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Explaining prejudice towards the mentally ill: A test of socio-political, demographic and
socio-economic factors

Abstract

People with mental disorders often face prejudices that can further deteriorate their condition. We tested whether Social Dominance Orientation (SDO), Right-Wing Authoritarianism (RWA), and Belief in a Just World (BJW), and characteristics of the mentally ill predict such prejudices. Both in a general population sample and a sample of health professionals and trainees, SDO, but not RWA and BJW, predicted more prejudice, although this pattern was less pronounced among health professionals/trainees. BJW interacted with the targets' gender in Study 1, predicting less empathy toward a male but not toward a female mentally ill person. In Study 2, depressed individuals were blamed more for their illness than those with schizophrenia or cancer. Implications for future research and clinical practice are discussed.

Key words: belief in a just world, mental illness, prejudice, right-wing authoritarianism, social dominance orientation

Explaining Prejudice Towards the Mentally Ill: A Test of Socio-political, Demographic and Socio-economic Factors

Most people face periods in their lives characterized by depressed mood or excessive worry about life events that often seem trivial retrospectively. But for those who suffer from mental disorders, these feelings are anything but trivial and temporary, and often have major life implications. Fortunately, many different treatments for mental health problems are available. However, some additional negative effects of having a mental illness cannot be treated with therapy or medication. One of these is the experience of stigma and prejudice.

People with mental disorders often face prejudice and discrimination to a degree that is considered a major health issue in many countries around the world (Brenner, 1973; Trautmann, Rehm, & Wittchen, 2016). The negative effect of others' changed perception after being diagnosed with a mental illness can indeed be profound (Corrigan, 2004). For instance, experiencing stigma may make having a possibly devastating mental disorder even worse as it can additionally impair the well-being of the mentally ill, prevent patients from visiting mental health professionals, decrease their self-esteem, and lead to a feeling of social ostracism (Angermeyer & Matschinger, 2003; Corrigan, 2004; Hinkelman & Granello, 2003; Martin, Pescosolido, & Tuch, 2000; Martinez, Piff, Mendoza-Denton, & Hinshaw, 2011; J. C. Phelan, Link, Stueve, & Pescosolido, 2000; Ritsher, Otilingam, & Grajales, 2003; Schnittker, 2000; Schumacher, Corrigan, & Dejong, 2003). Moreover, individuals may internalize negative social stereotypes, thereby adopting negative views of themselves (Corrigan & Watson, 2002; Krajewski, Burazeri, & Brand, 2013).

To be able to combat the detrimental effects of such societal stigma, it is important to further the understanding of the underlying motivational factors of *why* people show negativity towards mentally ill individuals. Some research has investigated the role that individual differences in socio-political attitudes can have in explaining such prejudices

(Bizer, Hart, & Jekogian, 2012; Fodor, 2006; Kvaale & Haslam, 2016). However, although the mentally ill are a heterogeneous population, this research has paid little attention to how individual characteristics of the mentally ill such as their socio-economic status, their gender and their type of disease may elicit prejudice and here possibly interact with individual differences found among prejudiced individuals. Furthermore, little research has investigated prejudice in samples of practical relevance such as health professionals and trainees. In this paper, we aimed to address both issues, testing whether negative attitudes toward the mentally ill can be explained by the socio-political attitudes of prejudiced individuals and by characteristics of the mentally ill individuals who are the target of this prejudice. Specifically, we compare the explanatory power of individual differences in social dominance orientation (Sidanius & Pratto, 1999), right-wing authoritarianism (Altemeyer, 1988), and belief in a just world (Lerner & Miller, 1978), and of characteristics of the mentally ill such as their social status, gender and type of disease. We also test whether both types of variables interactively predict prejudice as we will argue existing research and theories would predict.

Prejudice towards People with Mental Disorders

Mentally ill people were already early acknowledged as a group that often faces social stigma (Goffman, 1963). More recent research suggests that negative attitudes towards the mentally ill are a relatively universal phenomenon found in many industrialized nations (Griffiths et al., 2006), and that these negative attitudes do not seem to decrease over time (Rusch, Angermeyer & Corrigan, 2005). Moreover, different mental illnesses seem to elicit different types of social stigma (Crandall & Cohen, 1994; Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000). For example, schizophrenia does to a larger extent than depression elicit a need for social distance and an association with danger (Crisp et al., 2000). In contrast, people are more likely to blame depressed individuals for their misery and to request “that they just need to pull themselves together” (Crisp et al., 2000, p. 5). Indeed, people are less likely to

characterize depression as a mental disorder in the first place, compared to diseases such as schizophrenia (Martin et al., 2000). Furthermore, reports show that even mental health professionals have negative views of individuals diagnosed with mental disorders, and that these negative attitudes are comparable to those found in the general population (Nordt, Rossler, & Lauber, 2006).

In the sections below, we will review research that has been conducted on the predictors of prejudice towards the mentally ill. Here, we focus on three socio-political attitudes that have been central to the field of prejudice research in general and that we believe to be relevant for prejudice toward the mentally ill in particular: social dominance orientation (Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999), right-wing authoritarianism (Altemeyer, 1988) and belief in a just world (Lerner & Miller, 1978). While reviewing this literature, we will also elaborate on how the effects of these socio-political attitudes on prejudice toward the mentally ill may further interact with characteristics of mentally ill individuals.

