discrimination is residential segregation which has been found to both

directly (e.g., substandard housing conditions, exposure to pollutants) and indirectly (e.g., fewer high-quality education opportunities, decreased access to high-quality health care facilities) harm health. Negative health outcomes that are associated with residential segregation include, but are not limited to, adverse birth outcomes (Acevedo-Garcia et al., 2003), increased risk of chronic diseases such as hypertension (Kershaw et al., 2011), and decreased life expectancy (Williams & Collins, 2001).

Table 1. Examples of structural discrimination.

Discrimination Type	Example(s)
Economic	– Residential segregation – Reduced salary for the same work – Reduced rates of promotion
Environmental	– Placement of toxic waste sites near predominately low-income minority neighborhoods – Government failure to prevent lead exposure to drinking water
Targeted Marketing	– Increased advertising of cigarettes and unhealthy foods to low-income communities
Healthcare	– Decreased access to health insurance and quality health-care facilities – Inadequate medical treatment due to implicit or explicit racial bias
State-sanctioned Violence	– Increased police brutality
Property Alienation	– The use of eminent domain to relocate racial minorities under the guise of urban renewal
Political Exclusion	– Voting restrictions for felons

Note. Examples sourced from Bailey et al., 2017.

In contrast, instances of interpersonal discrimination are “directly perceived

discriminatory interactions between individuals – whether in their institutional roles (e.g., employer/employee) or as public or private individuals (e.g., shopkeeper/shopper)" (Krieger, 2014). Research has shown that interpersonal discrimination can act as a psychosocial stressor which can negatively impact one's mental health (e.g., increased rates of depression, anxiety, and PTSD) as well as one's health practices (e.g., sleep disturbances and maladaptive coping practices such as smoking and drug use; Paradies et al., 2015).

Because racial discrimination is so prevalent in our society, health outcomes are also closely tied to racial identity and the black population has been shown to suffer from the worst health outcomes (Aday, 1994; Assari, 2018). Because of this, health disparities are deeply systemic and can only be mitigated by systemic change. However, as outlined in the previous section, many people are highly motivated to justify the existing system regardless of its flaws (Jost, 2020). Even though institutions such as the CDC (2021) and the Association of American Medical Colleges (2022) have acknowledged that racism (and not race) is what drives health disparities, the lack of social policies and change to address the disparities shows that inequities are still not being addressed at a systemic level. A 2016 survey found that only 50% of White Americans and 65% of Republicans believe that Black Americans face significant discrimination (Jones et al., 2017). This denial of discrimination is what has shaped the current political landscape and is preventing systemic change to reduce health inequities. Regardless, the fact remains that low-income black people suffer from some of the worst health outcomes, and this is where legitimizing myths are used to explain these disparities.

Health-Based Legitimizing Myths

Legitimizing myths are often based on stereotypes and can lead to discrimination and prejudice against those whom the myths are about. I propose the existence of myths regarding health and wellness that stem from a general belief that one's health is under their own control. These health-based legitimizing myths would serve the purpose of removing the blame from the system and instead placing it on the individual.

One perspective that highlights a broader trend of individualizing health inequities is the 2002 book "P.C., M.D.: How Political Correctness is Corrupting Medicine" by Sally Satel, M.D. which argues that many health professionals are incorrectly attributing illness to societal oppression. She faults activists for making the argument that health disparities between black and white people will never be mitigated without addressing the fact that there is a dominant culture with white people in power. However, there is an abundance of research that has demonstrated the link between racial discrimination and poor health outcomes in black people, including increased risk for hypertension (Dolezar et al., 2018; Kreiger, 2000; Williams & Neighbors, 2001). As outlined above, existing research has pointed to experienced discrimination combined with internalized oppression, or the point at which oppressed individuals begin to believe negative stereotypes against their social groups (e.g., colorism within minority groups leading to the favoring of lighter skin individuals), as contributors to these poor health outcomes. However, Satel argues that internalized oppression is by definition difficult to verify or falsify, and that these conditions would be much improved through self-management with medication and improved diet. What she fails to account for are the obstacles that exist which make it difficult for low-income Black people to gain

access to adequate healthcare and healthier food options. These obstacles include, but are not limited to, discriminate hiring practices (Quillian, Pager, Hexel, & Midtboen, 2017) which limit health insurance options, racial discrimination in the healthcare system (Yearby, 2018), and the high prevalence of food deserts and fewer grocery stores in predominately Black neighborhoods compared to predominately white neighborhoods (Raja, Ma, & Yadav, 2008). By ignoring these systemic issues and choosing to instead highlight the ability for people to take control of their health by improving their diet and managing their medications, Satel is providing a legitimizing myth that will uphold a social hierarchy based on health.

Satel takes this stance further by arguing that the classification of addiction as a "brain disease" is inaccurate and fails to account for the dimension of choice in addiction. She states that "addicts can choose to recover and are not helpless victims of their own 'hijacked brains'" (Satel & Lilienfeld, 2014). What this argument ignores is the role that biological factors, such as genetics, epigenetics, and neurocircuitry, as well as environmental factors, such as social systems, stress, and trauma (Volkow & Boyle, 2018). While she acknowledges the existence of the neural reward circuit in which drug use causes extreme dopamine surges that can fuel excessive cravings and hypersensitivity to drug cues (Berridge, 2017), she argues that the self-reproach that often accompanies addiction is enough to motivate people to quit.

More recently, in her 2021 book chapter "Do No Harm: Critical Race Theory and Medicine," Satel states that there exists a race-based story to tell about why Black people face disadvantages in health and she even goes so far as to acknowledge that this disadvantage can be the "cumulative product of legal, political, and social institutions

that have historically discriminated against them, either explicitly or through passive disregard to the differential brunt of policies" which results in fewer opportunities for better health (e.g., underfunded hospitals, fewer emergency services, pharmacy deserts, worse air and water quality, fewer supermarkets, and fewer safe options for outdoor exercise). She also cites the COVID-19 pandemic as evidence of health disparities in which Black people were at higher risk of exposure and infection. However, even with the acknowledgment of this evidence, she still concludes that systemic racism is not a useful medical diagnosis and uses the example of Black colon cancer patients in California to support her point. She states that Black colon cancer patients fared much better when they were treated at in integrated health care system, compared to Black patients treated in other settings, and survival rates for Black and White patients were the same which she argues is a case for simply training physicians to be better instead of changing the system. One could argue, however, that this is a perfect example of how inequitable access to quality healthcare facilities is indeed a driver of these disparate health outcomes. She concludes by stating that dismantling racism is not the answer to addressing health disparities and instead the focus should be on improving clinical practices and training good doctors which is of course important but is a moot point when the most improvement is needed in medical facilities that serve low-income minority communities.

Mainstream Health Legitimizing Myths

While Sally Satel is just one voice arguing against the social determinants of health, she is not alone in holding these views. In the political sphere, the conservative resistance to universal healthcare policies and even just extended coverage plans such as

the Affordable Care Act (Oberlander, 2020) shows a reticence to providing aid to disadvantaged groups, with one *New York Magazine* article citing Republicans' view of healthcare as a privilege that should be earned, as opposed to a right (Chait, 2012). In the mainstream, the New Age spiritual movement and its health beliefs have been popularized by celebrities such as Gwyneth Paltrow and her lifestyle brand "Goop" (Conor, 2021). These beliefs include spiritual and holistic ideals such as "cosmic wellness" which promotes body and soul optimization through dieting and clean eating, vitamins, superfoods, and spirituality (e.g., energy flow, crystal therapy, and body detoxification). Goop presents itself as promoting an accessible lifestyle to maintain one's health and wellness, but in reality, the products the lifestyle brand sells and recommends are expensive (Conor, 2021) and many of their encouraged practices are not evidence-based and could actually do more harm than good (Belluz, 2017; Gunter & Parcak, 2019; Chan, 2017).

Although Goop and the New Age spiritual movement are largely followed by women, health and wellness beliefs and the denial of the social determinants of health are not limited to just wealthy women, as seen during the COVID-19 pandemic. As previously mentioned, Black people are at higher risk for COVID-19 infection and death than White people (Dalsania et al., 2022). This is due in part because Black people were more likely to hold essential-worker positions than White people, placing them at higher risk of exposure (Rogers et al., 2020). Several research studies at the time, however, linked COVID-19 severity to vitamin D deficiency (Ames et al., 2021; Grant et al., 2020; Mohan et al., 2020) of which Black people are at greater risk due to the higher presence of melanin in their skin (Young et al., 2020). Not only does this shift the focus from

systemic factors to more individual or group-based factors that make Black people more vulnerable, but these articles failed to also consider obstacles that could make it difficult for Black people to boost vitamin D levels (e.g., lack of funds, decreased access to safe outdoor spaces).

The pandemic also brought an increase in anti-vaccination attitudes with the release of the COVID-19 vaccines. Many people cited concerns about the vaccine's side effects and effectiveness (even those who were not otherwise antivax) and expressed a desire for natural immunity over artificial and potentially harmful vaccines (Ullah et al., 2021). Some people, especially younger adults, refused the vaccine saying if they live healthily and because they're young, they should have no need for the vaccine (Burnett, 2022; Lopez, 2021). Additionally, several high-profile athletes were at the forefront of the anti-vaccination movement, citing their superior health and youth as reasons to not get vaccinated, with some instead choosing to seek out homeopathic alternatives to the vaccine (Duarte, 2022). This centering of healthy lifestyles in COVID-19 resistance implies that a certain level of blame is placed on those who are infected with COVID-19 and this once again individualized the issue instead of making it systemic. While COVID-19 mortality rates are higher for those with pre-existing conditions such as diabetes and hypertension (Ssentongo, 2020), it's important to remember that these conditions are also disproportionately prevalent in the Black population due to social determinants of health.

A central tenet of health legitimizing myths appears to be the idea that one has autonomy over their health outcomes by engaging in actions such as maintaining one's diet, fitness, and other lifestyle choices are integral and sufficient to staying healthy.

This fails to acknowledge disparate accessibility, however it does align with the "protestant work ethic" ideals that are often used to justify why certain people in society have a higher status and more power, while others remain at the bottom of the hierarchy (Furnham, 1982).

Health Locus of Control Theory

Beliefs regarding the level of autonomy one holds over their health outcomes have been studied in relation to the health locus of control (LOC) theory. The health LOC measures the extent to which people believe their health is controlled by internal or external factors (Dogonchi et al., 2022). An internal LOC represents the level to which people believe their own behaviors and actions are responsible for their health outcomes while the external LOC can be split into two categories – a powerful others LOC or a chance LOC. The powerful others LOC represents the extent to which people believe their health outcomes are largely controlled by powerful figures such as doctors while the chance LOC is the extent to which they believe their health outcomes are the result of fate or luck.

Research has found that people with an internal health LOC are more likely to engage in healthy behaviors such as exercising, eating a healthy diet, and not smoking, while people with a powerful others or chance LOC are less likely to engage in these behaviors (Norman et al., 1998; Grotz et al., 2011; Helmer et al., 2012; Marr & Wilcox, 2015). There is also evidence that an internal health LOC and SDO are both significant contributors to anti-fat attitudes.

Intersectionality Between the Social Hierarchies

While the health social hierarchy should be considered as its own unique

arbitrary set system, it is impossible to ignore the roles that other social hierarchies such as race and gender can play since intergroup relations and health are closely linked (Major, Mendes, & Dovidio, 2013; Boyer, Firat, & van Leeuwen, 2015). The proposed health-based hierarchy would be justified by legitimizing myths that tend to ignore the effects of racism and sexism even though they are both very prevalent factors that lead to health disparities. However, these disparities cannot solely be explained by motivational and self-control differences.

Intersectionality can be defined in many different ways but most scholars agree with one or more of the following principles: (1) racist, sexist, and classist exploitation and oppression are interconnected and can build upon each other; (2) social inequalities are constructed within these intersecting oppressions; (3) different perceptions of a social group's issues will reflect how they are placed within the power relations of historical and social contexts; and (4) since individuals and social groups have different placements within these intersecting oppressions, they can have different standpoints on social phenomena (Collins, 2019). One definition of intersectionality is as follows:

> Intersectionality investigates how intersecting power relations influence social relations across diverse societies as well as individual experiences in everyday life. As an analytic tool, intersectionality views categories of race, class, gender, sexuality, class, nation, ability, ethnicity, and age – among others – as interrelated and mutually shaping one another. Intersectionality is a way of understanding and explaining complexity in the world, in people, and in human experiences (Collins, 2020).

This definition highlights a central tenet of intersectionality, which is that in any given

society, the power relations of social identities are not mutually exclusive phenomena but instead are connected to each other and work together to impact all aspects of society.

Thus, co-existence of different social hierarchies means that individuals can have multiple intersecting identities, power relations, and social contexts and be oppressed for all or some of their identities. This is supported by research showing that incarceration rates for Black men are higher than for White men at every economic level, however low-income Black men have the highest rates of incarceration, showing an intersection of race and class hierarchies (Chetty et al., 2018). Another study exploring how gender and race intersect to impact post-doctoral hiring rates found that faculty members not only favored male candidates over female candidates, but they also favored Asian and White female candidates over Black and Latinx females (Eaton et al., 2020). Thus, it follows that the proposed health-based hierarchy would similarly intersect with the existing hierarchies such that high value would be placed on health and wellness for the general population regardless of race, but low-income Black and Latinx populations would suffer the worst consequences (including but not limited to increased blame for their health outcomes and greater dislike from outgroup members).

As previously explained, stereotyping plays an important role in maintaining social hierarchies and can also play a role in the healthcare decisions medical providers make. Stereotyping in the medical field can lead to misdiagnosis because of generalizations based both on a person's group membership as well as the group's social status (Major, Mendez, & Dovidio, 2013). One false stereotype that is often used to inform medical judgments is that Black patients experience less pain than White people

(Hoffman et al., 2016). One study found that about 40% of first- and second-year medical students believe that Black people's skin is thicker than White people's and that high endorsement of false beliefs led medical students to rate the pain of a Black patient in a scenario lower than a White patient in the same scenario. This false belief can contribute to a number of health outcomes such as the higher rate of maternal morbidity seen in the Black population (Noursi et al., 2021) and the under-prescription pain relievers for Black people (Swift et al., 2019).

While this is evidence that true drivers behind racial health disparities are stereotypes and bias (compounded with other social determinants of health), this does not necessarily invalidate the co-existence of a health-based social hierarchy in which value is placed on health status and an emphasis is placed on one's health autonomy, or one's health locus of control. The rise of the New Age health movement with lifestyle brands such as Goop is evidence that these ideals exist. This could also be seen in the rhetoric surrounding COVID-19 and masking behavior.

Because many people did not view COVID-19 as a personal threat, they also felt no need to wear masks even though masks were shown to be one of the most effective ways to prevent viral transmission (Howard et al., 2021). At the time, the public was generally being told that COVID-19 was mostly impacting the elderly and people with comorbidities (Ssentongo et al., 2020) and that it was possible to be asymptomatic but still contagious (Kronbichler, 2020). Messaging around masking was focused on encouraging people to wear a mask to not only protect oneself, but to also protect others, especially the most vulnerable populations (Tufekci et al., 2020). Even with this information many people resisted mask wearing, with some citing a loss of personal

freedom, physical discomfort, and beliefs that masks are unnecessary for healthy individuals (He et al., 2021). This resistance showed a lack of care for vulnerable populations and is an excellent example of how legitimizing myths (e.g., "I don't need to wear a mask because I'm healthy so COVID-19 isn't a threat to me" or "Wearing a mask is a violation of my personal freedoms") are used to uphold the status quo (i.e., not wearing a mask). This was a clear case of value being placed upon individual health status, while those with pre-existing conditions were devalued.

Behavioral Asymmetry and the Health Hierarchy

SDT also proposes a "behavioral asymmetry hypothesis" which in part suggests that members of subordinate social groups will act in self-debilitating ways and are more likely to engage in behaviors that are considered harmful as a result of internalized oppression (Sidanius & Pratto, 2001). An example of this includes stereotype threat (i.e., confirming a negative stereotype about one's social group as self-characteristic). When studying the performance of Black people on a verbal ability test researchers found that Black participants performed worse than White participants when they were told the test was a diagnostic test of their ability (Steel & Aronson, 1995). Furthermore, they found that compared to Black participants who were not told it was a diagnostic test and all White participants, participants in the diagnostic condition exhibited greater stereotype activation which increased their concerns about their ability.

As discussed, many of the health legitimizing myths are centered around the idea that one's health is in their control and simply focusing on diet, fitness, and immune boosters is sufficient to preventing illness, while ignoring all of the systemic issues that contribute to health disparities. These myths have helped to create a culture of health

and fitness that values being able to maintain a healthy lifestyle, however, there is a scarcity of fresh food options in low-income minority neighborhoods where the most accessible food options are typically fast food. Furthermore, there is a narrative that eating healthier is considerably more expensive than unhealthy food options (Haws, Reczek, & Sample, 2017), but again while this may not always be the case there is still the consideration of accessibility. These disparities in food access mean that dominant social groups are able to afford the healthier lifestyles that are valued, while disadvantaged groups find themselves eating more fast food which results in a behavioral asymmetry. There is also evidence that people with lower socioeconomic status are more likely to engage in unhealthy behaviors (Wardle & Steptoe, 2003).

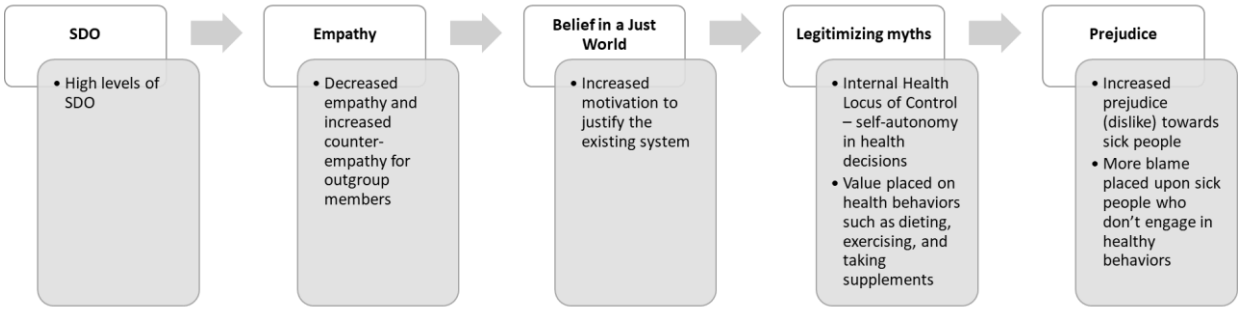
Conclusion

In conclusion, social dominance theory provides an explanation for why different social groups are differentially valued in society and why the distinctions between the groups continue to exist. Legitimizing myths serve to justify why certain groups deserve to remain at the top while others deserve to remain at the bottom, and they do so by individualizing social issues as opposed to acknowledging the systemic inequalities that lead to disparities based on group membership. Based on the theories discussed previously, SDO could impact attitudes towards sick and unhealthy targets by decreasing the level of empathy they feel towards the target which in turn could increase motivation to justify the system through legitimizing myths, which would influence their attitudes towards the target (figure 1).

While there is an abundance of evidence supporting the existence of social hierarchies based on age, gender, and race, there is a lack of research into a social

hierarchy based on health and wellness. While this hierarchy would intersect with hierarchies based on gender and race, it would bring with it its own unique set of legitimizing myths that would work to individualize health issues and emphasize one's autonomy when it comes to their health outcomes.

Figure 1. Conceptual Model of the Health-Based Social Hierarchy



Overview and Hypotheses

I conducted a series of studies that aimed to first establish the connection between SDO and health beliefs and behaviors (study 1), and then establish the uniqueness of this health hierarchy (study 2), and finally test an intervention based on increasing empathy to reduce the effects of SDO (study 3).

For study 1, I conducted a correlational study measuring participants SDO, their health locus of control, their perceived importance of various health behaviors that align with the proposed health legitimizing myths (e.g., eating a low fat diet, exercising regularly), their personal health perceptions (their health worry, health resistance/susceptibility, and health outlook), their personal health consciousness, their self-reported symbolic ableism, and their support for hierarchy attenuating or enhancing health policies. I hypothesized that SDO would be positively associated with the perceived importance of various health behaviors such as eating healthily, taking

vitamins, and exercising; an internal health locus of control; one's health outlook; one's health resistance; symbolic ableism; and support for hierarchy enhancing policies. I predicted that SDO would be negatively associated with one's health worry and support for hierarchy attenuating policies.