Mentally Ill as Threat to the Social Hierarchy? The Potential Role of Social Dominance Orientation

One central theory explaining why people show stigma and prejudice towards social minority groups is social dominance theory (SDT; Sidanius & Pratto, 1999). SDT views stigma and discrimination as mechanisms that ultimately strengthen social hierarchies, in which some groups hold high status and others hold low status. The fundamentals of the theory revolve around legitimizing myths and their function to societies; in any society with economic surplus, there are certain dominating ideologies or myths that provide both intellectual and moral justification as to why some groups are inferior to others and why some groups should be dominating. For instance, the idea that racial minorities are inherently inferior is a classic hierarchy-legitimizing ideology (Pratto et al., 1994). Importantly, the

theory argues that people differ in the degree to which they endorse group-based hegemony; that is in their degree of social dominance orientation (SDO; Pratto, et al., 1994), which in turn should predict support of such ideologies. Indeed, a large body of research has demonstrated that SDO predicts a wide variety of ideologies and prejudices across contexts that ultimately strengthen the societal hierarchy, including more political and economic conservatism, more cultural elitism, more racism, more sexism, more chauvinism, less support of gay/lesbian rights, less empathy, less altruism and a generally lower concern for others (Bizer et al., 2012; Duckitt, 2001; Kunst, Fischer, Sidanius, & Thomsen, 2017; Pratto, Sidanius, & Levin, 2006; Sibley, Wilson, & Duckitt, 2007; Sidanius et al., 1994).

Some research suggests that individuals with high SDO tend to want more social distance from, show less acceptance toward, and exhibit more victim blaming of people described as mentally ill (Bizer et al., 2012; Kvaale & Haslam, 2016; Phelan, J. E., & Basow, 2007). However, there is little research testing under which circumstances SDO predicts such prejudices. Some research has found that people high in SDO show a general negativity towards people with mental disorders (Bizer et al., 2012), and other that it predicts prejudice toward people with specific illnesses such as schizophrenia (Kvaale & Haslam, 2016), while others have failed to find any effect of SDO (Haqanee, Lou, & Lalonde, 2014). In light of these inconsistent findings, we provide a comprehensive test of the effects of SDO on prejudice towards mentally ill, comparing it to several alternative predictors. Moreover, extending previous research, we test whether these effects may interact with characteristics of the mentally ill individuals who are the target of such prejudice.

There are several reasons for why people with high SDO would be expected to show prejudice and stigma against people with mental disorders and especially towards those who have low socioeconomic status and/or are male. Generally, SDO predicts prejudice toward low-status individuals at the bottom of the social hierarchy (Duckitt & Sibley, 2007), such as

people with lower socioeconomic status (Oldmeadow & Fiske, 2007), as this helps maintaining the hierarchical social order that high SDOs support. Given that mentally ill individuals often experience a loss in status due to their illness (Hudson, 2005), SDO should accordingly predict negativity towards them. Moreover, in welfare states such as Norway, in which our studies were conducted, the mentally ill usually receive social benefits and support from the state. In this context, high SDOs may perceive this support as an attempt to attenuate the social hierarchy because it uses tax money paid disproportionately by higher-status groups to improve the standing of low-status mentally ill groups. Consequently, people scoring high on SDO would be expected to show negative attitudes towards the mentally ill especially when the latter hold low socioeconomic status (as compared to high status) and therefore are more dependent on societal help. We tested this prediction in Study 1.

Moreover, building on a core notion of SDT, this negativity should be especially pronounced towards *male* mentally ill individuals. From an evolutionary point of view, it has been argued that men and women both stand to gain from directing intergroup bias toward out-group males (Navarrete, McDonald, Molina, & Sidanius, 2010). For most of human history, males provided the largest threat to survival, and are as a consequence also in contemporary societies more likely targets of negative out-group attitudes than females (Navarrete et al., 2010). Yet, while both men and women can show negative bias towards out-group males, the motivational basis for this bias differs between the genders. While females may show bias because they perceive out-group males as a threat to sexual coercion, men do so because they perceive out-group males as aggressors and, hence, as threat to social dominance (McDonald, Asher, Kerr, & Navarrete, 2011; McDonald, Donnellan, Cesario, & Navarrete, 2015; Navarrete et al., 2010).

Following the logic of this ‘subordinate male target hypothesis’ (Navarrete et al., 2010), which has received large empirical support (Navarrete et al., 2010; Arai, Bursell, &

Nekby, 2008; Haley, Sidanius, Lowery, & Malamuth, 2004; Navarrete et al., 2009; Van Vugt, De Cremer, & Janssen, 2007), one could expect high SDOs to show negativity toward male mentally ill individuals in particular. We tested this prediction in both studies presented in this paper.

Mentally Ill as Deviant Group Members? The Potential Role of Right-Wing Authoritarianism

In research on prejudice and discrimination, SDO is often assessed together with another major predictor of prejudice, namely right-wing authoritarianism (RWA; Altemeyer, 1988). According to the dual process model by Duckitt and Sibley (2007, 2010), SDO is driven by a view of the world as a “competitive jungle”, while RWA is driven by viewing it as an inherently dangerous place. These differential motivational bases explain why SDO mostly predicts prejudice towards low-status and derogated groups, whereas RWA predicts prejudice towards socially deviant and dangerous groups (Duckitt, 2006). In fact, people who score high on RWA are more prone to protect their in-group’s cohesion from external threats through means of cultural conservatism, subscription to traditional cultural norms and often ethnocentric values, submission to authorities and support of aggression towards individuals who challenge them and are perceived as dangerous threats (Altemeyer, 1988; Duckitt & Sibley, 2010; Duckitt, 2006; Whitley, 1999).

While RWA has been shown to correlate with a host of negative attitudes towards out-groups (Altemeyer, 1998; Duckitt & Sibley, 2010; Whitley, 1999), there are reasons to believe that people scoring high on RWA also show more negativity towards mentally ill individuals. Mentally ill persons can be perceived as socially deviant as they often do not function according to norms in terms of their labor and social participation. Those high in RWA are motivated to keep their in-group homogenous and may perceive this norm deviance as a threat to social cohesion, leading them to actively ostracize mentally ill group members

by showing negative attitudes and prejudices (Duckitt & Sibley, 2007; Kvaale & Haslam, 2016). At the same time, it is also likely that the type of mental disorder modulates the effects of RWA. While mentally ill individuals are often seen as dangerous and less esteemed (Crisp et al., 2000; Fodor, 2006), this tendency may be especially pronounced towards schizophrenic as compared to depressed individuals (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Stuber, Rocha, Christian, & Link, 2014). As such, given that a view of the world as a dangerous place underlies RWA (Duckitt & Sibley, 2007; Sibley et al., 2007), one could expect it to predict prejudice towards schizophrenic individuals in particular. We tested this prediction in Study 2.

Some existing evidence suggest that RWA predicts bias towards mentally ill individuals (Fodor, 2006; Kvaale & Haslam, 2016). However, little research has gauged the effect of RWA in light of characteristics of the mentally ill and controlling for other individual difference variables. For instance, one could argue that social status, gender, and type of illness may determine the degree to which targets are perceived as normatively deviant, and thus affect the predictive power of RWA. We test these possibilities in both studies that are part of this paper.

Mentally Ill Get What They Deserve? The Potential Role of Belief in a Just World

Belief in a just world (BJW) describes how some people tend to think that good things happen to good people, while bad things happen to bad people (Lerner & Miller, 1978). Individuals who have a high BJW tend to think that those at the bottom of the social ladder are there for a reason and, hence, deserve to be there. At the same time, they tend to show respect for those on top of the social ladder because they believe that these individuals have earned their position (Dalbert, 2009). Unsurprisingly, this worldview has been linked to meritocratic values (Rusch, Todd, Bodenhausen, & Corrigan, 2010). Moreover, victim blaming is theorized as the major pathway through which BJW works to produce negative

attitudes (Lerner, 1980), which could be the result of a “what goes around, comes around”-kind of mindset (Callan, Ellard, & Nicol, 2006; Rusch et al., 2010). Indeed, in previous research, BJW predicted prejudice in a host of social situations and contexts, such as towards rape victims (Ottati, Bodenhausen & Newman, 2005) and mentally ill individuals (Bizer et al., 2012; Corrigan, 2005; Ottati et al., 2005; Rusch et al., 2010).

Theoretically it makes sense that people high in BJW would show prejudice towards mentally-ill individuals. For instance, one could expect them to feel that society has no collective responsibility to take care of mentally ill individuals because they themselves are to be blamed for their misery. Moreover, following the often self-serving logic of “bad things only happen to bad people,” they should feel that it is unlikely that they themselves could become mentally ill one day (BèGue & Fumey, 2000). We tested this possibility in the present research. It is also possible that the effects of BJW on prejudice interact with characteristics of the mentally ill. For instance, participants high in BJW may attribute more negative characteristics to mentally ill people with low status as compared to high status. That is, BJW may be especially predictive when mentally ill persons embody other negative qualities that can be perceived as justifying their illness, such as having low socio-economic status. We tested this hypothesis in Study 1.

Overview of the Present Research

The present research aimed to advance the understanding of prejudice towards the mentally ill in various ways. First, while some research has tested the effects of SDO, RWA and BJW on such prejudice, so far no study has assessed the effect of each of these constructs simultaneously. Such a test is, however, needed to assess the unique predictive role of each sets of beliefs, which again can inform specific interventions aiming to reduce or prevent prejudice towards the mentally ill. Second, no research has provided a comprehensive test of whether the effects of SDO, RWA and BJW interact with characteristics of mentally ill

targets, including their gender, their socio-economic status and their disease type. By providing such a test, we aim to identify whether the socio-political constructs in question may predict prejudice towards mentally ill populations generally or may target specific subpopulations. Thus, this investigation can help identifying groups that may be particularly likely to become targets of ideologically motivated prejudice. Last, by including a sample of trainees and health professionals (in addition to a general population sample), the present research aims to generate knowledge that can have important implications for health practices.

In two studies, we investigated the degree to which SDO, RWA and BJW would predict various types of prejudices towards individuals diagnosed with a mental disorder. Specifically, in Study 1, we tested whether SDO, RWA and BJW would predict negative bias toward a target individual suffering from depression. Crucially, we experimentally manipulated the target individual's gender and social status to see whether this would moderate the effects of the predictor variables. In Study 2, we again tested the effects of SDO, RWA and BJW on prejudice toward a mentally ill individual. This time, we manipulated the type of mental disorder as well as the gender of the individual, again testing whether the effects of the three predictors would interact with these target characteristics.

Study 1

Study 1 was conducted with the goal of examining how well individual differences in SDO, RWA and BJW predict attitudes toward the mentally ill, as well as to investigate the extent to which these effects would interact with demographic and socio-economic factors, namely the mentally ill's social status and gender.

Materials and Methods

Participants. We collected data from a total of 214 Norwegian participants ($M_{\text{age}} = 26.6$, $SD_{\text{age}} = 11.7$; 60.3% women) using online snowball sampling, by attending university lectures and by approaching students on university campus. Of the 214 participants, 79%

passed an attention check (described below) and were retained for analyses ($n = 169$; $M_{\text{age}} = 26.2$, $SD_{\text{age}} = 11.0$; 62.1 % women).

Procedure. First, participants completed measures of SDO, BJW and RWA as described later on. Next, they were randomly assigned to one of four conditions. In each condition, they read one of four versions of a vignette about a target person who had recently been diagnosed with depression (see supplementary online material [SOM] for the vignettes translated from Norwegian to English). The vignettes featured either Ola (male Norwegian name) or Lise (female Norwegian name), with either low or high socio-economic status. The socio-economic status of the target was manipulated by describing the person as renting an apartment in the less prosperous eastern part of Oslo versus being a condominium owner in the more prosperous western part of Oslo. Hence, this study followed a 2 (gender: female vs. male) x 2 (status: low status vs. high status) between-subjects factorial design. Men and women were evenly distributed between the four conditions, $\chi^2(3, 169) = .66$, $p = .884$. After participants had read the vignettes, they were asked a series of questions about the target (see below).

Instruments. Unless stated otherwise, all responses were scored on 7-point Likert scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All instruments were forward-back translated into Norwegian by a bilingual team.

Social dominance orientation. We used a 12-item version of the original SDO-6 scale to measure participants' level of social dominance orientation ($\alpha = .84$; Pratto et al., 1994). An example item is "Some groups of people are simply inferior to other groups."