Study 2 expanded on study 1 by confirming the relationships and insuring they held regardless of the race of a target, which would indicate that the attitudes were unique from those formed based solely on the targets race. Participants were presented with fake news stories about a target individual who became ill and died and I manipulated whether the target was White or Black, engaged in healthy or unhealthy behaviors prior to falling ill, or had pre-existing conditions or not. I hypothesized that SDO would predict the level of blame participants place on an individual who becomes ill and dies, such that high SDO participants would dislike and place the most blame on a target who engaged in unhealthy behaviors and had pre-existing conditions prior to falling ill compared to a target who engaged in healthy behaviors and did not have pre-existing conditions. Furthermore, I expected to see this main effect to hold over and above any main effect of race on the participants' attitudes (i.e., while participants might express greater dislike and blame for the Black target overall, these feelings would be significantly increased for the unhealthy Black target with pre-existing conditions).

Finally, in order to address the negative outcomes related to a health hierarchy it's important to explore possible interventions that aim to increase support for hierarchy attenuating social policies and improve attitudes towards ill target individuals. As mentioned above, SDO predicts higher counter-empathy while also being associated with decreased empathy, especially for outgroup members (Hudson, Cikara, & Sidanius,

2019) and SDO and empathy have been shown to have reciprocal effects on each other (Sidanius et al, 2013). This leads me to believe that a potential intervention to address this proposed social hierarchy based on health could harness this power of empathy. Study 3 utilized the same procedure as study 2 except I only manipulated whether the target in the story engaged in healthy or unhealthy behaviors. Additionally, before presenting the participants with the fake news story about the target they were first asked to read a story about an individual's struggle with schizophrenia and were then asked to either write about how the person in the article felt and how the events in the story impacted their life, or they were asked to simply write about the facts of the story while remaining objective without focusing on how the person in the article felt. I hypothesized that participants in the empathy condition would show decreased SDO compared to the control group, and they would also express decreased blame and dislike for the unhealthy target.

Chapter II

STUDY 1

Study one aimed to establish the relationship between SDO and various health and wellness attitudes. The study was conducted online and consisted of a series of scales measuring social dominance orientation and other constructs related to health and wellness attitudes and behaviors. Analyses were conducted first in an exploratory dataset, and then in a confirmatory dataset. I predicted that people higher in SDO would place a high value on health behaviors such as eating healthily, taking vitamins, and exercising; have a greater internal health locus of control; would have a more positive health outlook; would have lower health worry; would have more positive perceptions about their health resistance; would exhibit higher symbolic ableism; and would show low support for hierarchy attenuating policies and high support for hierarchy enhancing policies.

Methods

Sample Size Calculations and Participants

A power analysis conducted using G*Power 3.1 (Faul et al., 2009) determined that a sample size of at least 44-73 participants would be needed to detect an effect at powers of 70-90%. Participants (N = 661) were recruited for the study through Amazon's Mechanical Turk and were paid $0.70 for completing the study. Thirty-three participants were excluded from the final analyses due to incomplete data resulting in a final sample size of 628. After data collection, participants were randomly assigned to

either the exploratory analysis dataset or the confirmatory analysis dataset resulting in two final datasets for analysis. The exploratory dataset included 318 participants (M_{age} = 44.18, SD = 14.20) and the confirmatory dataset included 310 participants (M_{age} = 45.48, SD = 14.95).

Materials

Social Dominance Orientation Scale (Appendix A). Participants completed the Social Dominance Orientation Scale (α = .94; Ho et al., 2015) in which they were asked to rate 16 statements on a scale from 1 (strongly oppose) to 7 (strongly favor). Example items include statements such as "Some groups of people must be kept in their place" and "We should work to give all groups an equal chance to succeed". This scale has been previously validated in both White (α = .91) and Black (α = .88) populations and was found to have a four-factor structure that accounted for SDO-D and SDO-E and the wording direction of each of these dimensions.

Health Locus of Control Scale (Appendix B). The Health Locus of Control Scale (Wallston et al., 1978) is an 18-item measure comprised of three subscales: Internal Locus of Control (α = .80), Powerful Others Locus of Control (α = .84), and Chance Locus of Control (α = .81). The participants were asked to rate statements such as "If I get sick, it is my own behavior which determines how soon I get well again", "Health professionals control my health", and "If it's meant to be, I will stay healthy" on a scale from 1 (strongly disagree) to 6 (strongly agree).

Health Perceptions Scale (Appendix B). The Health Perceptions Scale (Ware Jr., 1976) is a 23-item scale but for the purposes of this study, I only analyzed the Health Worry (α = .57), Health Resistance/Susceptibility (α = .57) and Health Outlook

subscales (α = .72). Participants were asked to rate items such as "My health is a concern in my life" and "I expect to have a very healthy life" on a scale from 1 (strongly disagree) to 6 (strongly agree).

Health Consciousness Scale (Appendix B). The Health Consciousness Scale (α = .83; adapted from Dutta-Bergman, 2004) asked participants to answer five questions such as "How important is it to live life in the best possible health?" and "How much do you actively try to prevent disease and illness?" on a scale from 1 (low) to 5 (high).

Symbolic Ableism Scale (Appendix B). The Symbolic Ableism Scale (α = .76; Friedman & Awsumb, 2019) asked participants to rate how much they agreed with 13 statements such as "Discrimination against disabled people is no longer a problem in the United States" and "Over the past few years disabled people have gotten less than they deserve" on a scale from 1 (strongly disagree) to 6 (strongly agree).

Social Policy Support Scale (Appendix B). Participants were asked how much they supported hierarchy attenuating social policies (Medicare for all and unlimited paid sick leave) or hierarchy enhancing policies (private health insurance).

Health-Oriented Beliefs Scale (Appendix C). The Health-Oriented Beliefs Scale (α = .76; Dutta-Bergman, 2004) asked participants to rate the importance of eight health behaviors, such as eating a diet low in fat and exercising regularly, on a scale from 1 (not at all important) to 5 (extremely important).

Demographics (Appendix D). Finally, participants were asked to report their age, gender, race, political ideology, and education status.

Analyses

All analyses were conducted using SPSS version 27. Missing cases were deleted pairwise unless the participants did not complete the SDO scale in which case they were removed from the dataset.

Results

Exploratory vs. Confirmatory Sample Characteristics

Prior to conducting the analyses, I ran a series of *chi-squares* and *t-tests* to confirm that the two samples for the randomly assigned exploratory and confirmatory datasets did not have significant demographic differences (see table 2.1 for participant demographics) or variable means (see table 2.2; for variable correlations see appendix E). There was a significant difference for Asian or Pacific Islanders between the two samples, but otherwise the samples were not significantly different, so I proceeded to analyze both datasets using Asian or Pacific Islander identification as a covariate. I began with the exploratory sample and repeated the same analyses in the confirmatory dataset.

Table 2. Study 1 participant demographics.

Demographic	Sample			
	Exploratory (N = 318)	Confirmatory (N = 310)	χ^2	Total (N = 628)
Gender			0.11[a]	
Male	126	126		252
Female	187	177		364
Non-binary	2	5		7
Transgender Male	0	1		1
Prefer not to answer	2	1		3
Race				
Caucasian or White	230	237	1.4	467
African American or Black	41	44	0.23	85

Hispanic or Latino	10	11	0.08	21
Asian or Pacific Islander	39	21	5.48*	60
Native American or American Indian	4	6	0.46	10
Prefer not to answer	1	4	1.89	5
Other race not listed	2	3	0.23	5
Political Ideology			4.42	
Very Liberal	44	56		100
Liberal	38	31		69
Somewhat Liberal	59	65		124
Moderate	75	69		144
Somewhat Conservative	30	21		51
Conservative	42	38		80
Very Conservative	29	30		59
Education Status			10.93	
Some High School	3	1		4
High School/Equivalent Degree	32	25		57
Some College	58	71		129
Bachelor's Degree	116	124		240
Some Graduate School	11	2		13
Graduate Degree	62	50		112

[a] Because of the low counts for non-binary, transgender male, and prefer not to answer, the chi-square was conducted only for participants who selected male or female.
*p < .05

Table 3. Study 1 variable means.

Variable	Sample						
	Exploratory (N = 318)		Confirmatory (N = 310)			Total (N = 628)	
	M	*SD*	*M*	*SD*	*t*	*M*	*SD*
SDO	2.69	1.33	2.67	1.45	0.148	2.68	1.39
SDO Dominance	2.58	1.34	2.57	1.47	0.846	2.58	1.41
SDO Anti-Egalitarianism	2.79	1.50	2.78	1.60	0.929	2.78	1.55
Health-Oriented Beliefs	4.02	0.60	4.03	0.62	-0.103	4.03	0.61
Health Worry	3.82	0.93	3.81	0.99	0.136	3.81	0.96
Resistance/Susceptibility	4.13	1.08	4.14	0.98	-0.071	4.14	1.03
Health Consciousness	3.51	0.50	3.49	0.52	0.359	3.50	0.51
Symbolic Ableism	3.39	0.71	3.31	0.74	1.372	3.35	0.73
Internal LOC	4.32	0.71	4.31	0.77	0.124	4.32	0.74
Powerful Others LOC	3.26	1.04	3.18	1.07	0.944	3.22	1.05

Chance LOC	3.37	0.96	3.23	0.97	1.849	3.30	0.97
Positive Health Outlook	4.15	1.14	4.10	1.16	0.558	4.12	1.15
Support for Medicare for All	3.14	1.08	3.14	1.08	-.041	3.14	1.08
Support for Unlimited Paid Sick Leave	2.61	1.17	2.64	1.16	-.378	2.62	1.16
Support for Private Health Insurance	2.91	1.02	2.80	1.04	1.364	2.85	1.03

Exploratory Sample. I conducted a series of linear regression models with SDO as the predictor and wellness beliefs, health-oriented beliefs, the health worry and health outlook subscales of the health perceptions scale, health conscientiousness, all subscales of the health locus of control scale, symbolic ableism, and support for social policies as the dependent variables. SDO negatively predicted health-oriented beliefs, health consciousness, health worry, and positively predicted a powerful others health locus of control, a chance health locus of control, and symbolic ableism. SDO also negatively predicted support for hierarchy attenuating social policies such as Medicare for All, and unlimited paid sick leave, and positively predicted support for the hierarchy enhancing social policy, private health insurance (see table 2.3). These relationships remained significant when controlling for political ideology.

There was not an association between SDO and overall health outlook, however, upon further investigation, a factor analysis of the health perceptions scale indicated that the four items comprising the health outlook subscale loaded onto two different factors (see appendix F). Items related to a positive health outlook ("In the near future I expect to have better health than other people I know" and "I expect to have a very healthy life") loaded together while the reverse coded items related to a negative health outlook ("I will probably be sick a lot in the future" and "I think my health will be worse in the future than it is now") loaded on the same factor. Removing the two negative

health outlook items improved the Cronbach's alpha of the scale from .72 to .80, so I conducted the multiple regression analysis with just the remaining two items related to a positive health outlook and found that SDO did significantly predict a positive health outlook.

Confirmatory Sample. The same series of multiple regressions were run on the confirmatory dataset in order to confirm the results from the exploratory dataset. Once again, SDO health worry, a powerful others health locus of control, a chance health locus of control, and symbolic ableism. The relationships between SDO and support for Medicare for All, unlimited paid sick leave, and private health insurance also replicated. The associations between SDO and health-oriented beliefs and health consciousness did not replicate in this sample. Unique to this sample was an association between SDO and an internal health locus of control.

Table 4. Study 1 Linear Regressions with SDO as predictor.

Model: SDO →	Exploratory (N = 318)			Confirmatory (N = 310)			Total (N = 628)		
	B	*SE*	*t*	*B*	*SE*	*t*	*B*	*SE*	*t*
Health-Oriented Beliefs	-0.26	0.02	-4.85**	-0.09	0.02	-1.66	-0.18	0.02	-4.44***
Health Worry	-0.19	0.04	-3.44*	-0.18	0.04	-3.13***	-0.18	0.03	-4.64***
Resistance/Susceptibility	-0.07	0.05	-1.30	0.05	0.04	0.79	-0.02	0.03	-0.37
Health Consciousness	-0.22	0.02	-3.94**	-0.10	0.02	-1.72	-0.15	0.02	-3.90***
Symbolic Ableism	0.60	0.02	13.42**	0.60	0.02	13.09***	0.60	0.02	18.73***
Internal LOC	-0.04	0.03	-0.73	0.14	0.03	2.56**	0.06	0.02	1.47
Powerful Others LOC	0.18	0.04	3.25**	0.16	0.04	2.78**	0.17	0.03	4.26***
Chance LOC	0.32	0.04	5.92**	0.19	0.04	3.44***	0.25	0.03	6.50***
Positive Health Outlook	0.15	0.05	2.69*	0.12	0.05	2.19*	0.14	0.03	3.44***
Support for Medicare for All	-.43	.04	-8.40***	-.52	.04	-10.70	-.48	.03	-13.50***

Support for Unlimited Paid Sick Leave	-.23	.05	-4.09***	-.31	.04	-5.67***	-.27	.03	-6.92***
Support for Private Health Insurance	.26	.04	4.72***	.33	.04	6.05	.29	.03	7.66***
	R^2	*SE*	*F*	R^2	*SE*	*F*	R^2	*SE*	*F*
Health-Oriented Beliefs	.07	.58	23.53***	.01	.62	2.77	.03	.60	19.70***
Health Worry	.04	.91	11.82**	.03	.97	9.80**	.03	.94	21.51***
Resistance/Susceptibility	.01	1.07	1.67	.002	.98	.626	.00	1.03	.14
Health Consciousness	.05	.49	15.52***	.01	.52	2.96	.02	.51	15.21***
Symbolic Ableism	.36	.57	179.98***	.36	.60	171.39***	.36	.58	350.94***
Internal LOC	.002	.71	.53	.02	.76	6.55*	.003	.74	2.15
Powerful Others LOC	.03	1.02	10.52**	.03	1.06	7.74**	.03	1.04	18.12***
Chance LOC	.10	.91	35.03***	.04	.95	11.82	.06	.94	42.29***
Positive Health Outlook	.02	1.13	7.22**	.02	1.15	4.79*	.02	1.14	11.82**
Support for Medicare for All	.18	.98	70.61***	.27	.92	114.45	.23	.95	182.34***
Support for Unlimited Paid Sick Leave	.05	1.14	16.76***	.10	1.10	32.11***	.07	1.12	47.92***
Support for Private Health Insurance	.07	.98	22.31***	.11	.99	36.64***	.09	.99	58.65***

*p < .05
**p < .01
***p < .001

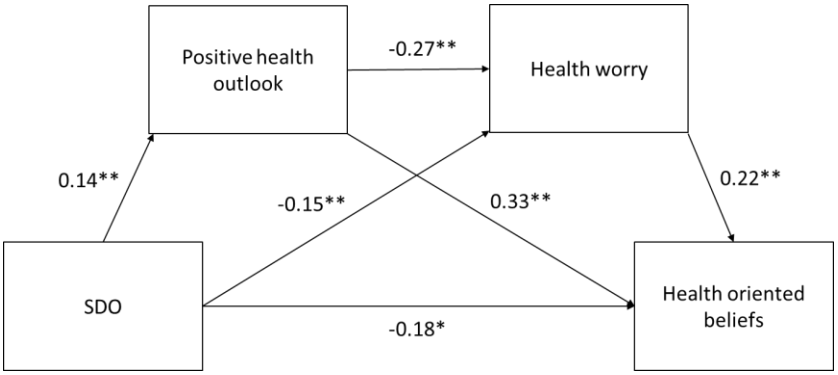
Exploratory Mediation Analyses

To further explore the relationships between the variables of interest I collapsed across the two datasets and tested a serial mediation model that included SDO, positive health outlook, health worry, and health-oriented beliefs based on research that suggests that health worry reflects an negative perception of one's future health and individuals with increased health worry were more likely to comply with health behaviors (Ware, 1976). Post-hoc Monte Carlo power analyses generated by an online application (Schoemann et al., 2017) indicated that the sample size (N = 628) had at least 93% power to detect an effect at the 95% confidence interval for each of the paths.

The model was significant and indicated a negative direct effect of SDO on

health-oriented beliefs (see table 2.4 for direct and indirect paths). The model suggests that high SDO predicts weaker health-oriented beliefs via a greater positive health outlook which decreases health worry (see figure 2).

Figure 2. Serial mediation of the relationship between SDO and health-oriented beliefs through positive health outlook and worry.



*p < .05
**p < .01

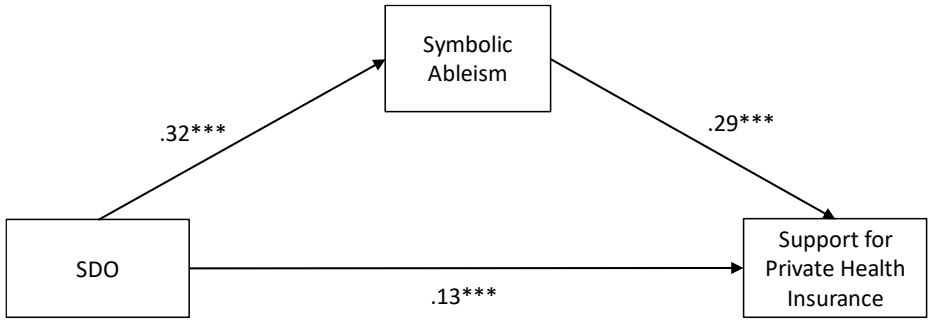
Table 5. Direct and indirect effects of SDO on health-oriented beliefs

Outcome	*B*	*SE*	*BootLLCI*	*BootULCI*
Direct effect				
SDO → health-oriented beliefs	-0.18	0.02	-0.11	-0.05
Indirect effects				
SDO → positive health outlook → health-oriented beliefs	0.05	0.02	0.02	0.08
SDO → health worry → health-oriented beliefs	-0.03	0.01	-0.06	1.01
SDO → positive health outlook → health worry → health-oriented beliefs	-0.01	0.003	-0.02	-0.003

Support for Social Policies. Mediation analyses determined that the relationship between SDO and support for private health insurance was mediated by symbolic ableism (figure 3). Broken down further, the relationships between SDO-D and support for Medicare for All (figure 4), unlimited paid sick leave (figure 5), and private health insurance (figure 6) were all mediated by symbolic ableism, as well as the

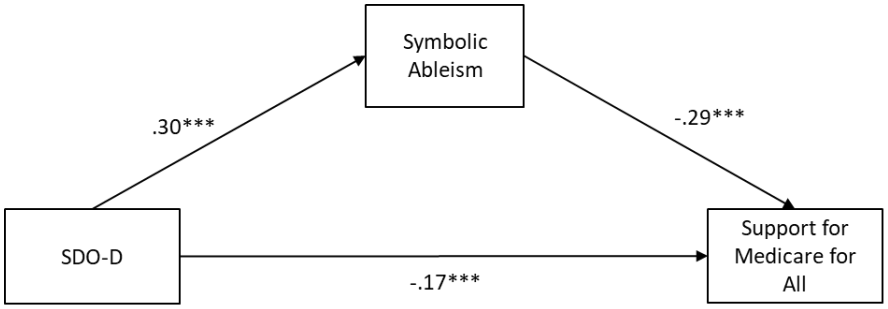
relationship between SDO-E and private health insurance (figure 7). See table 6 for all direct and indirect effects.

Figure 3. Conditional indirect effects of SDO on support for private health insurance via symbolic ableism.



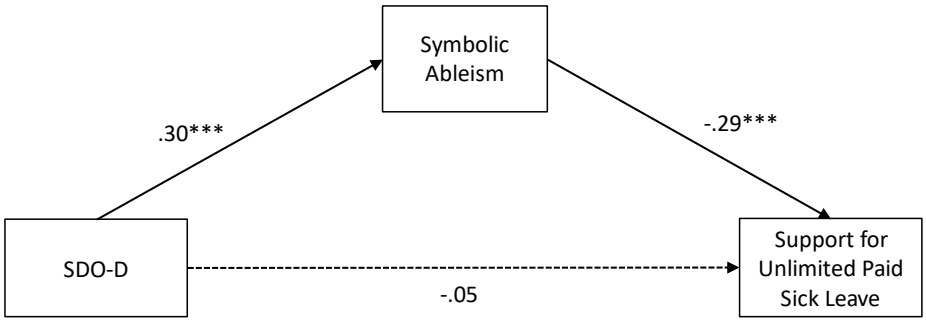
**p < .01
***p < .001

Figure 4. Conditional indirect effects of SDO-D on support for Medicare for All via symbolic ableism.



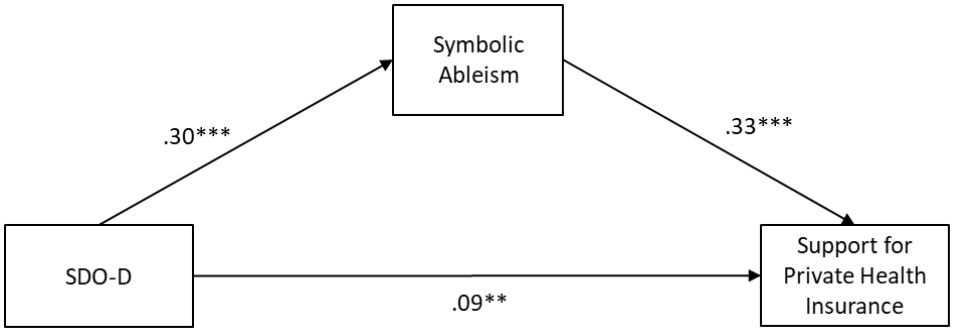
**p < .01
***p < .001

Figure 5. Conditional indirect effects of SDO-D on support for unlimited paid sick leave via symbolic ableism.



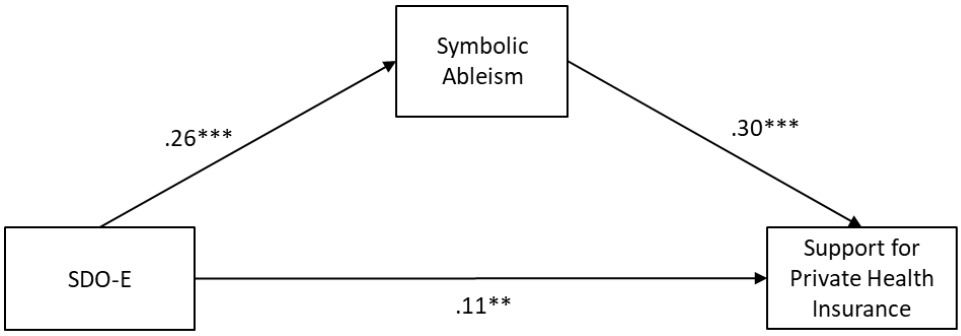
**p < .01
***p < .001

Figure 6. Conditional indirect effects of SDO-D on support for private health insurance via symbolic ableism.



**p < .01
***p < .001

Figure 7. Conditional indirect effects of SDO-E on support for private health insurance via symbolic ableism.



**p < .01
***p < .001

Table 6. Direct and indirect effects of SDO, SDO-D, AND SDO-E on social policy support.

Outcome	*B*	*SE*	*BootLLCI*	*BootULCI*
Direct effects				
SDO → support for private health insurance				
SDO-D → support for Medicare for all	-.17	.03	-.24	-.11
SDO-D → support for unlimited paid sick leave	.-.05	.04	-.13	.02
SDO-D → support for private health insurance	.09	.03	.03	.16
SDO-E → support for private health insurance	.1135	.03	.05	.17

Indirect effects				
SDO → ableism → support for private health insurance				
SDO-D → ableism → support for Medicare for all	-.09	.02	-.13	-.04
SDO-D → ableism → support for unlimited paid sick leave	-.09	.02	-.13	-.04
SDO-D → ableism → support for private health insurance	.10	.02	.05	.14
SDO-E → ableism → support for private health insurance	.11	.03	.04	.12

Exploratory Regressions

I conducted additional further exploratory analyses on the collapsed datasets to look at the separate subscales of the SDO scale (Dominance and Anti-Egalitarianism) in order to determine which factors of SDO were driving the relationships above.

SDO Dominance Subscale. SDO Dominance was negatively associated with health-oriented beliefs, health worry, and health consciousness and was positively associated with symbolic ableism, an internal locus of control, a powerful others locus of control, a chance locus of control, and a positive health outlook (see table 7).

SDO Anti-Egalitarianism Subscale. SDO Anti-egalitarianism was also negatively associated with health-oriented beliefs, health worry, and health consciousness, and was positively associated with symbolic ableism, a chance locus of control, and a positive health outlook (see table 7).

Table 7. Exploratory Linear Regressions with SDO subscales as predictors.

Model	*B*	*SE*	*t*	R^2	*SE*	*F*
SDO Dominance →						
Health-Oriented Beliefs	-0.13	0.02	-3.18***	.02	.60	10.1**
Health Worry	-0.15	0.03	-3.85***	.02	.95	14.78***
Resistance/Susceptibility	-0.06	0.03	-1.58	.004	1.03	2.50
Health Consciousness	-0.14	0.01	-3.56***	.02	.51	12.68***
Symbolic Ableism	0.57	0.02	17.47***	.33	.60	305.38***
Internal LOC	0.11	0.02	2.67**	.01	.74	7.12**

Powerful Others LOC	0.26	0.03	6.59***	.07	1.02	43.43***
Chance LOC	0.27	0.03	6.93***	.07	.933	47.97***
Positive Health Outlook	0.13	0.03	3.33***	.02	1.14	11.12**
Support for Medicare for All	-.34	.03	-9.12***	.12	1.01	83.20***
Support for Unlimited Paid Sick Leave	-.17	.03	-4.232***	.03	1.15	17.91***
Support for Private Health Insurance	.26	.03	6.77***	.07	.10	45.83***
SDO Anti-Egalitarianism →						
Health-Oriented Beliefs	-0.20	0.02	-5.07***	.04	.60	25.71***
Health Worry	-0.19	0.02	-4.81***	.04	.94	23.12***
Resistance/Susceptibility	0.03	0.03	0.77	.001	1.03	.59
Health Consciousness	-0.15	0.01	-3.75***	.02	.51	14.03
Symbolic Ableism	0.55	0.02	16.65***	.31	.61	277.33***
Internal LOC	0.01	0.02	0.21	.00	.74	.05
Powerful Others LOC	0.07	0.03	1.73	.01	1.05	3.00
Chance LOC	0.21	0.02	5.34***	.04	.95	28.46***
Positive Health Outlook	0.12	0.03	3.13***	.02	1.14	9.77**
Support for Medicare for All	-.54	.02	-16.06***	.29	.91	258.00***
Support for Unlimited Paid Sick Leave	-.33	.03	-8.64***	.11	1.01	74.64***
Support for Private Health Insurance	.29	.03	7.51***	.08	.99	56.35***

**p < .01 ***p < .001

Discussion

Study 1 confirmed many of my hypotheses regarding the relationship between SDO and different health beliefs in the first step of establishing a health-based social hierarchy. These results suggest that higher SDO is associated with stronger health-oriented beliefs, higher symbolic ableism, a more positive health outlook, lower health worry, low support for hierarchy attenuating social policies, and high support for hierarchy enhancing policies.

While this study aimed to establish the relationship between SDO and health beliefs, study 2 was conducted to further explore this relationship by establishing the health hierarchy as unique from the existing racial social hierarchy.

CHAPTER III

STUDY 2

Overview

Study 2 aimed to establish the health hierarchy as a unique construct, separate from extensively researched existing social hierarchies, such as race, gender, and age. I looked to specifically show a distinction between the race hierarchy and a health hierarchy, even though they are inherently intertwined. This study used vignettes styled as news articles to manipulate whether participants were forming judgments on a target who got sick and died and was either black or white, engaged in healthy behaviors or unhealthy behaviors, and had preexisting conditions or didn't. My predictions were as follows:

1. I predicted main effects of SDO, race, health behaviors, and preexisting conditions on liking and blame, such that the participants would have greater dislike and higher blame for a black target, a target who engages in unhealthy behaviors, and a target with preexisting conditions.
2. I predicted two-way interactions between SDO and race and SDO and health such that people high in SDO would have greater dislike and blame for a Black target and also for an unhealthy target.
3. I predicted three-way interactions between race, health behaviors, and SDO such that people high in SDO would have the greatest dislike and blame for an unhealthy black target.

4. I predicted main effects of SDO, race, health behaviors, and pre-existing conditions on social distancing preferences such that people high in SDO would want to be more socially removed from the target and people would want to be more socially removed from a black target, an unhealthy target, and a target with pre-existing conditions.
5. I predicted two-way interactions between SDO and race and SDO and health such that people higher in SDO would want to be more socially removed from a black target and an unhealthy target compared to someone lower in SDO.
6. I predicted a three-way interaction between SDO, race, and health, such that people higher in SDO would want to be more socially removed from an unhealthy black target.
7. I predicted that SDO would predict greater health-oriented beliefs.

Methods

Sample Size Calculations and Participants

A power analysis conducted via G*Power (Faul et al., 2009) indicated that I would need a sample size of at least 102-171 participants to detect an effect at powers of 70-90%. Participants (N = 618) were recruited for the study through Amazon's Mechanical Turk and were paid $0.50 for completing the study. Eight participants were excluded from the final analyses due to incomplete data leaving a final sample size of 610 (M_{age} = 44.21, SD = 14.00). To control for possible effects of the race of the participants, only White participants were recruited for the study.

Procedure and Materials

Eligibility Screening (Appendix G). Participants were told that they would have the opportunity to participate in a research study evaluating how they process news articles but first completed a brief survey to determine their eligibility for the study. The survey asked for their race as well as other distractor questions and only participants who indicated that they were White were selected to continue the study.

Experimental Manipulation (Appendix H). Participants were then presented with a fake news article about a person who died from an unexpected illness. The article was accompanied by a photo of either a White or Black person (see figure 8). Images were sourced from the Chicago Face Database Version 3.0 (Ma et al., 2015) and were matched based on norming data to control for gender, age, emotionality, and attractiveness.

In the article the person regularly engaged in either healthy (e.g., active runner and vegetarian) or unhealthy (e.g., no exercise and eating junk food) behaviors prior to getting sick and was described as either having pre-existing conditions (asthma and diabetes) or having no known health issues. After reading the article the participants responded to distractor questions asking about how well written the article was and whether or not the article used appropriate vocabulary.

Figure 8. Photos used for race manipulation of target.

Feelings thermometer (Appendix I). Participants were asked to rate how favorable or warm they would rate their feelings towards the person in the article on a scale from 0-100.

Blame (Appendix I). Participants were asked to rate how responsible on a scale from 1 (not at all responsible) - 5 (extremely responsible) they believed the person in the article was for getting sick.

Social Distancing Scale (Appendix I). The participants were asked to rate how happy on a scale from 1 (not at all happy) - 5 (extremely happy) they would be if the person in the article was different individuals with varying levels of power and closeness to them, such as the President of the United States, someone marrying into their family, or their physician.

Social Dominance Orientation Scale. Participants completed the social dominance orientation scale ($\alpha = .95$; Ho et al., 2015) in which they were asked to rate 16 statements on a scale from 1 (strongly oppose) to 7 (strongly favor). Example items include statements such as “Some groups of people must be kept in their place” and “We should work to give all groups an equal chance to succeed”.

Health-Oriented Beliefs Scale. The Health-Oriented Beliefs Scale ($\alpha = .79$; Dutta-Bergman, 2004) asked participants to rate the importance of eight health behaviors, such as eating a diet low in fat and exercising regularly, on a scale from 1 (not at all important) to 5 (extremely important).

Demographics. Finally, participants were asked to report their age, gender, race, political ideology, and education status.

Analyses

All analyses were conducted using SPSS version 27. Missing cases were deleted pairwise unless the participants did not complete the SDO scale in which case they were removed from the dataset.

Results

Sample Characteristics

I first conducted a series of chi square tests to test for differences between the samples and found no significant differences, so I proceeded with my analyses (see table 8). For all variable means see table 9.

Attitudes Towards Target

Liking. I first ran a linear regression model with SDO as well as the target's race, health behaviors, and pre-existing conditions predicting feelings towards the target. The model was significant (R^2 = .068, F (4, 605) = 11.063, p < .001) with SDO (β = -3.136 (.729), t = -4.304, p < .001), race (β = 2.147 (1.031), t = 2.083, p < .05), and health behaviors (β = 4.752 (1.031), t = 4.610, p < .001) all predicting how people felt about the person in the article. As expected, people high in SDO felt less favorable towards the target and people liked the healthier target more than the unhealthy target, but surprisingly people liked the Black target more than the White target. Pre-existing conditions were not significantly related to feelings towards the target (β = -.727 (1.032), t = -.705, p = .481).

I then reran the model but removed pre-existing conditions as a predictor and added two-way interactions between SDO and race and SDO and health behaviors as well as the three-way interaction between the variables. Contrary to my predictions,

none of the interactions were significant.

Blame. I ran the same regression model except with blame of the target as the dependent variable. This model was also significant (R^2 = .290, F (4, 605) = 61.769, p < .001), with SDO (β = .206 (.028), t = 7.435, p < .001), health behaviors (β = -.534 (.039), t = -13.604, p < .001), and pre-existing conditions (β = .111 (.039), t = 2.818, p < .01).

Table 8. Study 2 participant demographics.

Demographic	Study Conditions									
	Race			Health Status			Pre-Existing Conditions			
	White (N = 307)	Black (N = 303)		Unhealthy (N = 308)	Healthy (N = 302)		No (N = 308)	Yes (N = 302)		Total (N = 610)
	N	*N*	χ^2	*N*	*N*	χ^2	*N*	*N*	χ^2	*N*
Gender			2.38[a]			4.55[a]			2.74[a]	
Male	125	138		141	122		132	131		263
Female	176	160		162	174		168	168		336
Non-binary	5	5		5	5		8	2		10
Transgender female	1	0		0	1		0	1		1
Education			6.6			6.16			7.15	
Some high school	4	6		4	6		4	6		10
High school/equivalent	27	40		32	35		42	25		67
Some college	58	58		56	60		58	58		116
Associate degree	49	46		45	50		50	45		95
Bachelor's degree	111	95		100	106		99	107		206
Some graduate school	12	6		10	8		7	11		18
Graduate degree	46	52		61	37		48	50		98
Political Ideology			11.29			5.96			7.38	
Very liberal	54	48		62	40		62	40		102
Liberal	48	26		39	35		36	38		74
Somewhat liberal	49	50		49	50		46	53		99
Moderate	68	83		74	77		75	76		151
Somewhat conservative	15	24		20	19		18	21		88
Conservative	47	41		37	51		45	43		39
Very conservative	26	31		27	30		26	31		57

Table 9. Study 2 variable means.

Variables	Study Conditions													
	Race				Health Status				Pre-Existing Conditions					
	White (N = 307)		Black (N = 303)		Unhealthy (N = 308)		Healthy (N = 302)		No (N = 308)		Yes (N = 302)		Total (N = 610)	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
SDO	2.63	1.36	2.6	1.47	2.59	1.41	2.65	1.43	2.55	1.41	2.69	1.42	2.62	1.42
SDO Dominance	2.52	1.36	2.44	1.46	2.48	1.42	2.48	1.41	2.43	1.42	2.53	1.41	2.48	1.41
SDO Anti-Egalitarianism	2.75	1.55	2.76	1.65	2.69	1.56	2.82	1.63	2.66	1.56	2.85	1.63	2.75	1.60
Liking	64.7	26.53	69.04	25.89	62.25	26.11	71.55	25.65	67.79	26.74	65.9	25.81	66.86	26.28
Blame	2.05	1.13	2.1	1.17	2.6	1.1	1.54	0.92	1.95	1.09	2.21	1.19	2.08	1.15
Health-Oriented Beliefs	3.95	0.65	4.02	0.56	3.98	0.63	3.98	0.59	3.98	0.6	3.99	0.63	3.98	0.61
Social Distancing Scale														
As President of the U.S.	2.24	1.15	2.18	1.16	1.86	1.06	2.57	1.14	2.35	1.18	2.07	1.12	2.21	1.16
As Governor of my state	2.29	1.19	2.25	1.18	1.86	1.08	2.69	1.15	2.39	1.19	2.15	1.17	2.27	1.18
As a neighbor	3.28	1.12	3.29	1.14	3.08	1.11	3.49	1.12	3.35	1.14	3.21	1.11	3.28	1.13
As a coworker	3.21	1.15	3.28	1.16	3.02	1.15	3.47	1.11	3.3	1.15	3.19	1.16	3.24	1.16
As a roommate	2.69	1.19	2.64	1.23	2.4	1.19	2.94	1.17	2.77	1.19	2.56	1.22	2.67	1.21
To marry into my family	2.83	1.21	2.77	1.23	2.51	1.18	3.1	1.18	2.92	1.22	2.68	1.21	2.80	1.22
As someone I would date	2.29	1.31	2.04	1.24	1.89	1.21	2.44	1.29	2.28	1.33	2.04	1.22	2.16	1.28
As my personal physician	2.34	1.29	2.41	1.37	1.83	1.15	2.92	1.26	2.47	1.34	2.27	1.31	2.37	1.33
As a close personal friend	3.05	1.16	3.04	1.21	2.8	1.16	3.29	1.17	3.13	1.21	2.96	1.16	3.04	1.19
As the owner of a store or restaurant I frequent	3.16	1.18	3.18	1.16	2.93	1.14	3.42	1.15	3.25	1.18	3.1	1.16	3.17	1.17
As the teacher of my children	2.93	1.31	2.91	1.29	2.52	1.29	3.33	1.19	3.03	1.29	2.81	1.3	2.92	1.30
As my spiritual advisor	2.4	1.28	2.44	1.3	2.04	1.18	2.81	1.27	2.52	1.3	2.32	1.27	2.42	1.29

predicting blame. As predicted, people higher in SDO blamed the target more, people blamed an unhealthy target more, and people blamed a target with pre-existing conditions more. I reran the model removing race as a predictor and adding two-way interactions between SDO and health and SDO and preexisting conditions as well as the three-way interaction between the variables, and once again none of the interactions were significant.

Social Distancing from Target

I ran a series of linear regressions predicting how happy people would be to have the target in the story as different people with varying levels of closeness to them as well as varying levels of power. For all of the models I included SDO, race, and health as predictors as well as the two-way interactions and the three-way interaction.

People high in SDO were less happy to have the person in the article as their neighbor (β = -.126 (.032), t = -3.984, p < .001), as a coworker (β = -.129 (.032), t = -4.023, p < .001), as a roommate (β = -.112 (.034), t = -3.330, p < .01), marry into their family (β = -.126 (.033), t = -3.765, p < .001), as a close personal friend (β = -.104 (.033), t = -3.138, p < .01), as the owner of a store they frequent (β = -.067 (.033), t = -2.036, p < .05), and as the teacher of their children (β = -.083 (.035), t = -2.338, p < .05).

People were happier to have the healthy target as President of the United States (β = .357 (.044), t = 8.071, p < .001), as Governor of their state (β = .414 (.045), t = 9.243, p < .001), as their neighbor (β = .206 (.044), t = 4.635, p < .001), as a coworker (β = .229 (.045), t = 5.038, p < .001), as a roommate (β = .274 (.047), t = 5.794, p < .001), marry into their family (β = .301 (.047), t = 6.361, p < .001), as someone they would date (β = .277 (.050), t = 5.497, p < .001), as their physician (β = .547 (.049), t =

11.193, p < .001), as a close friend (β = .250 (.047), t = 5.364, p < .001), as the owner of a store they frequent (β = .246 (.046), t = 5.298, p < .001), as the teacher of their children (β = .406 (.050), t = 8.146, p < .001), and as their spiritual advisor (β = .385 (.050), t = 7.767, p < .001).

People were happier to have the White target as someone they would personally date (β = -.123 (.050), t = -2.451, p < .05).

I also found two-way interactions between SDO and health on how happy they would be to have the person in the story as the President of the United States (β = -.078 (.031), t = -2.504, p < .05), the Governor of their State (β = -.080 (.032), t = -2.518, p < .05), their physician (β = -.087 (.035), t = -2.526, p < .05), and their spiritual advisor (β = -.089 (.035), t = -2.451, p < .05). The results suggest that people high in SDO would be happier to have a healthy individual as President, Governor, their physician, or their spiritual advisor, all of which are positions of power.

Health-Oriented Beliefs

The finding from study 1 replicated and SDO once again negatively predicted health-oriented beliefs (β = -.073 (.017), t = -4.262, p < .001).

Exploratory Analyses

To further unpack the relationships between SDO, health behaviors, and attitudes towards the target in the story, I reran the analyses from above using the two SDO subscales, dominance (SDO-D) and egalitarianism (SDO-E).

SDO-D. Once again, the model was significant with SDO-D (β = -3.130 (.730), t = -4.286, p < .001), the race of the target (β = 2.081 (1.031), t = 2.018, p < .05), and the health of the target (β = 4.654 (1.031), t = 4.515, p < .001) predicting feelings towards

the target. Similarly, people higher in SDO-D felt less favorably towards the target, people liked the healthy target more, and people liked the Black target more.