Belief in a just world. We measured belief in a just world using six statements such as "I think the world generally is just" or "I think people mostly get what they deserve" (Dalbert, 1999). After deleting one item with very low inter-item correlations (i.e., "I think people try to

be fair when making important decisions”), the reliability of the scale was acceptable ($\alpha = .76$).

Right-wing authoritarianism. A short 4-item version of the RWA scale by Altemeyer (1988) was used ($\alpha = .60$). An example item is “Obedience and respect for authorities are the most important values kids should learn.”

Dependent variables.

Empathy. Five items ($\alpha = .85$) measured the degree to which participants felt (1) empathy, (2) sympathy, (3) indifference (reversed item), (4) understanding, and (5) compassion toward the target individual rated on a 7-point scale ranging from 1 (*to a very little degree*) to 7 (*to a very large degree*).

Perceived likelihood of getting the same disorder. On a sliding-response scale ranging from 0 (*very unlikely*) to 100 (*very likely*) participants were asked to mark how likely it was that they could get the same mental disorder as the target in the future.

Positive feelings towards the mentally ill target. On a sliding-response scale ranging from 0 (*very cold/negative*) to 100 (*very warm/positive*) participants rated their feelings towards the target individual.

Perceived societal responsibility. On a sliding-response scale ranging from 0 (*to very little degree*) to 100 (*to very large degree*), participants rated the extent to which they felt that society should have a responsibility to take care of the target person.

Blaming the victim. On the same sliding-response scale, participants rated the extent to which they believed that the target individual him/herself was to blame for his/her mental illness.

Manipulation check. Participants were asked to assess the target individual’s social status on a sliding response scale from 1 (*very low*) to 100 (*very high*).

Attention check. Because it was important to check whether participants indeed had read the vignettes presented to them, they were asked questions about the target's gender and his social status. Specifically, participants were asked about the target individual's gender ("male" or "female"), where the individual lived (in addition to the response options "Oslo east" and "Oslo west", five incorrect answers were included) and how he or she lived (in addition to "in a self-owned flat" and "as a renter", three incorrect response options were given). A total of 169 participants completed these questions correctly and were therefore retained for analyses.

Analyses. All analyses in this and the second study were conducted in SPSS. Moderating characteristics of the mentally ill target (i.e., gender and social status in Study 1; gender and disease type in Study 2) were dummy coded and a single-step regression model with all variables and interactions entered at the same time was estimated. Predictors were mean-centered before calculating interactions. Given the studies' exploratory approach, Bonferroni-corrected *p*-values are reported in regression analyses and when multiple comparisons were conducted.

Results

A *t*-test showed that participants in the low status condition rated the status of the target individual as lower ($M = 36.99$, $SD = 15.57$) than those in the high status condition did ($M = 63.26$, $SD = 21.12$; $t(167) = -9.20$, $p < .001$), supporting the effectiveness of the status manipulation. In terms of correlations (see Table 1), SDO was related to more bias toward the mentally ill across all of the dependent variables. RWA was related to a lower perceived likelihood that oneself could become depressed and to more blaming of the mentally ill target. BJW negatively correlated with the degree to which participants saw society as being responsible of taking care of the mentally ill individual.

To estimate the unique effects of SDO, BJW and RWA and to test whether their effects interacted with characteristics of the target individual, we conducted regression analyses for each dependent variable. In these models, the socio-political predictors (i.e., SDO, BJW and RWA), the target's gender (i.e., female vs. male) and social status (i.e., low vs. high), and the interaction between the factors were entered as predictors. We also control for basic demographics (i.e., age and participant gender). Table 2 contains all estimates and *F*-statistics (see Table 2, *note*) from the regression models for each dependent variable. As predicted, the higher respondents' SDO, the less positive feelings and empathy they showed toward the depressed individual, the less responsible they believed society was to take care of the mentally ill target, and the more they blamed the target for his or her disorder (see Table 2). No interactions between SDO and the target status, target gender or both were observed. There were no main or interactional effects of RWA on any variable. BJW showed no significant main effects, but had an effect on empathy towards the target that was moderated by the target's gender (see Table 2). An inspection of the simple slopes (see Figure 1) showed that the higher BJW the participants had, the less empathy they showed toward the male (but not female) mentally ill individual.

Preliminary Discussion

The results showed that SDO was the most predictive variable as it was related to more bias towards the mentally ill individual as measured by four out of five dependent variables. Hence, it seems as if a motivation to dominate subordinate groups at least in Norway may affect levels of prejudice towards individuals suffering from depression. However, different to what one could expect, the effects of SDO did interact neither with the target's social status nor their gender. Consequently, it seems as if this motivation to dominate subordinate individuals does not specifically target mentally ill men or lower status individuals, but rather the mentally ill group as a whole.

While BJW had no main effect on any variable, it had a conditional effect on empathy towards the mentally ill target when the target's gender was taken into consideration. Here, it predicted less empathy when the individuals was male but not female. This suggests that people high in BJW view mentally ill males more negatively because they perceive them to deserve their predicament to a larger degree than women do.

RWA did not predict any type of prejudice. This is contradictory to previous research in which RWA predicted prejudice towards depressed and schizophrenic individuals in Australia (Kvaale & Haslam, 2016). One explanation may be that being depressed is more socially accepted and less norm-deviant in Norway than it is in Australia. Such an explanation would be in line with Australia having a very low, and Norway a relatively high prevalence of depression (Ferrari et al., 2013), making it a more normative disease in Norway. It is also important to note that this first study focused on attitudes towards depressed individuals – a group that, in contrast to schizophrenic individuals for instance, is typically not perceived as very dangerous (Link et al., 1999; Stuber et al., 2014) and, hence, should be seen as less of a threat to individuals scoring high on RWA according to a dual-process perspective (Duckitt & Sibley, 2007, 2010; Sibley et al., 2007).

Study 2

The second study aimed at replicating and expanding the findings from the first study in a sample of health professionals and trainees. Moreover, it addressed several limitations of the Study 1. Because the first study used a brief RWA scale with relatively low reliability, which could have undermined its predictive power, we here used a full version of the scale. Moreover, as the social status of the mentally ill did not seem to play a role in the first study, we instead manipulated the target individual's type of disease, including three different kinds of illnesses: depression and schizophrenia, and non-lethal cancer as a physiological¹, control disease. The inclusion of schizophrenia as disease would also allow us to test whether RWA

may predict bias against people who suffer from a more non-normative and potentially threatening mental disease than depression.

Materials and Methods

Participants. We collected data from 315 Norwegian participants ($M_{\text{age}} = 34.1$, $SD_{\text{age}} = 10.7$; 90% women) via online forums and list servers for health personnel and trainees. The strong gender skew in the sample is representative of the target population (Statistics Norway, 2016). Of all participants, 35% were currently working as health professionals, while 65% were trainees. Of these 315 participants, all but one participant passed the manipulation check described later on.

Procedure. The first part of the survey contained measures of individual difference variables. These were SDO, RWA and BJW presented in randomized order. Having completed these variables, participants read a vignette about a person with a specific condition (see SOM for the vignette translated from Norwegian into English). The person's disease (i.e., non-lethal cancer, depression, schizophrenia) and gender were randomized. Hence, the study used a 3 (illness: cancer, depression, schizophrenia) x 2 (gender: female, male) between-subjects factorial design. Men and women were evenly distributed between the target illness, $\chi^2(2, 314) = 2.62$, $p = .270$, as well as the target gender conditions, $\chi^2(1, 314) = .01$, $p = .909$. Following the vignettes, participants completed the same dependent variables about the target individual as in Study 1. At the very end of the survey they completed an attention check.

Materials. All measures were forward-back translated into Norwegian.

Social dominance orientation. We used the most recent SDO-7 scale to measure participants' level of social dominance orientation (Ho et al., 2015). The scale consists of 16 items ($\alpha = .84$) such as "Some groups of people are simply inferior to other groups." Answers were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Belief in a just world. We measured belief in a just world using the same scale as in Study 1. Deleting the same, last item as in the previous study, resulted in a scale with acceptable reliability ($\alpha = .79$).

Right-wing authoritarianism. Because the shortened RWA scale in Study 1 had relatively low reliability, we used the 15-item scale by Zakrisson (2005) to measure RWA ($\alpha = .77$). An example item is “Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.”

Dependent variables. We used the same empathy scale ($\alpha = .70$), and the single items measuring perceived likelihood of something similar happening to the respondent, the feelings thermometer, the societal responsibility measure, and the victim blame measure as in Study 1.

Attention check. An attention check was included at the end of the questionnaire, to gauge whether or not people remembered the vignettes they had read. Here, participants were asked to identify the gender of the target in the vignette, as well as their portrayed diagnosis. Two incorrect answers were included in the diagnosis question as incorrect filler items. Only one participant, who failed on both questions, was excluded from analyses.

Results

Correlations between the main variables are presented in Table 3. SDO correlated positively with victim blaming and negatively with empathy, while RWA only correlated weakly and positively with victim blaming. As in Study 1, belief in a just world was negatively associated with the perceived likelihood that oneself could face the same disease.

Main effects of the experimental manipulation. We conducted a multivariate analysis of variance (MANOVA) with empathy, positive feelings, likelihood of getting the same disease, perceived societal responsibility and victim blaming entered as dependent variables. Results showed that disease type, $F(10, 606) = 15.10, p < .001, \eta_p^2 = .20$, but not

target gender, $F(5, 302) = 1.93, p = .089$, nor the interaction between disease type and target gender, $F(10, 606) = 1.33, p = .210$, had multivariate effects. An overview of the effects of disease type on differences in standardized means on the dependent variables is presented in Figure 2. An inspection of the between-subjects effects showed that disease type had a significant effect on all dependent variables except on feelings, $F(2, 306) = 2.98, p = .052$. Both the effect on perceived likelihood of getting the same disease, $F(2, 306) = 35.74, p < .001, \eta_p^2 = .19$, and victim blaming, $F(2, 306) = 23.60, p < .001, \eta_p^2 = .13$, were large. The effects on empathy, $F(2, 306) = 4.76, p = .009, \eta_p^2 = .03$, and perceived societal responsibility, $F(2, 306) = 8.88, p < .001, \eta_p^2 = .06$, were significant but of smaller size.

We investigated these effects further using post-hoc comparisons and z -score standardized dependent variables to facilitate interpretation. Participants showed less empathy toward the depressed target than the target suffering from schizophrenia ($\Delta M = -.41, p = .010$). They perceived a lower likelihood that they could get schizophrenia than depression ($\Delta M = -.99, p < .001$), or lethal cancer ($\Delta M = -.85, p < .001$). They also perceived society to have a larger responsibility to support the schizophrenic than the depressed individual ($\Delta M = .56, p < .001$), and the individual with cancer ($\Delta M = .43, p = .005$). With regards to victim blaming, they blamed the depressed individual more for his or her disease than they blamed the target with schizophrenia ($\Delta M = .77, p < .001$), or cancer ($\Delta M = .77, p < .001$). All other comparisons were non-significant. Target gender only had one single significant univariate effect on victim blaming, $F(1, 306) = 7.31, p = .007, \eta_p^2 = .02$, such that participants blamed the female target less ($M = -.14, SE = .07$) than the male target ($M = .15, SE = .07$). We also ran additional exploratory follow-up analyses testing for potential differences between trainees and health professionals. Because these were not a main topic of this study, they are presented in the SOM.

Moderated regression analyses. Having investigated these experimental effects, we ran regression models to test whether individual differences in SDO, RWA and BJW predicted the dependent variables and whether their effects interacted with the experimental disease type and gender manipulations. Results showed that SDO predicted more victim blaming and less empathy towards the target (see Table 4). None of the effects of SDO were moderated by disease type or target gender. Neither, RWA and BJW had main or interactional effects on any of the dependent measures.