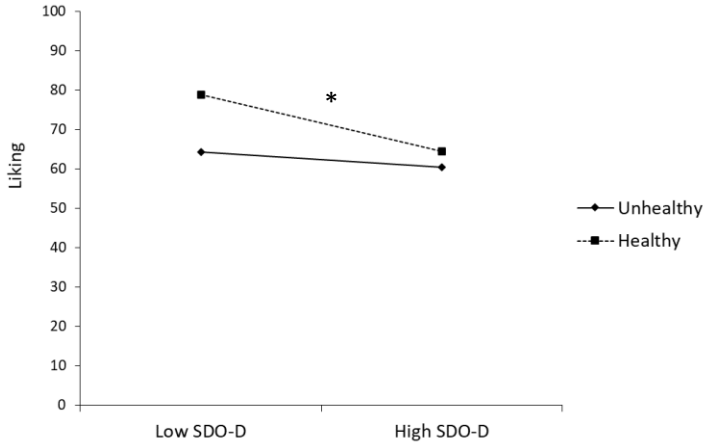
I also reran the model that removed pre-existing conditions and included the two-way interactions between SDO-D and race and SDO-D and health, as well as the three-way interaction. There was a significant two-way interaction between SDO-D and health such that there was no significant effect of SDO-D on feelings towards the unhealthy target, but surprisingly participants lower in SDO-D liked the healthy target more (see figure 9).

The same pattern of main effect results as overall SDO was also found for blame. The model was significant and SDO-D (β = .221 (.028), t = 7.976, p < .001), health (β = -.528 (.039), t = -13.527, p < .001), and pre-existing conditions (β = .115 (.039), t = 2.938, p < .01) all predicted how much the participants blamed the target. There were no significant interactions.

SDO-E. SDO-E (β = -2.491 (.649), t = -3.835, p < .001), race of the target (β = 2.212 (1.034), t = 2.139, p < .05), and health of the target (β = 4.811 (1.035), t = 4.651, p < .001) all predicted feelings towards the target in the same direction as above, however there were no significant interactions in this model.

SDO-E (β = .218 (.051), t = 4.255, p < .001), health of the target (β = -.864 (.111), t = -7.755, p < .001), and preexisting conditions (β = .426 (.111), t = 3.827, p < .001) were also significant predictors of blame, but there were not significant interactions.

Figure 9. Two-way interaction between SDO-D and health on liking.



*p < .05

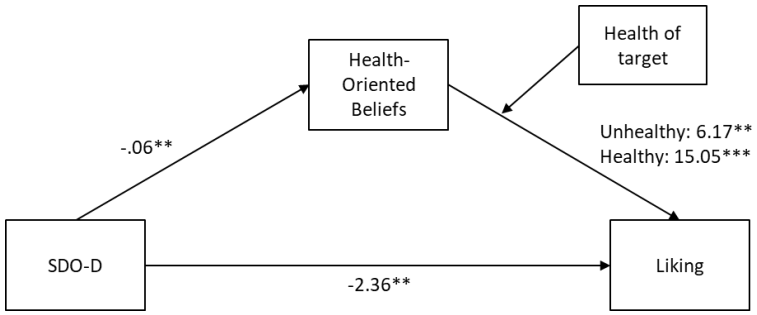
Moderated Mediation Analysis

To understand the mechanism behind the relationship between SDO-D and liking, I tested a moderated mediation model including SDO-D, health-oriented beliefs, feelings towards the target, and the health of the target using the PROCESS macro model (Hayes, 2013). Post-hoc Monte Carlo power analyses generated by an online application (Schoemann et al., 2017) indicated that the sample size (N = 610) had 96% power to detect an effect at the 95% confidence interval.

I found that health-oriented beliefs did in fact partially mediate the relationship between SDO-D and liking while the health of the target moderated the relationship between health-oriented beliefs and liking. Stronger health-oriented beliefs were associated with increased liking and the conditional indirect effect was strongest for the healthy target (β = 13.47 (2.46), 95% CI = 8.65; 18.30) compared to the unhealthy target (β = 6.02 (2.25), 95% CI = 1.60; 10.44). In other words, people higher in SDO-D had lower health-oriented beliefs, which in turn led to greater dislike of the target, especially for the unhealthier target (see figure 10 and table 10). To get the coefficients for the path

between health-oriented beliefs and liking I conducted a separate moderation analysis testing for the interaction between health-oriented beliefs and health of the target (β = 8.88 (3.32), t = 2.67, p < .01; see figure 11). A similar model with SDO-E predicting blame as the outcome variable with pre-existing conditions as the moderator was not significant.

Figure 10. Conditional indirect effects of SDO-D on liking via health-oriented beliefs for healthy and unhealthy targets.

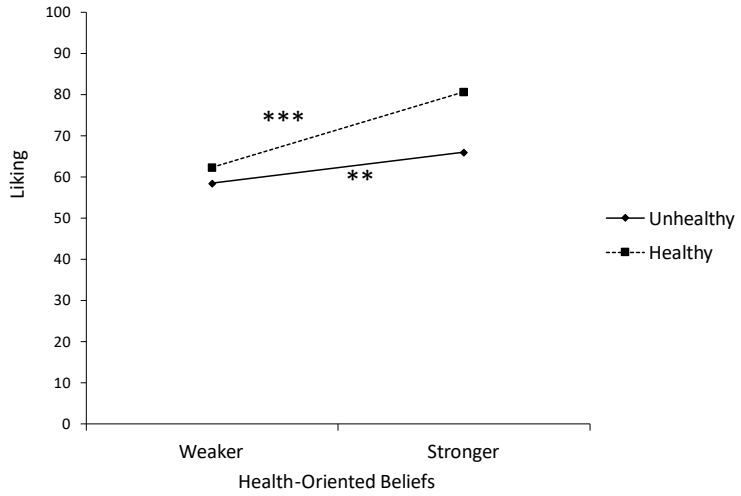


Note. Coefficients are unstandardized.
**p < .01
***p < .001

Table 10. Direct and indirect effects of SDO-D on liking.

Outcome	*B*	*SE*	BootLLCI	BootULCI
Direct effect				
SDO-D → liking	-2.37	0.73	-3.79	-0.94
Indirect effect				
Unhealthy: SDO-D → health-oriented beliefs → liking	-0.39	0.21	-0.86	-0.05
Healthy: SDO-D → health-oriented beliefs → liking	-0.87	0.29	-1.50	-0.34

Figure 11. Health status of the target moderates the relationship between health-oriented beliefs and liking.



**p < .01
***p < .001

Discussion

This study aimed to show that the proposed social hierarchy based on health is unique from the established racial hierarchy. The first series of regressions showed that the health of the target in the article predicted how much participants liked and blamed the target over and above the race of the target when included in the same model, suggesting that both play a critical role when forming judgments. Contrary to my predictions, there was not an interaction between total SDO and health status on liking or blame but the interaction was significant when just looking at the dominance subscale of SDO. What was surprising about this finding was that the participants lower in SDO-D liked the healthy target more and there was no effect of SDO-D on feelings towards the unhealthy target. Further analyses suggested that this finding could be caused by one's health-oriented beliefs (e.g., the importance of exercising, eating

healthily, not smoking, etc.). As study 1 showed and study 2 confirmed, people high in SDO placed less value on these beliefs meaning it's possible that these behaviors would not be as influential for those high in SDO-D when forming judgments about a target.

While these health-oriented beliefs played a role in increasing positive feelings towards the healthy target for people low in SDO-D, it's important to note that there was no effect on liking of the unhealthy target, regardless of SDO-D level. This could be because the SDO-D subscale measures a preference for systems of group-based dominance in which high status groups forcefully oppress lower status groups. What we could be seeing could just be people who are lower in SDO-D but still have admiration for people who live a healthier lifestyle, while still not denigrating the unhealthy target, who would be considered lower status. Since these health-oriented beliefs are not as valued by people high in SDO, it would follow that the presence, or lack, of these behaviors would not necessarily shift the feelings of someone high in SDO-D.

Even though total SDO did not significantly interact with the health of the target, it was a main effect for all of these relationships, in the predicted directions. Since these health beliefs and behaviors again appear to be less important to those high in SDO, it could be that the participants high in SDO disliked the target more, blamed the target more, and wanted to be socially distanced from the target simply because they got sick and died, regardless of their health behaviors. This study showed that SDO is a significant predictor of one's attitudes towards a target who becomes sick and dies, and it does so over and above the influence of race on these judgments. Study 3 aimed to improve these judgments by testing an intervention based on empathy which has been shown to influence SDO.

CHAPTER IV

STUDY 3

While study 2 focused on establishing the health hierarchy as a unique construct separate from the established race social hierarchy, with study 3 I aimed to reduce the association between SDO and attitudes towards a target who gets sick and dies. Because empathy has been shown to reduce SDO, I implemented an intervention that sought to increase empathy. My predictions were as follows:

1. I predicted that participants in the empathy condition would have lower SDO and higher self-reported empathy than the participants in the control condition.
2. I predicted main effects of empathy condition, SDO, and health status of the target on liking and blame such that participants in the empathy condition would like the target more and blame the target less, people higher in SDO would like the target less and blame the target more, and people would like the unhealthy target less and blame them more.
3. I predicted two-way interactions between SDO and empathy condition on liking and blame such that participants high in SDO and in the empathy condition would like the target more and blame the target less than participants high in SDO and in the control condition.
4. I predicted two-way interactions between SDO and health status on liking and blame such that participants high in SDO and in the healthy target

5. condition would like the target more and blame the target less than participants high in SDO and in the unhealthy target condition.
5. I predicted three-way interactions between SDO, empathy, and health status of the target on liking and blame such that participants higher in SDO and in the empathy condition would dislike and blame the unhealthy target less than participants with higher SDO in the control condition.
6. I predicted that SDO would mediate the relationships between empathy and attitudes (i.e., liking and blame) towards the target.

Methods

Sample Size Calculations and Participants

A power analysis conducted via G*Power (Faul et al., 2009) indicated that I would need a sample size of at least 101-171 participants to detect an effect at powers of 70-90%. Participants (N = 430) were recruited for the study through Amazon's Mechanical Turk and were paid $1.00 for completing the study. One participant was excluded from analyses due to missing data which left me with a final sample size of 429 (M_{age} = 43.77, SD = 13.91).

Procedure and Materials

Participants were told that they would be participating in a research study evaluating how they process news articles and that they would be assigned two news articles to read chosen at random.

Empathy Manipulation (Appendix J). For the empathy manipulation they were told that one factor that has been found to be especially important in determining reactions to news articles is "reading perspective". Participants were then randomly

assigned to either the empathy or the control condition and for both conditions they were presented with a fake news article about an individual's experience with schizophrenia (CureSZ, n.d.). For the empathy condition they were asked to write for 3-5 minutes about how the person in the article they read felt about what happened and how it affected their life, and to not concern themselves with attending to all of the information being presented and to instead focus on feeling the full impact of what the person in the article had been through. For the control condition they were asked to write for 3-5 minutes about just what happened in the article without getting caught up in how the person in the article felt and to just remain objective and write about the facts. The writing task was then followed by two distractor comprehension questions.

Health Status Manipulation (Appendix K). They were then presented with a fake news article about a person who died from an unexpected illness. Similar to study 2, in the article the person regularly engaged in either healthy (e.g., active runner and vegetarian) or unhealthy (e.g., no exercise and eating junk food) behaviors prior to getting sick. After reading the article the participants first responded to distractor questions asking about how well written the article was and whether or not the article used appropriate vocabulary.

Feelings thermometer. Participants were asked to rate how favorable or warm they would rate their feelings towards the person in the article on a scale from 0-100.

Blame. Participants were asked to rate how responsible on a scale from 1 (not at all responsible) - 5 (extremely responsible) they believed the person in the article was for getting sick.

Social Dominance Orientation Scale. Participants completed the social dominance orientation scale (α = .95; Ho et al., 2015) in which they were asked to rate 16 statements on a scale from 1 (strongly oppose) to 7 (strongly favor). Example items include statements such as "Some groups of people must be kept in their place" and "We should work to give all groups an equal chance to succeed". The scale is comprised of two subscales, SDO-Dominance (α = .90) which measures one's preference for systems of group-based dominance in which high status groups forcefully oppress lower status groups and SDO-Egalitarianism (α = .93) which measures one's preference for systems of group-based inequality that are maintained by an interrelated network of subtle hierarchy-enhancing ideologies and social policies. Because SDO and empathy have been shown to have reciprocal effects on each other (Sidanius et al., 2013), the SDO and empathy scales were counterbalanced so that half of the participants completed the SDO scale first, and the other half completed the empathy scale first to control for possible order effects.

Positive Empathy Scale (PES; Appendix L). Participants completed the positive empathy scale (α = .96; Light et al., 2019) in which they were asked to rate 15 statements on a scale from 1 (extremely untrue) to 7 (extremely true). Example items include statements such as "I also feel good when someone I know feels good" and "I feel great when I find out that I have made someone else happy". The scale is comprised of 2 subscales, empathic happiness (α = .92) which involves feeling goodwill towards others, and empathic cheeriness (α = .93) which involves displaying positive affect in an attempt to uplift someone in distress.

Demographics. Finally, participants were asked to report their age, gender,

race, political ideology, and education status.

Analyses

All analyses were conducted using SPSS version 27. Missing cases were deleted pairwise unless the participants did not complete the SDO scale in which case they were removed from the dataset.

Results

Sample Characteristics

I conducted a series of chi square tests and found a significant difference between males and females in the empathy condition, so I proceeded with my analyses and also included gender as a covariate (see table 11). For all variable means see table 12.

Manipulation Check. I conducted two independent samples t-test to determine if there were mean differences in SDO and empathy between the two study conditions and found no differences for either variable, suggesting that the manipulation was not successful (see table 12). Even though the empathy manipulation was unsuccessful, I continued to run the analyses as planned. I found no order effects for SDO and PES, so this was not factored into the analyses.

Attitudes Towards Target

Liking. I first ran a hierarchical linear regression model with SDO, empathy condition, and the target's health status predicting feelings towards the target in the first step, and then adding in the two-way interactions between empathy condition and SDO and health status and SDO, and finally adding the three-way interaction between health status, empathy condition, and SDO in the final step. The model was significant (R^2 = .102 (24.503), $F (6, 421) = 7.967$, $p < .001$) with SDO ($\beta = -3.853$ (.849), $t = -4.537$, $p <$

.001) and health status (β = 6.122 (1.226), t = 4.994, p < .001) both predicting how people felt about the person in the article. As predicted, people high in SDO felt less favorable towards the target and people liked the healthier target more than the unhealthy target (see figure 12). None of the interactions were significant. This pattern of results did not change when controlling for gender, political ideology, or education level.

Blame. Next, I ran the same hierarchical regression model except with blame of the target as the outcome. This model was also significant (R^2 = .329 (1.080), F (6, 422) = 34.493, p < .001), with SDO (β = .164 (.036), t = 4.536, p < .001) and health status (β = -.701 (.052), t = -13.412, p < .001) predicting blame. As predicted, people higher in SDO blamed the target more and people blamed an unhealthy target more (see figure 13). Once again, none of the interactions were significant and this pattern of results did not change when controlling for gender, political ideology, or education level.

Table 11. Study 3 participant demographics.

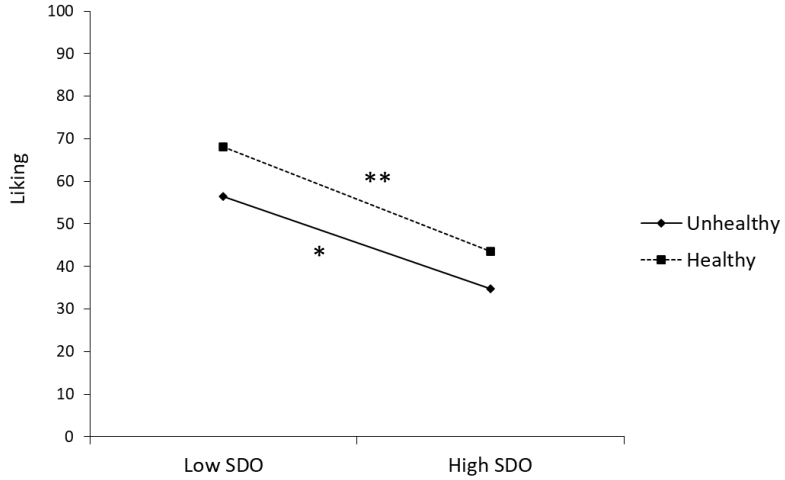
	Empathy			Health Status			
	Control (N = 209)	Empathy (N = 220)		Unhealthy (N = 215)	Healthy (N = 214)		Total (N = 428)
	N	*N*	χ^2	*N*	*N*	χ^2	*N*
Gender			8.17*			0.12	
Male	100	77		86	91		177
Female	103	140		122	121		243
Non-binary	1	1		2	0		2
Prefer not to answer	4	2		3	3		6
Race							
Caucasian or White	151	165		149	167		316
African American or Black	27	22		27	22		49
Hispanic or Latino	16	16		11	21		32
Asian or Pacific Islander	17	13		22	8		30
Native American or American Indian	3	2		2	3		5
Prefer not to answer	4	4		5	3		8
Other race not listed	3	2		0	5		5
Education			3.99			2.88	
Some high school	0	3		2	1		3
High school/equivalent degree	19	20		15	24		39
Some college	44	38		43	39		82
Associate's degree	27	27		27	27		54
Bachelor's degree	85	94		92	87		179
Some graduate school	5	5		5	5		10
Graduate degree	28	33		29	32		61
Political Ideology			6.24			8.19	
Very liberal	37	41		37	41		78
Liberal	45	35		41	39		80
Somewhat liberal	23	30		32	21		53
Moderate	45	50		37	58		95
Somewhat conservative	26	24		26	24		50
Conservative	16	28		24	20		44
Very conservative	16	12		16	12		28

*$p < .05$

Table 12. Study 3 variable means.

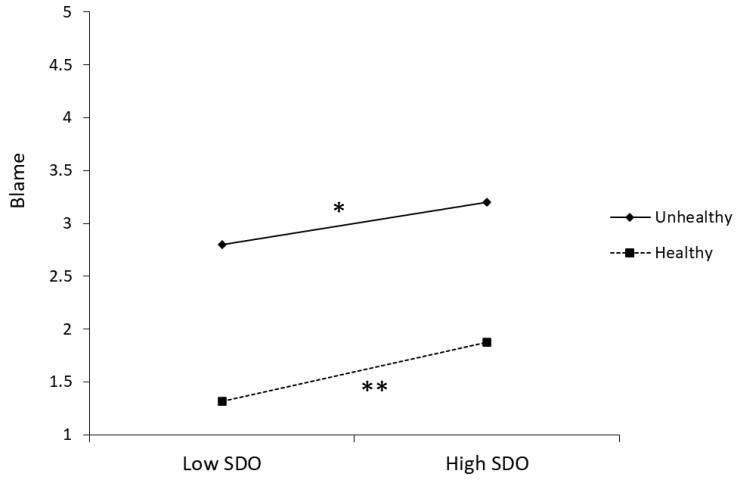
Variable	Study Conditions										
	Empathy					Health Status					
	Control (N = 209)		Empathy (N = 220)			Healthy (N = 215)		Unhealthy (N = 214)		Total (N = 429)	
	M	*SD*	*M*	*SD*	*t*	*M*	*SD*	*M*	*SD*	*M*	*SD*
SDO	2.62	1.43	2.76	1.48	0.98	2.65	1.4	2.74	1.5	2.69	1.45
PES	5.6	1.02	5.67	0.98	0.79	5.6	1.01	5.67	0.99	5.64	1.00
PES_H	5.5	0.07	5.59	0.07	0.95	5.51	0.07	5.59	0.07	5.55	1.01
PES_C	5.56	0.07	5.63	0.07	0.65	5.57	0.07	5.62	0.07	5.6	1.03
Liking	66.47	26.62	65.85	26.47	-0.24	72.47	23.85	59.84	27.57	66.15	26.51
Blame	2.33	1.33	2.27	1.29	-0.49	1.59	1.05	3.01	1.16	2.3	1.31

Figure 12. Relationship between SDO and health status of the target on liking.



* p < .01.
**p < .001

Figure 13. Relationship between SDO and health status of the target on blame.