Preliminary Discussion

The results from Study 2 partially replicated the finding that SDO predicts prejudice towards mentally ill individuals, while RWA and BJW played less of a role. However, this time SDO only predicted two out of five dependent variables. One reason for the somewhat weaker effects than in Study 1 may be that the sample this time consisted mostly of women who are known to systematically score lower on constructs such as SDO and whose prejudice to less of an extent is driven by such a social dominance motivation (e.g., Navarrete et al., 2010; Pratto, Stallworth, & Sidanius, 1997; Sidanius, Pratto, & Bobo, 1994; Sidanius & Pratto, 1999). Moreover, the sample consisted of health professionals and trainees who may have a more complex, sensitive, and, arguably, more medical understanding of the diseases presented in the vignettes. Yet, it is still remarkable that even for this population which likely is or will be in contact with mentally ill patients as part of their occupation, a tendency to support group-based hegemony seems to predict less empathy and more victim blaming towards them. In other words, as an ultimate consequence, health professionals' socio-political attitudes may determine, at least to some extent, how empathic and understanding they are when treating these patients. The fact that SDO again did not interact with the target's gender once more suggests that it predicts prejudice towards both genders indiscriminately in a health context. Interestingly, the effects of SDO were also independent

of disease type. This suggests that for health personal, a motivation to dominate low-status groups at least in parts can underlie prejudice towards people with illness of both psychological and physiological nature.

The fact that RWA did not to predict attitudes toward a schizophrenic target is surprising as schizophrenia can be seen as a relatively norm-deviant disease. Hence, this result, which is consistent with the results of Study 1, suggests that prejudice towards mentally individuals at least in Norway is not rooted in a motivation to enforce in-group cohesion, to sanction norm deviance or to prevent dangerous threats. In terms of BJW, we were unable to replicate the gender interaction observed in Study 1, suggesting that this finding may be less robust. Yet, this null-finding may also be attributed to the gender-skew of the sample in Study 2. For instance, the finding may have been driven by male participants in Study 1. Hence, whether individuals with a belief that the world is just show prejudice especially towards male mentally ill individuals remains a question for future research and should be followed up with samples in which both genders are equally represented.

Finally, the target's type of disease clearly affected participants' prejudices. Overall, participants seemed to show the most prejudice towards depressed individuals: They showed less empathy towards them, and less responsibility for society to take care of them. Moreover, they also blamed the depressed target the most for his/her illness. Maybe less surprising, respondents were the least likely to think that they may get schizophrenia themselves, arguably because it is the rarest of the three conditions that we tested.

General Discussion

So far, little research has looked into whether prejudice towards the mentally ill can be explained by people's socio-political attitudes, characteristics of the mentally ill, and the interplay between both. Across two studies, using different experimental designs and samples drawn from different participant populations, a tendency to support between-group hegemony

(i.e., SDO) emerged as most consistent predictor of prejudice towards the mentally ill. In contrast, right-wing authoritarianism (RWA) and a belief in a just world (BJW), and characteristics of the mentally ill such as their socio-economic background or gender, played little of a role.

The fact that our studies were conducted in Norway may be a main reason for why SDO predicted prejudice towards mentally ill individuals in a convenience sample and even among health professionals and trainees. Norway is a classical welfare state, providing tax-paid health services to their citizens. Individuals high in SDO who generally are known for being more economically conservative and against social welfare (Ho et al., 2012), may perceive mentally ill individuals as a threat to the social hierarchy as they initiate welfare-based redistribution of resources. In addition, “keeping them in their place” may also be a way for high SDOs to increase the distance to mentally ill individuals. Previous research has suggested that SDO is in parts driven by a sensitivity to disease pathogens (Tybur, Merriman, Caldwell Hooper, McDonald, & Navarrete, 2010). Hence, it is possible that SDO mediates the effects of such pathogen sensitivity on negative attitudes toward mentally ill individuals. Indeed, the second study showed that SDO predicted prejudice towards mentally ill individuals and individuals with cancer to similar degrees, suggesting that they perceive psychological diseases in the same manner as they perceive physiological diseases and therefore potentially perceive both as infectious. Future research may directly test this mediational model including measures of pathogen sensitivity.

While SDO emerged as the most consistent predictor of prejudice, its effects did not interact with the mentally ill's socioeconomic status or gender as one could have expected. We had reasoned that high SDOs possibly would show more negativity towards low-status individuals as previous research suggested (Does & Mentovich, 2016; Duckitt & Sibley, 2007; Oldmeadow & Fiske, 2007). One reason for why this was not the case can be that,

different to countries such as the US, it is common in Norway for high-status as well as low-status individuals to make use of social welfare goods such as the public health system (Clench-Aas, 2007; Finnvold, 2009). As such, both groups may have been perceived as initiating mechanisms of resource re-distribution. It also should be noted that Norway often has been described as a “classless” country with little socioeconomic divides (Krokstad & Westin, 2002), so that socioeconomic status simply may not be a salient group marker for Norwegians – not even for those high in SDO.

The fact that the gender of the mentally ill individual did not moderate the effects of SDO is also noteworthy. Previous research suggests that males, who from an evolutionary perspective posed the most danger to survival (Navarrete et al., 2010), often experience the highest degree of prejudice and hostility. However, given that SDO in part is driven by sensitivity to diseases (Tybur et al., 2010), it may make sense that it indiscriminatorily predicts prejudice towards both genders, as their gender does not necessarily modulate the chance to get infected. Moreover, following the welfare argument stated earlier, both male and female mentally ill individuals use welfare goods and thereby can be perceived as equal threats to the social hierarchy. It also has to be noted that Norway is currently the most gender equal society in the world as measured by the United Nations (United Nations Development Programme, 2016). This may again explain why even high SDOs did not differ in their prejudice towards male and female individuals. Future studies should directly test this notion comparing samples from societies with low and high gender inequality.

The fact that RWA predicted prejudice in neither of the studies was surprising. We considered it as likely that individuals scoring high in RWA would perceive mentally ill individuals as norm deviant and would therefore derogate them. However, RWA did not predict prejudice even towards a disease such as schizophrenia, contrasting with earlier research conducted in Australia (Kvaale & Haslam, 2016). We can only speculate that due to

the relatively high frequency of mental illness in Norway (Ferrari et al., 2013), having a mental disease is simply not perceived as norm deviant enough to elicit negative reactions among high RWAs. Moreover, precisely due to the strong welfare state that handles and regulates these “norm deviations” and associated dangers, they may not be perceived as threats to in-group cohesion. Future cross-cultural studies should directly test these processes by comparing data from Norway with other countries.

Believe in a just world (BJW) did not seem to be a strong driver of prejudice towards the mentally ill. However, one exception was found in Study 1. The higher participants scored on BJW, the less empathy they felt towards a male, but not female, mentally ill individual. Nevertheless, as this finding was not replicated in the second study, we refrain from speculating around this apparently less robust finding, which needs to be followed up in future research.

As described earlier, the socioeconomic status and gender of the mentally ill individuals did mostly not influence the prejudice they elicited and this may be explained by Norway being a very egalitarian and gender equal society. Yet, in Study 2, prejudice clearly differed in terms of the type of disease the target individual was described to have. Participants (all health professionals or trainees) clearly blamed depressed persons more for their illness than they blamed individuals who suffered from schizophrenia or cancer. One possible reason may be that they to a larger degree internally attributed the depression of these targets, seeing the locus of control within the depressed individual rather than outside his/her control (cf. Schomerus, Matschinger, & Angermeyer, 2014).

Participants believed to that society more responsible to help a schizophrenic individual than individuals with cancer or depression. This is interesting as schizophrenia also was the disease which individuals saw as the least likely to get themselves. One could have believed that individuals would support that welfare goods are used for diseases they

themselves may get in the future because this equals supporting a safety net that they are more likely to depend on themselves one day. We can only speculate that participants may have seen society helping schizophrenic individuals as a way of reducing damage that these individuals may cause to citizens without mental illnesses, rather than reflecting purely pro-social orientations.

Limitations

Although we believe that the present two studies provided important insight, needless to say, they relied exclusively on self-report data and vignette scenarios. Especially for health professionals and trainees in Study 2, this may have induced demand characteristics and/or social desirability. Hence, future research would profit from implicit and, optimally, even observational measurements to assess the behavioral and practical implications of our findings. Nevertheless, it is remarkable that we found consistent relationships between SDO and prejudice in Study 1, and even to some degree in Study 2 conducted with health professionals and trainees.

It also has to be noted that both studies in this research were based on convenience samples. Because this limits the generalizability of our findings, future research with representative samples is needed to draw more valid conclusions about the target populations. Here, it is also important to note that the majority of participants in the second study were trainees, so that the findings may be less generalizable to health professionals currently in work. Still, most of these trainees will complete their education within a few years. Hence, as they form the next generation of health professionals, investigating their attitudes towards future patients is still valuable.

We would also like to note that the internal consistency of the short-form RWA measure in Study 1 can be seen as too low. Nunnally (1978) argued that scales with Cronbach's alpha below .70 may be too low to be meaningful, while others more recently

have argued that .60 may be just acceptable for shorter scales (DeVellis, 2012). Regardless of which cutoff criteria is most correct, the low reliability of the RWA scale may have contributed to its low predictive power in the first study. Yet, to address this limitation, we included a 15-item RWA scale with higher reliability in Study 2, replicating the null-finding with this more comprehensive measure.

Related to this, it can be discussed whether the use of single-item indicators of prejudice was optimal. On the one hand, single-item measures have clear practical advantages such as keeping surveys short and reducing participant fatigue. On the other hand, their validity and reliability has been contested (e.g., Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012). Yet, some evidence points to single-item indicators often performing comparable to multi-item measures in terms of predictive validity and reliability (Wanous, Reichers, & Hudy, 1997; also see Robins, Hendin, & Trzesniewski, 2001). In the present research, the single-item indicators were consistently interrelated in terms of zero-order correlations in both studies, which may be seen as supporting their validity and reliability. Nevertheless, as we acknowledge the advantages of multi-item measures, future research may profitably try to replicate our results with more comprehensive measures.

Last, our selection of predictive variables is obviously not exhaustive but represented a selection of socio-political attitudes that were at the focus of the present research. Future research should include additional potential predictors of prejudice towards mentally ill such as disgusts sensitivity (Schienle et al., 2003), familiarity with mental illness (Corrigan, Edwards, Green, Diwan, & Penn, 2001), and perceived dangerousness (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003) that all have shown to predict prejudice towards mentally ill individuals in previous research.

Societal Implications

Finally, the present research has important implications for how we understand prejudice towards mentally ill individuals and ultimately for the treatment of their conditions. Clearly, our findings demonstrate that socio-political attitudes shape even how current or prospective health professionals perceive mentally ill individuals. Hence, interactions between them and patients are unlikely to happen in a political vacuum, but to be influenced by such attitudes and ideologies. In the worst case, this may negatively impact the treatment of mentally ill individuals. For instance, as our data suggests, health professionals and trainees who support between-group hegemony may also show lowered degrees of empathy towards the patient, which is a main predictor of therapy outcomes (Lambert & Barley, 2001; Rogers, 1975; Truax et al., 1966). Against this background, we argue that raising awareness about the potential effects of political attitudes and ideologies within the health system may be a vital step to diminish their potentially detrimental effects on those suffering from mental illnesses. Moreover, this could suggest that models created to attenuate or even solve politically charged conflicts may also show utility within the domain of health professionals treating people with mental disorders.