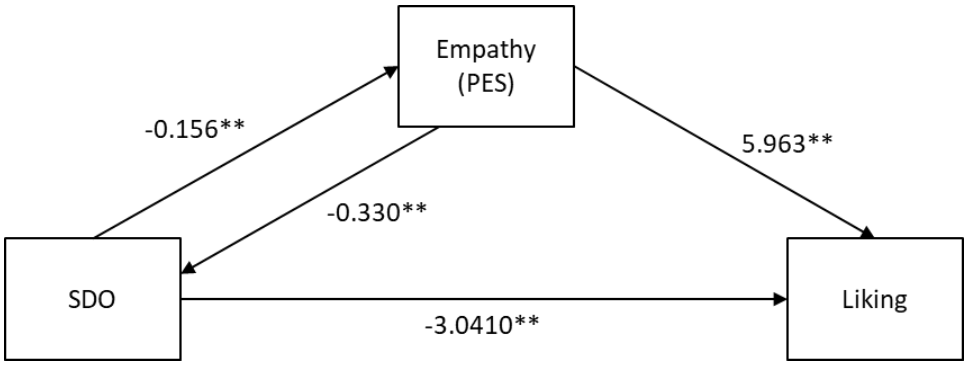


*$p < .05$
** $p < .01$.

Mediation Analysis

Using PROCESS, I tested a mediation model with empathy predicting liking through SDO and the model was significant. Since SDO and empathy have reciprocal effects on each other, I also tested the model with SDO predicting liking through empathy, which was also significant (see figure 14). Post-hoc Monte Carlo power analyses generated by an online application (Schoemann et al., 2017) indicated that the sample size (N = 429) had 99% power to detect an effect at the 95% confidence interval.

Figure 14. Reciprocal mediation model.



**$p < .01$

Discussion

While the empathy manipulation did not successfully impact SDO levels, this study did confirm the results from study 2 and people higher in SDO liked the target less and blamed the target more. The robustness of this finding across the two studies suggests that health status should be considered as another arbitrary set hierarchy where value is placed on strictly on an individual's wellbeing, with those that suffer from health issues placed at the bottom of the social hierarchy. While people low in SDO and high in SDO both had a preference for the healthy target, the people high in SDO liked the unhealthy target significantly less than the people low in SDO (figure 12). Similarly, people low and high in SDO blamed the unhealthy target more but people higher in SDO blamed them even more (figure 13). This suggests that while the health status of a target can generally influence attitudes, SDO works over and above this to further influence attitudes.

Even though this specific empathy manipulation proved unsuccessful, this does not mean that empathy cannot be used to improve attitudes towards targets since self-reported empathy is positively associated with liking, and empathy mediates the relationship between SDO and liking. Future research should explore alternative empathy manipulations.

CHAPTER V

GENERAL DISCUSSION

With this series of studies, I aimed to establish a health-based social hierarchy. Prior research on social dominance theory has focused on gender, age, and other arbitrary set hierarchies such as race, however, there is a gap in the literature when it comes to individuals' health status and behaviors. Existing research on SDO has found that it is a significant predictor of intergroup attitudes and there is evidence to suggest that it plays a causal role in prejudice and discrimination against outgroups (Bratt et al., 2016; Guimond et al., 2003; Heaven & Quintin, 2003; Kteily et al. 2010). In the U.S. SDO is highly correlated with anti-Black attitudes (Stern & Axt, 2019), sexist ideologies (Christopher & Wojda, 2008), and feelings of counter-empathy (i.e., pleasure at others' misfortunes) towards outgroup members (Hudson et al., 2019). People who are high in SDO are also more inclined to endorse policies that reinforce social hierarchies (hierarchy enhancing policies) as well as legitimizing myths which are attitudes and beliefs that serve the purpose of providing justifications for the existence of inequitable social stratifications (Sidanius & Pratto, 1999, p. 45).

In the context of health, there are several nonmedical factors, (i.e., social determinants of health) which can influence individual and group health status. According to the CDC (2022) there are five domains these determinants can be grouped into: economic stability, education access and quality, healthcare access and quality, neighborhood and built environment, and social and community context. All of these

can impact people's health and well-being and there is evidence that inequities in these areas are the driving force behind the health disparities in the U.S. that lead to low-income Black and Latine people having worse health outcomes than White people (Acevedo-Garcia et al., 2003; Dwyer-Lindgren et al., 2022; Kershaw et al., 2011; Paradies et al., 2015). Even with this abundance of evidence there are still people who choose to justify the existence of these health disparities by individualizing health behaviors and placing the blame of these poorer health outcomes on people choosing to not live a healthy lifestyle (Satel, 2001; 2014). This takes the fault away from unfair practices and systems that make it difficult for oppressed groups to access quality healthcare and engage in healthy behaviors, while acting as a legitimizing myth for these inequities. As previously stated, there is a lack of research exploring social dominance theory in the context of health. However, there is some research showing that SDO is positively related to anti-fat attitudes which has been partially attributed to a belief in the controllability of one's weight (Elison & Ciftci, 2015).

This led me to explore the existence of a social hierarchy based on health where people high in SDO would place a high value on health behaviors such as eating healthily, taking vitamins, and exercising. This would then translate into people denigrating those who do not engage in these behaviors and showing increased favoritism towards those who do. Because much of the blame for these health outcomes is placed on the individual's health decisions, I originally predicted that SDO would be related to health beliefs such that people higher in SDO would place a high value on health behaviors such as eating healthily, taking vitamins, and exercising and would have a greater internal health locus of control. I also predicted that people high in SDO

would have a more positive health outlook, lower health worry, and more positive perceptions about their health resistance since prior research in other contexts has found that group status is related to SDO. In the context of health, the "dominant" social group would include those who appear to be healthy and fit. Finally, I predicted that people high in SDO would exhibit higher symbolic ableism (i.e., prejudice towards disabled people) and would show low support for hierarchy attenuating policies and high support for hierarchy enhancing policies.

SDO, Health Beliefs, and Essentialist Implications

Study 1 supported the majority of my hypotheses and confirmed that SDO is negatively associated with health-oriented beliefs, health consciousness, health worry, and positively associated with a powerful others health locus of control, a chance health locus of control, and symbolic ableism. SDO also negatively predicted support for hierarchy attenuating social policies such as Medicare for All, and unlimited paid sick leave, and positively predicted support for the hierarchy enhancing social policy, private health.

The strongest association found was the positive relationship between SDO and symbolic ableism. The symbolic ableism scale was developed to measure subtle prejudice against disabled people and was modeled after the symbolic racism scale (Friedman & Awsumb, 2019). The symbolic ableism scale measures the extent to which people believe that disabled people don't face discrimination and are unwilling to take responsibility of their lives and therefore do not need any special treatment. The scale also taps into the theme of individualism (i.e., a belief that success is based on hard work) which is a legitimizing myth that is often used to justify social inequities. This

finding is a strong piece of confirmatory evidence that health and ableist beliefs can be linked to SDO and to my knowledge this study is the first to explore ableism in the context of social hierarchies. While existing research has established that anti-black attitudes, meritocracy, and nationalist ideologies have mediating roles in support for discriminatory policies (Pratto et al., 1998), this study extended these findings by showing that ableist ideologies play a mediating role in support for health care related social policies.

Contrary to my predictions, however, SDO was negatively related to health-oriented beliefs, suggesting that people high in SDO are actually placing lower value on engaging in health behaviors and this finding proved to be robust as studies 2 and 3 confirmed it in separate samples. While there is a lack of existing research to help explain this unexpected finding, one study found that SDO is positively related to pseudo-scientific beliefs in which people believe that health threats are rooted in hereditary transmission or genetic contamination (Anna Rosa, 2018). This would suggest that for people high in SDO, their health status is largely unrelated to their health behaviors and is instead a function of factors out of their control (i.e., genetics). The author theorized that SDO, and specifically the dominance subscale, is rooted in essentialist beliefs that drive the justification for a hierarchical social order.

Psychological essentialism is a belief that people possess an immutable underlying natural essence that makes up who they are, and these characteristics remain stable and are shared amongst all members of a group (Neufeld, 2022). This is in contrast to social determinism which argues that social factors and the environment can influence and shape human characteristics (Kesberg & Keller, 2020). SDO has

previously been linked to gender (Skewes et al., 2018) and racial (Mandalaywala et al., 2017) essentialism so one could infer that this association would extend to essentialist beliefs about an individual's health status, however further research is necessary. This theory does help explain why people high in SDO appeared to view health behaviors as less important for staying healthy than people low in SDO. Placing value on engaging in these behaviors to maintain a higher health status would contradict any essentialist beliefs one could hold about health status. An essentialist view of health also aligns with my finding that SDO is consistently associated with a chance LOC such that people high in SDO are more likely to view their health outcomes as fate and out of their control.

Uniqueness of the Health-Based Hierarchy

Study 2 confirmed the negative relationship between SDO and health beliefs and also extended this finding by establishing the existence of a health hierarchy that's unique from the racial hierarchy. Because race and health are so closely linked in the U.S. with low-income minorities suffering from worse health outcomes, it was possible that any negative attitudes held towards people with an "inferior" health status could actually be the result of racial prejudice if there is an automatic association of unhealthiness to Black people, for example. To account for this possibility, study 2 manipulated both the race of the target as well as whether the target engaged in healthy or unhealthy behaviors. Even in the case of people showing a preference for a White target, I still expected to see greater preference for healthy targets. I predicted that people high in SDO would express greater dislike and blame for a target who engaged in unhealthy behaviors and got sick before dying compared to a target who engaged in healthy behaviors. Instead, I found that SDO predicted liking and blame regardless of

health status and race did not play a role at all.

While unexpected, this result does align with the finding that SDO is negatively associated with health beliefs. Because health status was operationalized as whether or not the target engaged in healthy behaviors, it follows that those who are high in SDO would solely focus on the fact that the person in the story was sick and died to form their judgments, as opposed to the health behaviors of the person. Not only did this study show the existence of a social hierarchy based on health that is separate from race, but it also shifted the focus of the health hierarchy away from the actions one takes to maintain one's health as being what differentiates the levels of the hierarchy. Instead, it could be argued that the target in the story was seen as weak and inferior simply because they became sick.

While there is currently a lack of literature exploring a hierarchical relationship between sick people and people that are perceived to be healthy, there is evidence that within the medical field specifically, medical students often hold negative attitudes towards chronically ill patients whose illnesses are irrespective of their personal health behaviors (Campbell & McGauley, 2005). The authors attributed these attitudes to medical education which often deters students from entering fields that involve managing the care of chronically ill patients as well as the fact that medical education is largely disease-oriented with a focus on cures. However, this does not explain possible root causes of why the medical field has this focus and one possible driver could be SDO. In the context of mental illness, one study found that belief in a just world is associated with negative attitudes towards people with mental illnesses, and this relationship is mediated by SDO (Bizer et al., 2012). Both of these studies explored attitudes towards

individuals with illnesses that are completely out of their control, yet who still face stigma, and for mental health patients specifically this stigma is driven by SDO and a belief that these individuals somehow deserved their mental illness.

Empathy as an Intervention

Finally, study 3 tested an empathy-based intervention that aimed to reduce SDO by increasing empathy through a perspective-taking task. Even though the intervention was unsuccessful in reducing SDO and changing attitudes towards the target in the story, the study did replicate the results from study 2 in that people high in SDO expressed greater dislike and blame for the sick individual in the story, regardless of their health behaviors. While there is evidence that empathy works as a mediator between SDO and prejudicial attitudes (Hudson et al., 2019) and previous studies have successfully used similar perspective-taking interventions (Miklikowska, 2018; Shih et al., 2009, 2013), there is also evidence that tasks of this nature can be difficult to implement (Na & Chasteen, 2016; Oh et al., 2016) and can sometimes even backfire (Gloor & Puhl, 2016).

One study attempted to reduce weight bias by implementing a similar perspective-taking empathy intervention in which participants were asked to write about a typical day in the life of an overweight person (Gloor & Puhl, 2016). While they found that the intervention did successfully increase empathy compared to the control condition, this increase in empathy did not translate into weight bias reduction and they found that fat phobia was actually increased for those in the empathy condition. They presented two possible explanations for why this might have happened, the first being that evoking empathy by writing about a day in the life of an overweight person might

have unintentionally emphasized any negative aspects of being overweight which could have increased stereotyping (Skorinko & Sinclair, 2013). The second possible explanation is that perspective-taking could increase stereotyping by association by increasing the bond of the perspective-taker with the target and thereby leading participants to accept the target group stereotypes as their own (Galinsky et al., 2008).

Additionally, while empathy is widely considered to be a causal trait of SDO, research has also found that they have reciprocal effects on each other (Sidanius et al., 2013). Not only can SDO also affect one's empathy, but it's been shown to have a stronger and more long-lasting effect on empathy than empathy does on SDO. Even though theoretically empathic concern should decrease SDO, it's possible that the empathy manipulation used in study 3 wasn't strong enough to overcome high SDO levels. This could be because individuals who are high in SDO often avoid encounters with people who belong to socially "inferior" groups which can decrease compassion for members of these groups (Turner et al., 2020). This combined with the possibility that the intervention might have inadvertently increased stereotyping, especially among those high in SDO, could help explain why the intervention was unsuccessful.

Limitations and Future Directions

While theory would suggest that SDO is the predictor in all of these associations, as it has been posited to be a personality trait that drives attitudes and behaviors, the correlational nature of the data in study 1 does make it difficult to draw causal conclusions. Another limitation in study 1 is that the order of the battery of scales and the questions within the scales were not randomized meaning responses to later measures and questions could have more artifactual responses due to satisficing and

inattention. Finally, a future direction for study one could be to adjust the format of the scales' response items. For the Health Perceptions Scale, instead of using the original bipolar Likert format of 1 (strongly disagree) to 5 (strongly agree) I opted to use unipolar item-specific response scales to match the response dimension. For example, the response items for "How important is it to live life in the best possible health?" were from 1 (not at all important) to 5 (extremely important). Compared to traditional Likert Agree-Disagree response scales, unipolar item specific scales have been found to be more reliable and valid. Item specific scales also solve the issue of participants selecting a middle category of "neither agree nor disagree" or neutral simply because they have no opinion which is problematic on continuous measures (Dykema et al., 2022). Future studies could explore following the same conventions for the other scales.

Additionally, study 2 operationalized health status as engaging in healthy or unhealthy behaviors but as the results of these studies showed, people high in SDO do not place value on these behaviors. Thus, it is difficult to discern if the negative attitudes towards the target in the story were a result of the person getting sick, or because they died. Future research should aim to unpack this by including a condition in which the person becomes sick but survives, as well as the condition in which the person dies.

As mentioned, there are multiple reasons why the empathy intervention in study 3 might not have worked, one of which is simply that interventions of this type have been shown to backfire. In addition to this, there is also the possibility that it was too hard for the participants to identify with the person in the story, even when asked to write about the events of the story from the target's perspective. There is also the fact that the person in the story suffered from schizophrenia and while this story was

purposefully chosen in an attempt to stay within a health-related domain, it's possible that the intervention wasn't strong enough to decrease the negative attitudes that people high in SDO tend to hold against people with mental illnesses. Even though this intervention was unsuccessful, this does not mean that empathy cannot be used to decrease SDO and improve attitudes.

While perspective-taking writing tasks have been shown to increase empathy by allowing one to see other viewpoints (Shih et al, 2009; Stocks et al., 2011; Todd et al., 2014), there are other avenues one can take to increase empathy. Future research studies could attempt to increase empathy by using a self-focused manipulation that works to make participants feel more personally connected to the target. This could be done by manipulating their perceived self-vulnerability to getting sick, such as through a base rate manipulation in which some participants will be led to believe that their social group is at a higher risk for disease than others.

Strengths

Despite these limitations, the studies exhibited several strengths. Study 1 set the foundation for exploring a health-based social hierarchy by finding strong associations between SDO and different health beliefs and symbolic ableism. The relationship between SDO and health-oriented beliefs also proved to be robust and replicated across multiple samples. Additionally, because the participants in studies 2 and 3 were randomly assigned to conditions, it can be inferred that any group differences were the result of the articles they read.

Coda

Taken together, the findings from these three studies suggest that there is a

robust relationship between SDO, health beliefs, and attitudes towards sick individuals, suggesting the existence of a social hierarchy based on health. The maintenance of social hierarchies relies on the oppression of individuals belonging to “inferior” social groups while “dominant” social groups are highly valued in society. In the context of health, this hierarchy would place those who appear healthy and fit above those who face illness. The implications of this research suggest that sick individuals are at greater risk of prejudice and discrimination from those who are highly motivated to maintain social hierarchies and are more likely to face systemic injustices.

APPENDIX A

SOCIAL DOMINANCE ORIENTATION (SDO_7) SCALE

Instructions: Show how much you favor or oppose each idea below by selecting a number from 1 to 7 on the scale below. You can work quickly; your first feeling is generally best.

1	2	3	4	5	6	7
Strongly oppose	Somewhat oppose	Slightly oppose	Neutral	Slightly favor	Somewhat favor	Strongly favor

Pro-trait dominance:

1. Some groups of people must be kept in their place.
2. It's probably a good thing that certain groups are at the top and other groups are at the bottom.
3. An ideal society requires some groups to be on top and others to be on the bottom.
4. Some groups of people are simply inferior to other groups.

Con-trait dominance:

5. Groups at the bottom are just as deserving as groups at the top.
6. No one group should dominate in society.
7. Groups at the bottom should not have to stay in their place.
8. Group dominance is a poor principle.

Pro-trait anti-egalitarianism:

9. We should not push for group equality.
10. We shouldn't try to guarantee that every group has the same quality of life.
11. It is unjust to try to make groups equal.
12. Group equality should not be our primary goal.

Con-trait anti-egalitarianism:

13. We should work to give all groups an equal chance to succeed.
14. We should do what we can to equalize conditions for different groups.
15. No matter how much effort it takes, we ought to strive to ensure that all groups have the same chance in life.
16. Group equality should be our ideal.

Note: The con-trait items should be reverse-scored before computing a composite scale mean.

APPENDIX B

STUDY 1 MEASURES

Health Locus of Control

1 (strongly disagree) to 6 (strongly agree).

1. If I get sick, it is my own behavior which determines how soon I get well again.
2. No matter what I do, if I am going to get sick, I will get sick.
3. Having regular contact with my physician is the best way for me to avoid illness.
4. Most things that affect my health happen to me by accident.,
5. Whenever I don't feel well, I should consult a medically trained professional.
6. I am in control of my health.
7. My family has a lot to do with my becoming sick or staying healthy.
8. When I get sick, I am to blame.
9. Luck plays a big part in determining how soon I will recover from an illness.
10. Health professionals control my health.
11. My good health is largely a matter of good fortune.
12. The main thing which affects my health is what I myself do.
13. If I take care of myself, I can avoid illness.
14. Whenever I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
15. No matter what I do, I 'm likely to get sick.
16. If it's meant to be, I will stay healthy.
17. If I take the right actions, I can stay healthy.
18. Regarding my health, I can only do what my doctor tells me to do.

Internal: 1, 6, 8, 12, 13, 17
Powerful Others: 3, 5, 7, 10, 14, 18
Chance: 2, 4, 9, 11, 15, 16

Health Consciousness Scale

1. How important is it to you to live life in the best possible health?
    1 – Not at all important
    2 – A little important
    3 – Somewhat important
    4 – Very important
2. How necessary are eating right, exercising, and taking preventive measures in order to keep you healthy for life?
    1 – Not at all
    2 – A little necessary
    3 – Somewhat necessary
    4 – Very necessary
3. How much does your health depend on how well you take care of yourself?
    1 – Not at all
    2 – A little bit
    3 – Some

4 – A lot

4. How much do you actively try to prevent disease and illness?
   1 – Not at all
   2 – A little bit
   3 – Some
   4 – A lot
5. How much do you to do everything you can to stay healthy?
   1 – Not at all
   2 – A little bit
   3 – Some
   4 – A lot

Health Perceptions Scale
1 (strongly disagree) to 6 (strongly agree)
--Current Health

1. According to the doctors I've seen, my health is now excellent
2. I feel better now than I ever have before
3. I am somewhat ill
4. I'm not as healthy now as I used to be
5. I'm as healthy as anybody I know
6. My health is excellent
7. I have been feeling bad lately
8. Doctors say that I am now in poor health
9. I feel about as good now as I ever have

--Resistance/susceptibility

10. I seem to get sick a little easier than other people
11. Most people get sick a little easier than I do
12. My body seems to resist illness very well
13. When there is something going around I usually catch it

--Health Outlook

14. I will probably be sick a lot in the future
15. In the near future, I expect to have better health than other people I know
16. I expect to have a very healthy life
17. I think my health will be worse in the future than it is now

--Health worry/concern

18. I never worry about my health
19. I worry about my health more than other people worry about their health
20. My health is a concern in my life
21. Others seem more concerned about their health than I am about mine

--Sickness Orientation

22. Getting sick once in a while is a part of my life
23. I accept that sometimes I'm just going to be sick

Health Policy Views
Please indicate how much you would support the following policies:

1 – Not at all
2 – A little
3 – Somewhat
4 – Completely

1. Medicare for all
2. Vaccine mandates
3. Unlimited paid sick leave
4. Private health insurance

Symbolic Ableism Scale

Please rate on a scale from 1 (strongly disagree) to 7 (strongly agree) how much you agree with the following statements:

1. Even if disabled people try hard they often cannot reach their goals. (Reverse keyed)

2. Even if disabled people are ambitious they often cannot succeed. (Reverse keyed)

3. If disabled people work hard they almost always get what they want.

4. Hard work offers little guarantee of success for disabled people. (Reverse keyed)

5. Any disabled person who is willing to work hard has a good chance of succeeding.

6. Discrimination against disabled people is no longer a problem in the United States.

7. If disabled people would just try harder they would be as well off as nondisabled people.

8. Disabled people are demanding too much from the rest of society.

9. Disabled people should stay hidden.

10. Most disabled people who don't get ahead should not blame the system; they really have only themselves to blame.

11. Over the past few years disabled people have gotten less than they deserve. (Reverse keyed)

12. It is easy to understand the anger of disabled people in America. (Reverse keyed)

13. Disabled people complain too much about their situation in society.

APPENDIX C

HEALTH ORIENTED BELIEFS SCALE FOR ALL STUDIES

Health-Oriented Beliefs

Please rate each of the following health behaviors on a scale of 1 through 5 depending on how important you think that behavior is for your overall health

1. Eating a diet that is low in fat
2. Eating lots of fruits, vegetables and grains
3. Drinking plenty of water every day
4. Taking vitamins and mineral supplements regularly
5. Exercising regularly
6. Not smoking cigarettes
7. Not drinking alcohol or drinking in moderation
8. Maintaining a healthy body weight

APPENDIX D

DEMOGRAPHIC QUESTIONS FOR ALL STUDIES

1. Please indicate your Gender:
    - Male
    - Female
    - Non-binary
    - Transgender male
    - Transgender female
    - Prefer not to answer
    - Other gender not listed: _____
2. Please indicate your ethnicity [select all that apply]:
    - Caucasian or White
    - African American or Black
    - Hispanic or Latino
    - Asian or Pacific Islander
    - Native American or American Indian
    - Prefer not to answer
    - Other: _____
3. Please indicate your political ideology:
    - Very conservative
    - Conservative
    - Somewhat conservative
    - Moderate
    - Somewhat liberal
    - Liberal
    - Very liberal
4. Please indicate political party affiliation:
    - Republican
    - Independent
    - Democratic
5. Please indicate your highest qualification:
    - Some high school
    - High school degree/equivalent degree
    - Some college
    - Associate's degree
    - Bachelor's degree
    - Graduate degree

APPENDIX E

STUDY 1 VARIABLE CORRELATIONS

Table 13. Study 1 Variable Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. SDO	--											
2. SDO-D	.93**	--										
3. SDO-E	.95**	.77**	--									
4. Health-Oriented Beliefs	-.18**	-.13**	-.20**	--								
5. Health Worry	-.18**	-.15**	-.19**	.16**	--							
6. Resistance	-0.02	-0.03	0.03	.13**	-.27**	--						
7. Health Consciousness	-.15**	-.14**	-.15**	.54**	.12**	.24**	--					
8. Symbolic Ableism	.60**	.57**	.55**	-.11**	-.27**	0.05	-0.06	--				
9. Internal HLC	0.06	.11**	0.01	.42**	-0.07	.27**	.29**	.23**	--			
10. Powerful Others HLC	.17**	.26**	0.07	.15**	0.02	-.32**	-0.06	.22**	.28**	--		
11. Chance HLC	.25**	.27**	.21**	-0.05	0.04	-.41**	-.23**	.21**	0.01	.59**	--	
12. Positive Health Outlook	.14**	.13**	.12**	.25**	-.29**	.40**	.26**	.28**	.50**	.21**	0.03	--

**p < .05

APPENDIX F

STUDY 1 HEALTH OUTLOOK FACTOR ANALYSIS

Table 14. Factor loadings for varimax rotated two-factor solution for 4 item health outlook scale (N=628).

	Component	
	1	*2*
I will probably be sick a lot in the future	0.033	0.908
In the near future, I expect to have better health than other people I know	0.911	0.097
I expect to have a very healthy life	0.893	0.185
I think my health will be worse in the future than it is now	0.268	0.840

Note. Extraction Method: Principal Component Analysis. Rotation converged in 3 iterations.

APPENDIX G

STUDY 2 ELIGIBILITY SCREENER

1. Please indicate your gender
    Male
    Female
    Non-binary
    Transgender male
    Transgender female
    Prefer not to answer
    Other gender not listed: _____
2. Please indicate your race
    Caucasian or White
    African American or Black
    Hispanic or Latino
    Asian or Pacific Islander
    Native American or American Indian
    Prefer not to answer
    Other race not listed: _____
3. Please indicate your political affiliation
    Republican
    Independent
    Democratic
    Prefer not to respond
    Other affiliation not listed: _____
4. Where do you get the majority of your news from?
    Social media (e.g., Facebook, Twitter, Instagram)
    Video platforms (e.g., YouTube, TikTok)
    Newspaper (e.g., The New York Times, LA Times, Chicago Tribune)
    Websites (e.g., Al Jazeera, Breitbart, Vox)
    Television (e.g., CNN, Fox News, local news stations)
    Late night television shows (e.g., The Daily Show, Last Week Tonight, Tucker Carlson Tonight)
    Radio (e.g., NPR, local radio stations)

APPENDIX H

STUDY 2 MANIPULATION

Condition 1: White target, no pre-existing conditions, health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies

Bruce Rose entered the hospital on Jan. 13. He died two weeks later.

By Alma Clayton
Jan. 29, 2022

Bruce Rose, a data analyst and life-long resident of Chicago, IL, died from an unexpected illness on January 28, 2022, at the age of 33.

His family searches for reasons behind his unexpected illness. According to his wife, Mr. Rose took his health very seriously and was an active runner, frequently practiced yoga, and ate a vegetarian diet. He was a regular at his gym and prior to falling ill, he was in the best shape of his life. The night of January 13, his body began aching, he developed a fever, and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, who had no known health problems before he became ill, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," his wife, Jane Rose, said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 2: White target, no pre-existing conditions, no health behaviors

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Jan. 29, 2022

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His family searches for reasons behind his illness. According to his wife, Mr. Rose did not exercise regularly and spent his free time watching his favorite television shows while snacking on chips. He was a regular at his local brewery and prior to falling ill, he was not in the best shape. The night of January 13, his body began aching, he developed a fever and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, who had no known health problems before he became ill, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," his wife, Jane Rose, said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 3: White target, pre-existing conditions, no health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies

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Jan. 29, 2022

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Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, who suffered from asthma and diabetes, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," Mrs. Rose said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 4: White target, pre-existing conditions, health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies

Bruce Rose entered the hospital on Jan. 13. He died two weeks later.

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Jan. 29, 2022

Bruce Rose, a data analyst and life-long resident of Chicago, IL, died from an unexpected illness on January 28, 2022, at the age of 33.

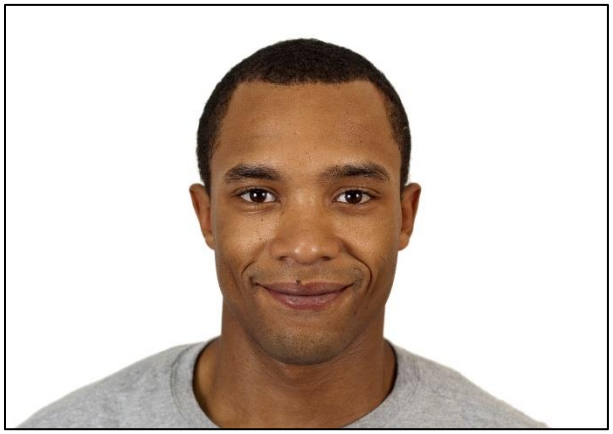
His family searches for reasons behind his unexpected illness. According to his wife, Mr. Rose took his health very seriously and was an active runner, frequently practiced yoga, and ate a vegetarian diet. He was a regular at his gym and prior to falling ill, he was in the best shape of his life. The night of January 13, his body began aching, he developed a fever, and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, who suffered from asthma and diabetes, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," Mrs. Rose said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 5: Black target, no pre-existing conditions, health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies



Aaron Jones entered the hospital on Jan. 13. He died two weeks later.

By Alma Clayton
Jan. 29, 2022

Aaron Jones, a data analyst and life-long resident of Chicago, IL, died from an unexpected illness on January 28, 2022, at the age of 33.

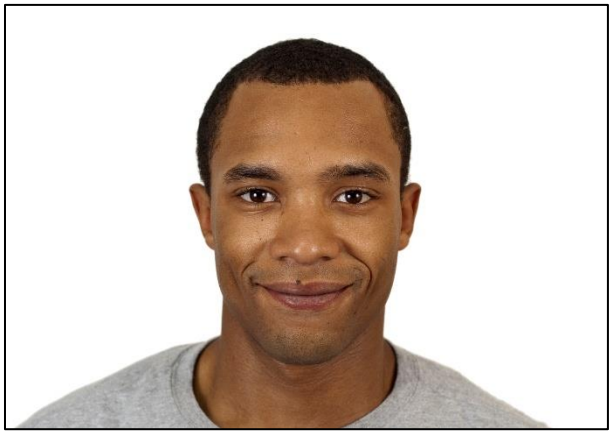
His family searches for reasons behind his unexpected illness. According to his wife, Mr. Jones took his health very seriously and was an active runner, frequently practiced yoga, and ate a vegetarian diet. He was a regular at his gym and prior to falling ill, he was in the best shape of his life. The night of January 13, his body began aching, he developed a fever, and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Jones's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Jones, 33, who had no known health problems before he became ill, died on Friday, surrounded by his wife and kids. Mr. Jones was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," Mrs. Jones said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 6: Black target, no pre-existing conditions, no health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies



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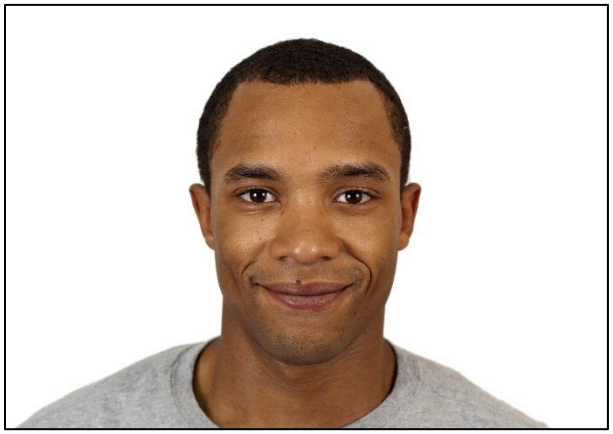
"It was a complete shock — he was fine," his wife, Jeanette Jones, said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 7: Black target, pre-existing conditions, no health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies



Aaron Jones entered the hospital on Jan. 13. He died two weeks later.

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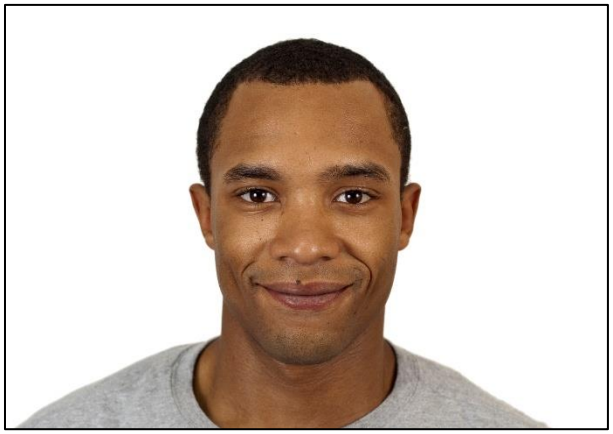
"It was a complete shock — he was fine," his wife, Jeanette Jones, said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 8: Black target, pre-existing conditions, health behaviors

Two Weeks After Unexpectedly Falling Ill, Man Dies



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"It was a complete shock — he was fine," his wife, Jeanette Jones, said. "I'm speechless. I'm still trying to wake up from this nightmare."

APPENDIX I

STUDIES 2 & 3 DEPENDENT MEASURES

Article Questions (not for analysis)

1. The article was well written. (1 – strongly disagree, 7 – Strongly agree)
2. The article used appropriate vocabulary. (1 – strongly disagree, 7 – Strongly agree)

Feelings Thermometer
How favorable or warm would you rate your feelings toward the individual in the news article? (Scale from 0-100)

0 – Very cold/unfavorable
50 – No feeling at all
100 – Very warm/favorable

Blame
How responsible do you think the person in the article is for becoming sick? (i.e. do you think they became sick because of their own actions)

1 – Not at all responsible
2 – A little responsible
3 – Somewhat responsible
4 – Very responsible
5 – Extremely responsible

Social Distancing Scale
Please indicate how happy you would be to have the person in the article:

1 – Not at all happy
2 – A little happy
3 – Somewhat happy
4 – Very happy
5 – Extremely happy

1. As President of the U.S.
2. As Governor of my state
3. As a neighbor
4. To come and work at the same place I do
5. As a roommate
6. To marry into my family
7. As someone I would personally date
8. As my personal physician
9. As a close personal friend
10. As the owner of a store or restaurant I frequent
11. As the teacher of my children
12. As my spiritual advisor

APPENDIX J

STUDY 3 EMPATHY MANIPULATION

Empathy Condition

Instructions: You will be assigned to read a news article about current events chosen at random. One factor that has been found to be especially important in determining reactions to news articles is 'reading perspective'. After reading the article, please write for 3-7 minutes about how the person in the story felt about what happened and how it affected their life. Try not to concern yourself with attending to all the information being presented. Instead, try to feel the full impact of what this person has been through and how they feel as a result.

Control Condition

Instructions: You will be assigned to read a news article about current events chosen at random. One factor that has been found to be especially important in determining reactions to news articles is 'reading perspective'. After reading the article, please write for 3-7 minutes about what happened in the article. Try not to get caught up in how the person in the story feels; just remain objective and detached and write about the facts as they were presented.

My Experience with Schizophrenia

By Jamie Casey

Published 1:37 PM EDT, Sun March 27, 2022

In my first two years of high school, academics came easily to me, and I was an honors student. As a member of the National Honor Society, National Technical Honor Society and student council, my future looked bright. I made plans to major in computer science in college.

However, during my junior and senior years of high school, I started struggling academically, and losing interest in the hobbies I had always enjoyed. I began experiencing extreme anxiety and alternated between sleeping hours on end and being unable to sleep for days at a time. At the time, no one in my life realized this was the beginning of my journey into the world of mental illness.

In 2020, during my first semester of college, I experienced my first delusions and feelings of paranoia. I thought my teachers were against me. I believed subliminal messages were being broadcast from the TV and radio. I had trouble falling asleep and couldn't wake up in time for classes. Unable to concentrate, I skipped my classes and isolated myself in my room. I couldn't understand why schoolwork had become so difficult. I failed my classes and returned home that summer confused and discouraged.

Over the course of the next several months, my mental health declined. I wasn't sleeping and experienced cognitive issues. I began having visual, audio, and tactile hallucinations, hearing voices, and experiencing extreme fear. I was no longer able to study or work. My parents sought treatment for me, and in November 2021, I was diagnosed with schizoaffective disorder.

We've tried numerous medications and treatment options for improved cognition and anxiety control: clean eating, gluten and diary free foods, supplements, vitamins, holistic and naturopathic medicine and nothing has worked. I intend to continue searching for a solution because I just can't give up.

APPENDIX K

STUDY 3 HEALTH MANIPULATION

Condition 1: Healthy

Two Weeks After Unexpectedly Falling Ill, Man Dies

By Alma Clayton
Jan. 29, 2022

Bruce Rose, a data analyst and life-long resident of Chicago, IL, died from an unexpected illness on January 28, 2022, at the age of 33.

His family searches for reasons behind his unexpected illness. According to his wife, Mr. Rose took his health very seriously and was an active runner, frequently practiced yoga, and ate a vegetarian diet. He was a regular at his gym and prior to falling ill, he was in the best shape of his life. The night of January 13, his body began aching, he developed a fever, and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," his wife, Jane Rose, said. "I'm speechless. I'm still trying to wake up from this nightmare."

Condition 2: Unhealthy

Two Weeks After Unexpectedly Falling Ill, Man Dies

By Alma Clayton
Jan. 29, 2022

Bruce Rose, a data analyst and life-long resident of Chicago, IL, died from an unexpected illness on January 28, 2022, at the age of 33.

His family searches for reasons behind his illness. According to his wife, Mr. Rose did not exercise regularly and spent his free time watching his favorite television shows while snacking on chips. He was a regular at his local brewery and prior to falling ill, he was not in the best shape. The night of January 13, his body began aching, he developed a fever and he felt tightness in his chest. When he began having trouble breathing, his wife called for an ambulance.

Mr. Rose's health declined so rapidly that doctors sedated him and put him on a ventilator, which he remained on for 12 days. Mr. Rose, 33, died on Friday, surrounded by his wife and kids. Mr. Rose was a dedicated husband and father, and he and his wife had just welcomed a new daughter the previous month.

"It was a complete shock — he was fine," his wife, Jane Rose, said. "I'm speechless. I'm still trying to wake up from this nightmare."

APPENDIX L

POSITIVE EMPATHY SCALE

Instructions:

There is a list of statements below. Please read each statement carefully. Rate how strongly you agree or disagree with the statement. There are no right or wrong answers, or trick questions.

1 - Extremely untrue
2 - Quite untrue
3 - Slightly untrue
4 - Neither true nor false
5 - Slightly true
6 - Quite true
7 - Extremely true

1. I very much enjoy and feel uplifted by happy endings.
2. I like to tell people nice things to make them feel good.
3. I can't stop myself from laughing when others are doing so.
4. I feel great when I find out that I have made someone else happy.
5. I also feel good when someone I know feels good.
6. I enjoy hearing about my friends' good days.
7. It often makes me feel good to see the people around me smiling.
8. I find that other people's happiness easily "rubs off" on me.
9. I enjoy helping people to see that they can turn "lemons into lemonade."
10. I feel good when I know I have pleased someone.
11. I enjoy making others feel good.
12. I enjoy helping a person change their bad mood into a good mood.
13. I enjoy making others laugh.
14. I easily get excited when those around me are lively and happy.
15. I can't help but smile when my friends smile at me.

"Empathic Happiness" subscale: 1, 3, 5, 6, 7, 8, 14, and 15. Empathic happiness is a vicarious emotional response that involves happiness (or a similar positive affect) and an other-oriented feeling of goodwill toward the other person.
(Light et al., 2009).

"Empathic Cheerfulness" subscale: 2, 4, 9, 10, 11, 12, and 13. Empathic cheerfulness is an emotional response that involves the display of positive affect in response to someone in distress as a means to cheer the victim up, and involves a feeling of goodwill (Light et al., 2009).

APPENDIX M

EXAMPLE SCREENSHOTS OF QUALTRICS SURVEYS

Study 1

Social Dominance Orientation Scale

Instructions: Show how much you favor or oppose each idea below by selecting a number from 1 to 7 on the scale below. You can work quickly; your first feeling is generally best.

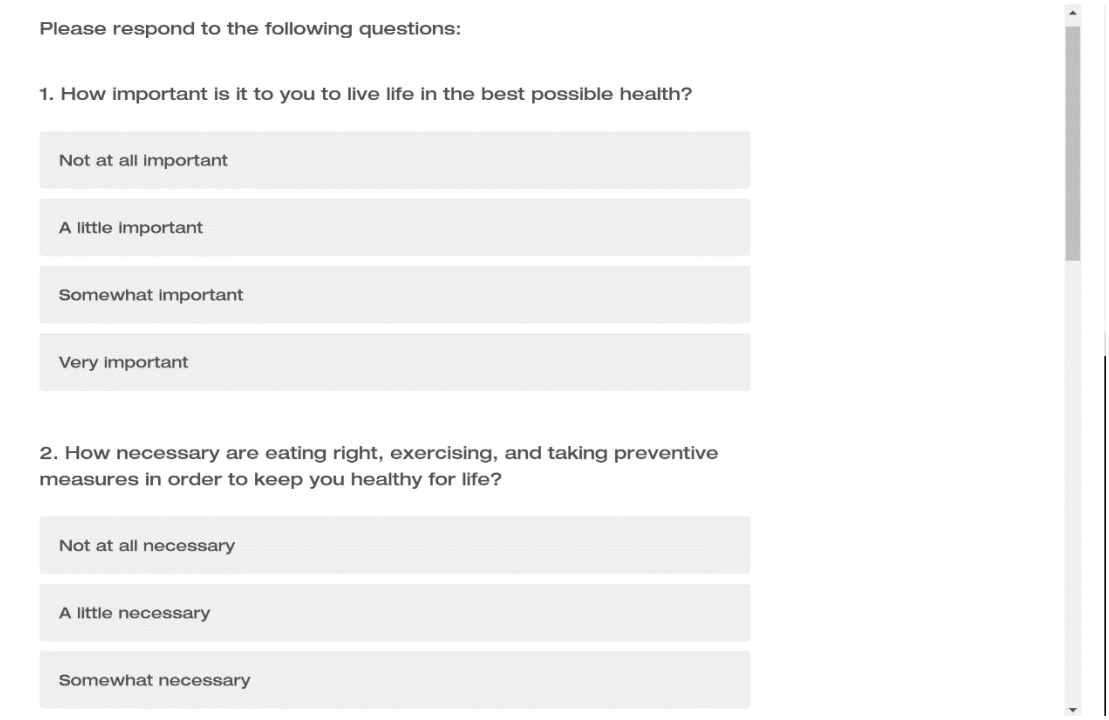
	1 (strongly oppose)	2	3	4	5	6	7 (strongly favor)
1. Some groups of people must be kept in their place.	○	○	○	○	○	○	○
2. It's probably a good thing that certain groups are at the top and other groups are at the bottom.	○	○	○	○	○	○	○
3. An ideal society requires some groups to be on top and others to be on the bottom.	○	○	○	○	○	○	○
4. Some groups of people are simply inferior to other groups.	○	○	○	○	○	○	○
5. Groups at the bottom are just as deserving as groups at the top.	○	○	○	○	○	○	○
6. No one group should dominate in society.	○	○	○	○	○	○	○
	1 (strongly oppose)	2	3	4	5	6	7 (strongly favor)

Health Locus of Control Scale

Please rate each of the following statements on a scale of 1 (strongly disagree) through 6 (strongly agree).

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Somewhat agree	5 - Agree	6 - Strongly agree
1. If I get sick, it is my own behavior which determines how soon I get well again.	○	○	○	○	○	○
2. No matter what I do, if I am going to get sick, I will get sick.	○	○	○	○	○	○
3. Having regular contact with my physician is the best way for me to avoid illness.	○	○	○	○	○	○
4. Most things that affect my health happen to me by accident.,	○	○	○	○	○	○
5. Whenever I don't feel well, I should consult a medically trained professional.	○	○	○	○	○	○
6. I am in control of my health.	○	○	○	○	○	○
	1 - Strongly	2 -	3 - Somewhat	4 - Somewhat	5 -	6 - Strongly

Health Consciousness Scale



Please respond to the following questions:

1. How important is it to you to live life in the best possible health?

- Not at all important
- A little important
- Somewhat important
- Very important

2. How necessary are eating right, exercising, and taking preventive measures in order to keep you healthy for life?

- Not at all necessary
- A little necessary
- Somewhat necessary

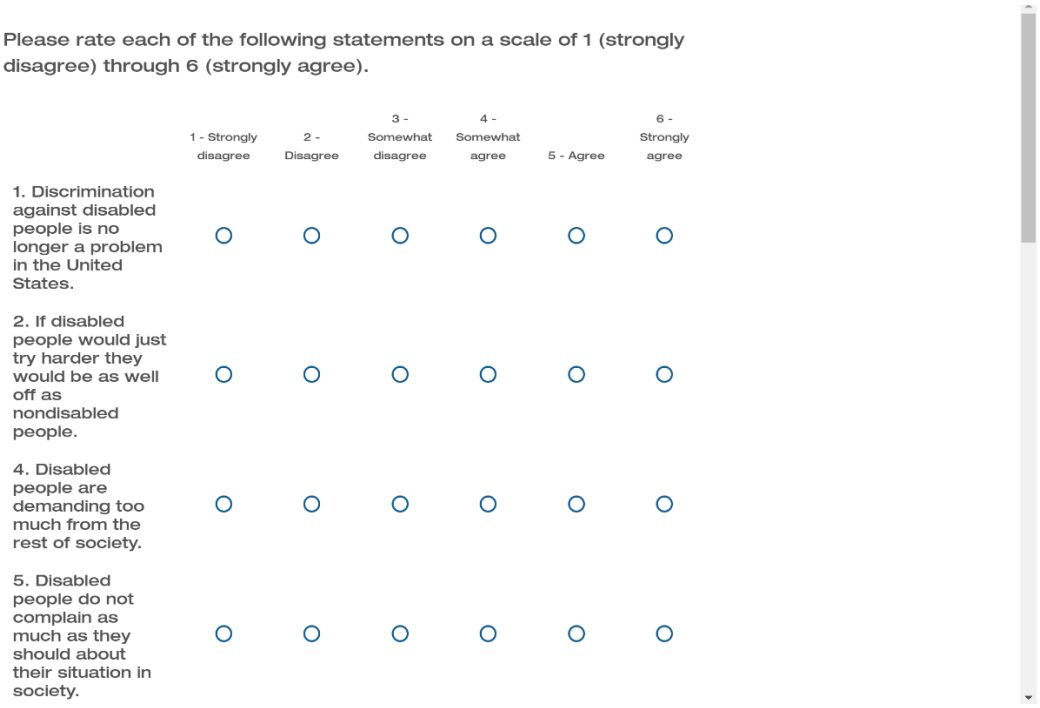
Health Perceptions Scale

Please rate each of the following statements on a scale of 1 (strongly disagree) through 6 (strongly agree).

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Somewhat agree	5 - Agree	6 - Strongly agree
1. According to the doctors I've seen, my health is now excellent	○	○	○	○	○	○
2. I feel better now than I ever have before	○	○	○	○	○	○
3. I am somewhat ill	○	○	○	○	○	○
4. I'm not as healthy now as I used to be	○	○	○	○	○	○
5. I'm as healthy as anybody I know	○	○	○	○	○	○
6. My health is excellent	○	○	○	○	○	○

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Somewhat agree	5 - Agree	6 - Strongly agree
7. I have been	○	○	○	○	○	○

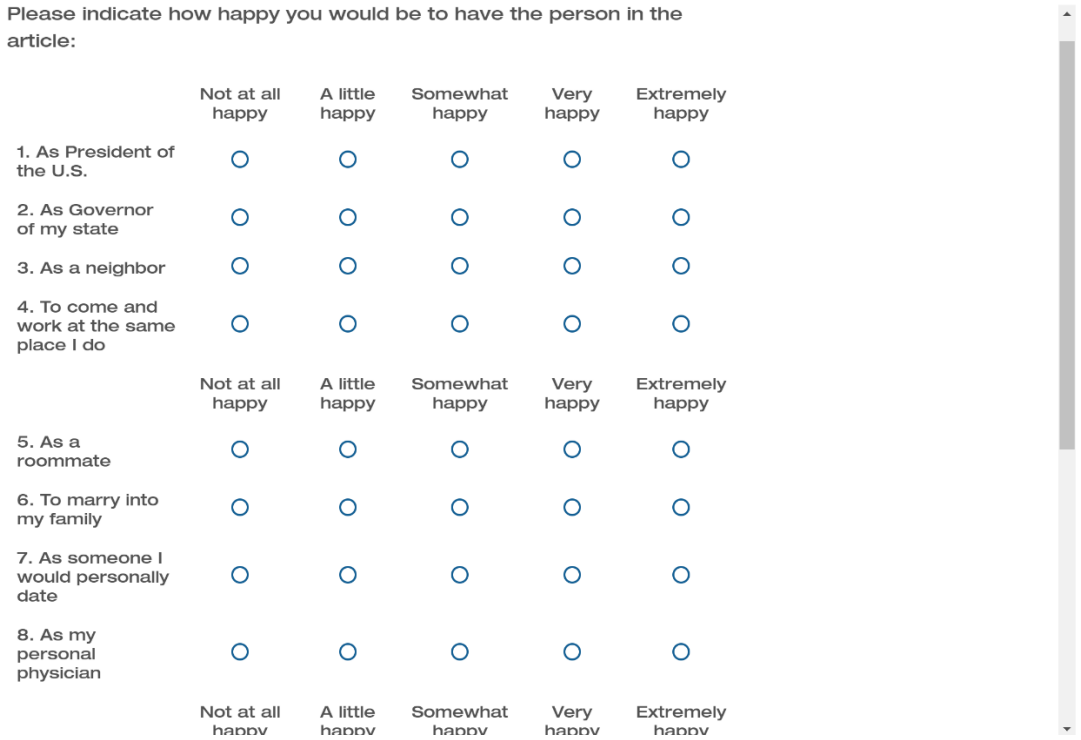
Symbolic Ableism Scale



Please rate each of the following statements on a scale of 1 (strongly disagree) through 6 (strongly agree).

	1 - Strongly disagree	2 - Disagree	3 - Somewhat disagree	4 - Somewhat agree	5 - Agree	6 - Strongly agree
1. Discrimination against disabled people is no longer a problem in the United States.	○	○	○	○	○	○
2. If disabled people would just try harder they would be as well off as nondisabled people.	○	○	○	○	○	○
4. Disabled people are demanding too much from the rest of society.	○	○	○	○	○	○
5. Disabled people do not complain as much as they should about their situation in society.	○	○	○	○	○	○

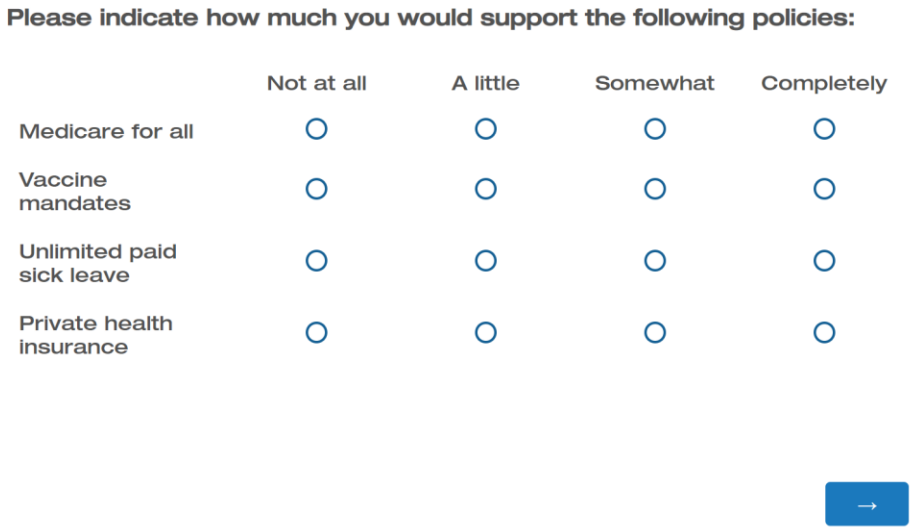
Social Distancing Scale



Please indicate how happy you would be to have the person in the article:

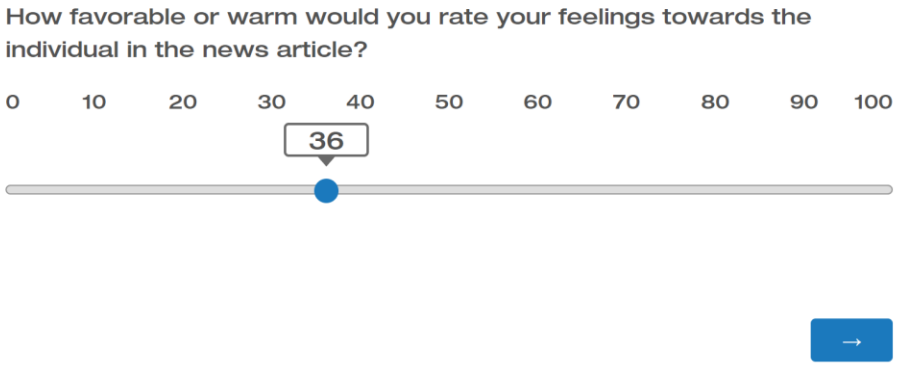
	Not at all happy	A little happy	Somewhat happy	Very happy	Extremely happy
1. As President of the U.S.	○	○	○	○	○
2. As Governor of my state	○	○	○	○	○
3. As a neighbor	○	○	○	○	○
4. To come and work at the same place I do	○	○	○	○	○
	Not at all happy	A little happy	Somewhat happy	Very happy	Extremely happy
5. As a roommate	○	○	○	○	○
6. To marry into my family	○	○	○	○	○
7. As someone I would personally date	○	○	○	○	○
8. As my personal physician	○	○	○	○	○
	Not at all happy	A little happy	Somewhat happy	Very happy	Extremely happy

Policy Questions



Study 3

Feelings Thermometer



Blame

How responsible do you think the person in the article is for becoming ill? (i.e. do you think they became ill because of their own actions?)

- Not at all responsible
- A little responsible
- Somewhat responsible
- Very responsible
- Extremely responsible

→

Positive Empathy Scale

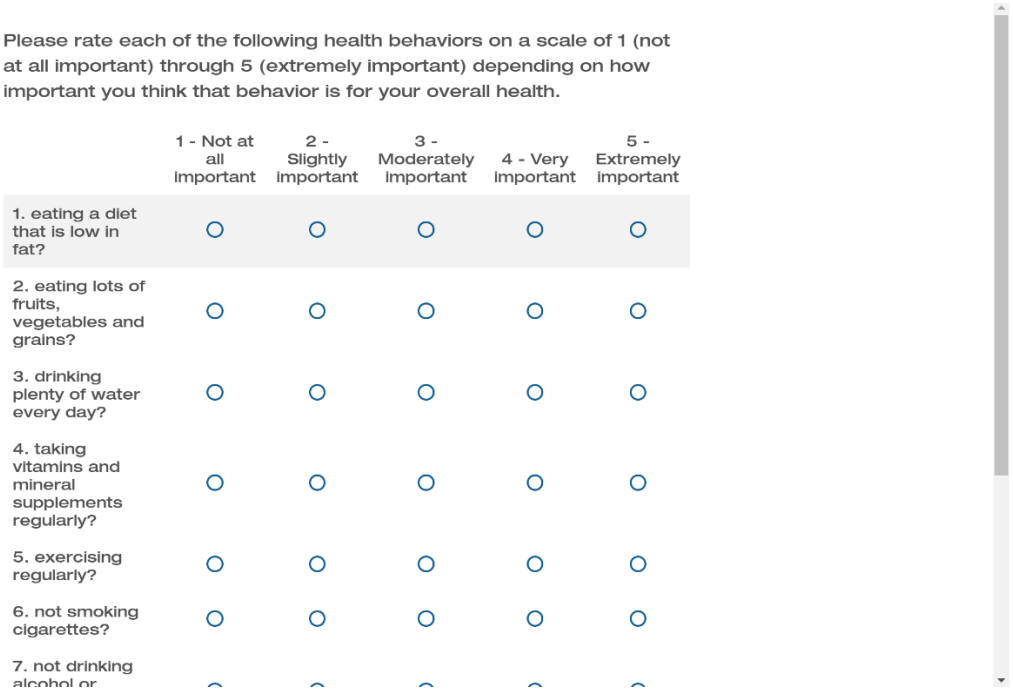
Instructions: There is a list of statements below. Please read each statement carefully and rate how strongly you agree or disagree with the statement. There are no right or wrong answers, or trick questions.

	Extremely untrue	Quite untrue	Slightly untrue	Neither untrue or true	Slightly true	Quite true	Extremely true
1. I very much enjoy and feel uplifted by happy endings.	○	○	○	○	○	○	○
2. I like to tell people nice things to make them feel good.	○	○	○	○	○	○	○
3. I can't stop myself from laughing when others are doing so.	○	○	○	○	○	○	○
4. I feel great when I find out that I have made someone else happy.	○	○	○	○	○	○	○
5. I also feel good when someone I know feels good.	○	○	○	○	○	○	○

	Extremely untrue	Quite untrue	Slightly untrue	Neither untrue or true	Slightly true	Quite true	Extremely true
6. I enjoy hearing about my friends' good days.	○	○	○	○	○	○	○

Studies 1, 2, and 3

Health-Oriented Beliefs Scale



Please rate each of the following health behaviors on a scale of 1 (not at all important) through 5 (extremely important) depending on how important you think that behavior is for your overall health.

	1 - Not at all important	2 - Slightly important	3 - Moderately important	4 - Very important	5 - Extremely important
1. eating a diet that is low in fat?	○	○	○	○	○
2. eating lots of fruits, vegetables and grains?	○	○	○	○	○
3. drinking plenty of water every day?	○	○	○	○	○
4. taking vitamins and mineral supplements regularly?	○	○	○	○	○
5. exercising regularly?	○	○	○	○	○
6. not smoking cigarettes?	○	○	○	○	○
7. not drinking alcohol or	○	○	○	○	○

REFERENCE LIST

AAMC (2021). AAMC Statement on Dismantling Racism in Academic Medicine. Association of American Medical Colleges. https://www.aamc.org/news-insights/press-releases/aamc-statement-dismantling-racism-academic-medicine.

Acevedo-Garcia, D., Lochner, K. A., Osypuk, T. L., & Subramanian, S. V. (2003). Future directions in residential segregation and health research: a multilevel approach. *American journal of public health*, *93*(2), 215-221.

Aday, L. A. (1994). Health status of vulnerable populations. Annual review of public health, 15(1), 487-509.

Assari, S. (2018). Health disparities due to diminished return among black Americans: Public policy solutions. Social Issues and Policy Review, 12(1), 112-145.

Alcendor, D. J. (2020). Racial disparities-associated COVID-19 mortality among minority populations in the US. *Journal of clinical medicine*, *9*(8), 2442.

Ames, B. N., Grant, W. B., & Willett, W. C. (2021). Does the high prevalence of vitamin D deficiency in African Americans contribute to health disparities?. *Nutrients*, *13*(2), 499.

Anna Rosa, D. (2018). Paranormal health beliefs: Relations between social dominance orientation and mental illness. *The Open Psychology Journal*, *11*(1).Aronson, D., & Steel, M. (1995). The African Mosaic: New Lessons from Humanity's Homeland. *Teaching Tolerance*, *4*(2), 48-55.

Austin, D. E., & Jackson, M. (2019). Benevolent and hostile sexism differentially predicted by facets of right-wing authoritarianism and social dominance orientation. *Personality and individual differences*, *139*, 34-38.

Bailey, Z. D., Krieger, N., Agénor, M., Graves, J., Linos, N., & Bassett, M. T. (2017). Structural racism and health inequities in the USA: evidence and interventions. *The lancet*, *389*(10077), 1453-1463.

Belluz, J. (2018). Is Gwyneth Paltrow's Goop pseudoscience winning. *Vox. https://www. vox. com/science-and-health/2017/7/19/15988180/gwyneth-paltrow-goop-jade-egg-debunkers*.

Berridge, K. C. (2017). Is addiction a brain disease?. *Neuroethics*, *10*(1), 29-33.

Bizer, G. Y., Hart, J., & Jekogian, A. M. (2012). Belief in a just world and social dominance orientation: Evidence for a mediational pathway predicting negative attitudes and discrimination against individuals with mental illness. *Personality and individual differences*, *52*(3), 428-432.

Boyer, P., Firat, R., & van Leeuwen, F. (2015). Safety, threat, and stress in intergroup relations: A coalitional index model. *Perspectives on Psychological Science*, *10*(4), 434-450.

Bratt, C., Sidanius, J., & Sheehy-Skeffington, J. (2016). Shaping the development of prejudice: Latent growth modeling of the influence of social dominance orientation on outgroup affect in youth. *Personality and Social Psychology Bulletin*, *42*(12), 1617-1634.

Braveman, P., & Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. *Public health reports*, *129*(1_suppl2), 19-31.

Burnett (2022). The number of Americans who say they won't get a COVID shot hasn't budged in a year. NPR. https://www.npr.org/sections/health-shots/2022/05/10/1091053850/the-number-of-americans-who-say-they-wont-get-a-covid-shot-hasnt-budged-in-a-yea.

Campbell, C., & McGauley, G. (2005). Doctor-patient relationships in chronic illness: insights from forensic psychiatry. *BMJ*, *330*(7492), 667-670.

Case, A., & Deaton, A. (2021). Life expectancy in adulthood is falling for those without a BA degree, but as educational gaps have widened, racial gaps have narrowed. *Proceedings of the National Academy of Sciences*, *118*(11), e2024777118.

CDC (2021). Racism and Health. Centers for Disease Control and Prevention. https://www.cdc.gov/minorityhealth/racism-disparities/index.html.

CDC (2022). Asthma Surveillance Data. Centers for Disease Control and Prevention. https://www.cdc.gov/asthma/asthmadata.htm.

CDC (2022). By the Numbers: Diabetes in America. Centers for Disease Control and Prevention. https://www.cdc.gov/diabetes/health-equity/diabetes-by-the-numbers.html.

CDC (2022). Facts About Hypertension. Centers for Disease Control and Prevention. https://www.cdc.gov/bloodpressure/facts.htm.

CDC (2022). Racial and Ethnic Disparities in Adult Obesity in the United States: CDC's

Tracking to Inform State and Local Action. Centers for Disease Control and Prevention.

CDC (2022). Social Determinants of Health at CDC. Centers for Disease Control and Prevention. https://www.cdc.gov/about/sdoh/index.html.

Chait, J. (2012). Health Care As a Privilege: What the GOP Won't Admit. *New York Magazine*.

Chan (2017). Advertising Watchdog Files Complaint Against Gwyneth Paltrow's Goop for "Deceptive" Health Claims. *The Hollywood Reporter*.

Collins, P. H. (2019). The difference that power makes: Intersectionality and participatory democracy. The Palgrave handbook of intersectionality in public policy, 167-192.

Collins, P. H., & Bilge, S. (2020). Intersectionality. John Wiley & Sons.

Conor, B. (2021). 'How Goopy are you?'Women, Goop and cosmic wellness. *European Journal of Cultural Studies*, *24*(6), 1261-1281.

Christopher, A. N., & Wojda, M. R. (2008). Social dominance orientation, right-wing authoritarianism, sexism, and prejudice toward women in the workforce. *Psychology of Women Quarterly*, *32*(1), 65-73.

Cuddy, A. J., Fiske, S. T., & Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the BIAS map. *Advances in experimental social psychology*, *40*, 61-149.

Cunningham, J., & Light, R. (2016). Institutional discrimination. The Blackwell Encyclopedia of Sociology, 1-3.

CureSZ (n.d.). Overcoming Schizophrenia: Michael B. https://curesz.org/survivors/michaels-recovery-from-schizophrenia/.

Dalsania, A. K., Fastiggi, M. J., Kahlam, A., Shah, R., Patel, K., Shiau, S., ... & DallaPiazza, M. (2022). The relationship between social determinants of health and racial disparities in COVID-19 mortality. *Journal of racial and ethnic health disparities*, *9*(1), 288-295.

Dogonchi, M., Mohammadzadeh, F., & Moshki, M. (2022). Investigating the Relationship between Health Locus of Control and Health Behaviors: A Systematic Review. *The Open Public Health Journal*, *15*(1).

Dolezsar, C. M., McGrath, J. J., Herzig, A. J., & Miller, S. B. (2014). Perceived racial discrimination and hypertension: a comprehensive systematic review. *Health Psychology*, *33*(1), 20.

Duarte (2022). Covid-19 vaccine: Why are some athletes so reluctant to get the jab? *BBC News*. https://www.bbc.com/news/health-59958952.

Duckitt, J. (2001). A dual-process cognitive-motivational theory of ideology and prejudice. In *Advances in experimental social psychology* (Vol. 33, pp. 41-113). Academic Press.

Duckitt, J., & Sibley, C. G. (2010). Personality, ideology, prejudice, and politics: A dual-process motivational model. *Journal of personality*, *78*(6), 1861-1894.

Dutta-Bergman, M. J. (2004). Primary sources of health information: Comparisons in the domain of health attitudes, health cognitions, and health behaviors. *Health communication*, *16*(3), 273-288.

Dwyer-Lindgren, L., Kendrick, P., Kelly, Y. O., Sylte, D. O., Schmidt, C., Blacker, B. F., ... & Mokdad, A. H. (2022). Life expectancy by county, race, and ethnicity in the USA, 2000–19: a systematic analysis of health disparities. *The Lancet*, *400*(10345), 25-38.

Eagly, A. H., & Wood, W. (2012). Social role theory. *Handbook of theories of social psychology*, *2*.

Elison, Z. M., & Çiftçi, A. (2015). Digesting antifat attitudes: Locus of control and social dominance orientation. *Translational Issues in Psychological Science*, *1*(3), 262.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, *41*(4), 1149-1160.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In *Advances in experimental social psychology* (Vol. 23, pp. 1-74). Academic Press.

Friedman, C., & Awsumb, J. M. (2019). The symbolic ableism scale.

Furnham, A. (1984). The Protestant work ethic: A review of the psychological literature. European Journal of Social Psychology, 14(1), 87-104.

Gloor, J. L., & Puhl, R. M. (2016). Empathy and perspective-taking: Examination and comparison of strategies to reduce weight stigma. *Stigma and Health*, *1*(4), 269.

Grant, W. B., Lahore, H., McDonnell, S. L., Baggerly, C. A., French, C. B., Aliano, J. L., & Bhattoa, H. P. (2020). Evidence that vitamin D supplementation could reduce risk of influenza and COVID-19 infections and deaths. *Nutrients*, *12*(4), 988.

Grotz, M., Hapke, U., Lampert, T., & Baumeister, H. (2011). Health locus of control and

health behaviour: results from a nationally representative survey. *Psychology, health & medicine*, *16*(2), 129-140.

Guimond, S., Dambrun, M., Michinov, N., & Duarte, S. (2003). Does social dominance generate prejudice? Integrating individual and contextual determinants of intergroup cognitions. *Journal of personality and social psychology*, *84*(4), 697.

Gunter, J., & Parcak, S. (2019). Vaginal jade eggs: ancient Chinese practice or modern marketing myth?. *Female Pelvic Medicine & Reconstructive Surgery*, *25*(1), 1-2.

Haley, H., & Sidanius, J. (2005). Person-organization congruence and the maintenance of group-based social hierarchy: A social dominance perspective. *Group Processes & Intergroup Relations*, *8*(2), 187-203.

Haws, K. L., Reczek, R. W., & Sample, K. L. (2017). Healthy diets make empty wallets: The healthy= expensive intuition. *Journal of Consumer Research*, *43*(6), 992-1007.

He, L., He, C., Reynolds, T. L., Bai, Q., Huang, Y., Li, C., ... & Chen, Y. (2021). Why do people oppose mask wearing? A comprehensive analysis of US tweets during the COVID-19 pandemic. *Journal of the American Medical Informatics Association*, *28*(7), 1564-1573.

Heaven, P. C., & Quintin, D. S. (2003). Personality factors predict racial prejudice. *Personality and Individual Differences*, *34*(4), 625-634.

Helmer, S. M., Krämer, A., & Mikolajczyk, R. T. (2012). Health-related locus of control and health behaviour among university students in North Rhine Westphalia, Germany. *BMC research notes*, *5*(1), 1-8.
Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., ... & Stewart, A. L. (2015). The nature of social dominance orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO7 scale. *Journal of personality and social psychology*, *109*(6), 1003.

Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., ... & Stewart, A. L. (2015). The nature of social dominance orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO7 scale. Journal of personality and social psychology, 109(6), 1003.

Hoffman, K. M., Trawalter, S., Axt, J. R., & Oliver, M. N. (2016). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *Proceedings of the National Academy of Sciences*, *113*(16), 4296-4301.

Howard, J., Huang, A., Li, Z., Tufekci, Z., Zdimal, V., van der Westhuizen, H. M., ... & Rimoin, A. W. (2021). An evidence review of face masks against COVID-

19. *Proceedings of the National Academy of Sciences*, *118*(4), e2014564118.

Hudson, S. K. T. J., Cikara, M., & Sidanius, J. (2019). Preference for hierarchy is associated with reduced empathy and increased counter-empathy towards others, especially out-group targets. *Journal of Experimental Social Psychology*, *85*, 103871.

Job, S., Kaniuka, A. R., Reeves, K. M., & Brooks, B. (2022). Asthma disparities in the LGBTQ+ community: Are sexual and gender minorities of color particularly vulnerable?.

Jones, R. P., Cox, D., & Lienesch, R. (2017). Who sees discrimination? Attitudes on sexual orientation, gender identity, race, and immigration status: Findings from PRRI's American Values Atlas. *Public Religion Research Institute*.

Jost, J. T. (2020). *A theory of system justification*. Harvard University Press.

Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political psychology*, *25*(6), 881-919.

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current directions in psychological science*, *14*(5), 260-265.

Kteily, N. S., Sidanius, J., & Levin, S. (2011). Social dominance orientation: Cause or 'mere effect'?: Evidence for SDO as a causal predictor of prejudice and discrimination against ethnic and racial outgroups. *Journal of Experimental Social Psychology*, *47*(1), 208-214.

Kershaw, K. N., Diez Roux, A. V., Burgard, S. A., Lisabeth, L. D., Mujahid, M. S., & Schulz, A. J. (2011). Metropolitan-level racial residential segregation and black-white disparities in hypertension. *American journal of epidemiology*, *174*(5), 537-545.

Kesberg, R., & Keller, J. (2021). Personal values as motivational basis of psychological essentialism: An exploration of the value profile underlying essentialist beliefs. *Personality and Individual Differences*, *171*, 110458.

Krieger, N. (1990). Racial and gender discrimination: risk factors for high blood pressure? *Social science & medicine*, *30*(12), 1273-1281.

Krieger, N. (2014). Discrimination and health inequities. *International Journal of Health Services*, *44*(4), 643-710.

Kronbichler, A., Kresse, D., Yoon, S., Lee, K. H., Effenberger, M., & Shin, J. I. (2020). Asymptomatic patients as a source of COVID-19 infections: A systematic review

and meta-analysis. *International journal of infectious diseases*, *98*, 180-186.

Lampropoulos, D., & Apostolidis, T. (2018). Social dominance orientation and discrimination against people with schizophrenia: Evidence of medicalization and dangerousness beliefs as legitimizing myths. *The Spanish Journal of Psychology*, *21*.

Light, S. N., Moran, Z. D., Zahn-Waxler, C., & Davidson, R. J. (2019). The measurement of positive valence forms of empathy and their relation to anhedonia and other depressive symptomatology. *Frontiers in Psychology*, *10*, 815.

Lopez (2021). The 6 reasons Americans aren't getting vaccinated. Vox. https://www.vox.com/2021/6/2/22463223/covid-19-vaccine-hesitancy-reasons-why.

Ma, D. S., Correll, J., & Wittenbrink, B. (2015). The Chicago face database: A free stimulus set of faces and norming data. *Behavior research methods*, *47*(4), 1122-1135.

Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically. *Annual review of psychology*, *51*, 93-120.

Major, B., Mendes, W. B., & Dovidio, J. F. (2013). Intergroup relations and health disparities: a social psychological perspective. *Health Psychology*, *32*(5), 514.

Mandalaywala, T. M., Amodio, D. M., & Rhodes, M. (2018). Essentialism promotes racial prejudice by increasing endorsement of social hierarchies. *Social Psychological and Personality Science*, *9*(4), 461-469.

Marr, J., & Wilcox, S. (2015). Self-efficacy and social support mediate the relationship between internal health locus of control and health behaviors in college students. *American Journal of Health Education*, *46*(3), 122-131.

Matthews, M., Levin, S., & Sidanius, J. (2009). A longitudinal test of the model of political conservatism as motivated social cognition. *Political Psychology*, *30*(6), 921-936.

Miklikowska, M. (2018). Empathy trumps prejudice: The longitudinal relation between empathy and anti-immigrant attitudes in adolescence.*Developmental Psychology, 54*(4), 703–717.

Mohan, M., Cherian, J. J., & Sharma, A. (2020). Exploring links between vitamin D deficiency and COVID-19. *PLoS pathogens*, *16*(9), e1008874.

Mummendey, A., & Wenzel, M. (1999). Social discrimination and tolerance in intergroup relations: Reactions to intergroup difference. *Personality and Social*

Psychology Review, *3*(2), 158-174.

Na, J. J., & Chasteen, A. L. (2016). Does imagery reduce stigma against depression? Testing the efficacy of imagined contact and perspective-taking. *Journal of Applied Social Psychology*, *46*(5), 259-275.

Neufeld, E. (2022). Psychological essentialism and the structure of concepts. *Philosophy Compass*, *17*(5), e12823.

Norman, P., Bennett, P., Smith, C., & Murphy, S. (1998). Health locus of control and health behaviour. *Journal of health psychology*, *3*(2), 171-180.

Noursi, S., Saluja, B., & Richey, L. (2021). Using the ecological systems theory to understand Black/White disparities in maternal morbidity and mortality in the United States. *Journal of racial and ethnic health disparities*, *8*(3), 661-669.

Oberlander, J. (2020). The Ten Years' War: Politics, Partisanship, And The ACA: An exploration of why the Affordable Care Act has been so divisive despite the law's considerable accomplishments. Health Affairs, 39(3), 471-478.

Oh, S. Y., Bailenson, J., Weisz, E., & Zaki, J. (2016). Virtually old: Embodied perspective taking and the reduction of ageism under threat. *Computers in Human Behavior*, *60*, 398-410.

Paradies, Y. (2006). A systematic review of empirical research on self-reported racism and health. *International journal of epidemiology*, *35*(4), 888-901.

Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., ... & Gee, G. (2015). Racism as a determinant of health: a systematic review and meta-analysis. *PloS one*, *10*(9), e0138511.

Quillian, L., Pager, D., Hexel, O., & Midtbøen, A. H. (2017). Meta-analysis of field experiments shows no change in racial discrimination in hiring over time. *Proceedings of the National Academy of Sciences*, *114*(41), 10870-10875.

Quist, R. M., & Resendez, M. G. (2002). Social dominance threat: Examining social dominance theory's explanation of prejudice as legitimizing myths. *Basic and Applied Social Psychology*, *24*(4), 287-293.

Raja, S., Ma, C., & Yadav, P. (2008). Beyond food deserts: measuring and mapping racial disparities in neighborhood food environments. *Journal of Planning Education and Research*, *27*(4), 469-482.

Rogers, T. N., Rogers, C. R., VanSant-Webb, E., Gu, L. Y., Yan, B., & Qeadan, F. (2020). Racial disparities in COVID-19 mortality among essential workers in the United States. *World medical & health policy*, *12*(3), 311-327.

Rosenthal, L., Levy, S. R., & Moyer, A. (2011). Protestant work ethic's relation to intergroup and policy attitudes: A meta-analytic review. *European Journal of Social Psychology*, *41*(7), 874-885.

Satel, S. (2002). *PC, MD: How political correctness is corrupting medicine*. Perseus (for Hbg).

Satel, S., & Lilienfeld, S. O. (2014). Addiction and the brain-disease fallacy. *Frontiers in psychiatry*, *4*, 141.

Schoemann, A. M., Boulton, A. J., & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, *8*(4), 379-386.

Shih, M. J., Stotzer, R., & Gutiérrez, A. S. (2013). Perspective-taking and empathy: Generalizing the reduction of group bias towards Asian Americans to general outgroups. *Asian American Journal of Psychology, 4*(2), 79–83.

Shih, M., Wang, E., Trahan Bucher, A., & Stotzer, R. (2009). Perspective taking: Reducing prejudice towards general outgroups and specific individuals. *Group Processes & Intergroup Relations*, *12*(5), 565-577.

Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Ho, A. K., Sibley, C., & Duriez, B. (2013). You're inferior and not worth our concern: The interface between empathy and social dominance orientation. *Journal of personality*, *81*(3), 313-323.

Sidanius, J., Liu, J. H., Shaw, J. S., & Pratto, F. (1994). Social dominance orientation, hierarchy attenuators and hierarchy enhancers: Social dominance theory and the criminal justice system. *Journal of Applied Social Psychology*, *24*(4), 338-366.

Sidanius, J., & Pratto, F. (2001). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge University Press.

Skewes, L., Fine, C., & Haslam, N. (2018). Beyond Mars and Venus: The role of gender essentialism in support for gender inequality and backlash. *PloS one*, *13*(7), e0200921.

Skorinko, J. L., & Sinclair, S. A. (2013). Perspective taking can increase stereotyping: The role of apparent stereotype confirmation. *Journal of Experimental Social Psychology*, *49*(1), 10-18.

Ssentongo, P., Ssentongo, A. E., Heilbrunn, E. S., Ba, D. M., & Chinchilli, V. M. (2020). Association of cardiovascular disease and 10 other pre-existing comorbidities with COVID-19 mortality: A systematic review and meta-analysis. *PloS one*, *15*(8), e0238215.

Stern, C., & Axt, J. R. (2019). Group status modulates the associative strength between status quo supporting beliefs and anti-black attitudes. *Social Psychological and Personality Science*, *10*(7), 946-956.

Stocks, E. L., Lishner, D. A., Waits, B. L., & Downum, E. M. (2011). I'm embarrassed for you: The effect of valuing and perspective taking on empathic embarrassment and empathic concern. *Journal of Applied Social Psychology*, *41*(1), 1-26.

Swift, S. L., Glymour, M. M., Elfassy, T., Lewis, C., Kiefe, C. I., Sidney, S., ... & Zeki Al Hazzouri, A. (2019). Racial discrimination in medical care settings and opioid pain reliever misuse in a US cohort: 1992 to 2015. *PloS one*, *14*(12), e0226490.

Tajfel, H. (1979). Individuals and groups in social psychology. *British Journal of social and clinical psychology*, *18*(2), 183-190.

Todd, A. R., & Galinsky, A. D. (2014). Perspective-taking as a strategy for improving intergroup relations: Evidence, mechanisms, and qualifications. *Social and Personality Psychology Compass*, *8*(7), 374-387.

Todorova, I. L., Falcon, L. M., Lincoln, A. K., & Price, L. L. (2010). Perceived discrimination, psychological distress and health. *Sociology of health & illness*, *32*(6), 843-861.

Troian, J., Bonetto, E., Varet, F., Barbier, M., & Monaco, G. L. (2018). The effect of social dominance on prejudice towards North-African minorities: Evidence for the role of social representation of secularism as a legitimizing myth. *International Journal of Intercultural Relations*, *65*, 96-104.

Tufekci, Z., Howard, J., & Greenhalgh, T. (2020). The real reason to wear a mask. *The Atlantic*, *22*.

Turner, R. N., Hodson, G., & Dhont, K. (2020). The role of individual differences in understanding and enhancing intergroup contact. *Social and Personality Psychology Compass*, *14*(6), e12533.

Ullah, I., Khan, K. S., Tahir, M. J., Ahmed, A., & Harapan, H. (2021). Myths and conspiracy theories on vaccines and COVID-19: Potential effect on global vaccine refusals. *Vacunas*, *22*(2), 93-97.

Volkow, N. D., & Boyle, M. (2018). Neuroscience of addiction: relevance to prevention and treatment. *American Journal of Psychiatry*, *175*(8), 729-740.

Wallston, K. A., Strudler Wallston, B., & DeVellis, R. (1978). Development of the multidimensional health locus of control (MHLC) scales. *Health education monographs*, *6*(1), 160-170.

Wardle, J., & Steptoe, A. (2003). Socioeconomic differences in attitudes and beliefs about healthy lifestyles. *Journal of Epidemiology & Community Health*, *57*(6), 440-443.

Ware Jr, J. E. (1976). Scales for measuring general health perceptions. *Health services research*, *11*(4), 396.

Williams, D. R., & Collins, C. (2016). Racial residential segregation: a fundamental cause of racial disparities in health. *Public health reports*.

Williams, D. R., & Neighbors, H. (2001). Racism, discrimination and hypertension: evidence and needed research. *Ethn Dis*, *11*(4), 800-816.

Yearby, R. (2018). Racial disparities in health status and access to healthcare: the continuation of inequality in the United States due to structural racism. *American Journal of Economics and Sociology*, *77*(3-4), 1113-1152.

Young, A. R., Morgan, K. A., Ho, T. W., Ojimba, N., Harrison, G. I., Lawrence, K. P., ... & Philipsen, P. A. (2020). Melanin has a small inhibitory effect on cutaneous vitamin D synthesis: A comparison of extreme phenotypes. *Journal of Investigative Dermatology*, *140*(7), 1418-1426.

VITA

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