References

- Altemeyer, B. (1988). *Enemies of freedom: Understanding right-wing authoritarianism*. San Francisco, CA: Jossey-Bass.
- Altemeyer, B. (1998). The other “authoritarian personality”. *Advances in experimental social psychology*, 30, 47-92. Doi: 10.1016/S0065-2601(08)60382-2
- Angermeyer, M. C., & Matschinger, H. (2003). The stigma of mental illness: effects of labelling on public attitudes towards people with mental disorder. *Acta Psychiatrica Scandinavica*, 108(4), 304-309. Doi: 10.1034/j.1600-0447.2003.00150.x
- Arai, M., Bursell, M., & Nekby, L. (2008). Between meritocracy and ethnic discrimination: The gender difference. Retrieved from: <https://ssrn.com/abstract=1136268>
- BèGue, L., & Fumey, V. (2000). Belief in a just world or self-serving strategy? *Social Behavior and Personality: an international journal*, 28(2), 119-123. Doi: 10.2224/sbp.2000.28.2.119
- 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. Doi: 10.1016/j.paid.2011.11.002
- Brenner, M. H. (1973). *Mental illness and the economy*. Paper presented at Behavior, Health Risks, and Social Disadvantage, Washington, DC.
- Callan, M. J., Ellard, J. H., & Nicol, J. E. (2006). The belief in a just world and immanent justice reasoning in adults. *Personality and Social Psychology Bulletin*, 32(12), 1646-1658. Doi: 10.1177/0146167206292236
- Clench-Aas, J. (2007). Sosiodemografiske forskjeller i bruk og adgang til helsetjeneste i Norge - en kunnskapsoppsummering. Notat, Nasjonalt senter for helsetjenesten.

- Corrigan, P. W., Edwards, A. B., Green, A., Diwan, S. L., & Penn, D. L. (2001). Prejudice, social distance, and familiarity with mental illness. *Schizophrenia bulletin*, 27(2), 219-225. Doi: 10.1093/oxfordjournals.schbul.a006868
- Corrigan, P., Markowitz, F. E., Watson, A., Rowan, D., & Kubiak, M. A. (2003). An attribution model of public discrimination towards persons with mental illness. *Journal of health and Social Behavior*, 44(2), 162-179.
- Corrigan, P. W., & Watson, A. C. (2002). Understanding the impact of stigma on people with mental illness. *World psychiatry*, 1(1), 16-20.
- Corrigan, P. W. (2004). How stigma interferes with mental health care. *The American psychologist*, 59(7), 614-625. Doi: 10.1037/0003-066X.59.7.614
- Corrigan, P. W. (2005). *On the stigma of mental illness: Practical strategies for research and social change*. Washington, DC: American Psychological Association.
- Crandall, C. S., & Cohen, C. (1994). The personality of the stigmatizer: Cultural world view, conventionalism, and self-esteem. *Journal of Research in Personality*, 28(4), 461-480. Doi: 10.1006/jrpe.1994.1033
- Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatisation of people with mental illnesses. *The British Journal of Psychiatry*, 177(1), 4-7. Doi: 10.1192/bjp.177.1.4
- Dalbert, C. (1999). The World is More Just for Me than Generally: About the Personal Belief in a Just World Scale's Validity. *Social Justice Research*, 12(2), 79-98. Doi:10.1023/a:1022091609047
- Dalbert, C. (2009). Belief in a just world. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (288-297). New York, NY: Guilford Press.
- DeVellis, R.F. (2012). *Scale development: Theory and applications*. Los Angeles, CA: Sage Publications

- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, 40(3), 434-449. Doi:10.1007/s11747-011-0300-3
- Does, S., & Mentovich, A. (2016). Rooting for the top dog: How social dominance motives shape group preference in intergroup competition. *Journal of Experimental Social Psychology*, 62(2016), 24-29. Doi: 10.1016/j.jesp.2015.09.002 0022-1031
- Duckitt, J. (2001). A dual-process cognitive-motivational theory of ideology and prejudice. *Advances in experimental social psychology*, 33, 41-113. Doi: 10.1016/S0065-2601(01)80004-6
- Duckitt, J. (2006). Differential effects of right wing authoritarianism and social dominance orientation on outgroup attitudes and their mediation by threat from and competitiveness to outgroups. *Personality and Social Psychology Bulletin*, 32(5), 684-696. Doi: 10.1177/0146167205284282
- Duckitt, J., & Sibley, C. G. (2010). Personality, Ideology, Prejudice, and Politics: A Dual-Process Motivational Model. *Journal of personality*, 78(6), 1861-1894. Doi: 10.1111/j.1467-6494.2010.00672.x
- Duckitt, J., & Sibley, C. G. (2007). Right wing authoritarianism, social dominance orientation and the dimensions of generalized prejudice. *European Journal of Personality*, 21(2), 113-130. Doi: 10.1002/per.614
- Ferrari, A. J., Charlson, F. J., Norman, R. E., Patten, S. B., Freedman, G., Murray, C. J., Wos, T., & Whiteford, H. A. (2013). Burden of depressive disorders by country, sex, age, and year: findings from the global burden of disease study 2010. *PLoS Medicine*, 10(11). Doi: e1001547.

- Finnvold, J. E. (2009). *Likt for alle? Sosiale skilnader i bruk av helsetenester*. Report number: IS-1738. Retrived from:
<https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/809/Likt-for-alle-sosiale-skilnader-i-bruk-av-helsetenester-IS-1738.pdf>
- Fodor, E. M. (2006). Right - Wing Authoritarianism and Managerial Assessment of a Schizophrenic Candidate. *Journal of Applied Social Psychology, 36*(4), 953-978. Doi: 10.1111/j.0021-9029.2006.00051.x
- Goffman, E. (1963). *Stigma; notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall.
- Griffiths, K. M., Nakane, Y., Christensen, H., Yoshioka, K., Jorm, A. F., & Nakane, H. (2006). Stigma in response to mental disorders: a comparison of Australia and Japan. *BMC psychiatry, 6*(21). Doi: 10.1186/1471-244X-6-21
- Haley, H., Sidanius, J., Lowery, B., & Malamuth, N. (2004). The Interactive Nature of Sex and Race Discrimination: A Social Dominance Perspective. In G. Philogène (Ed), *Racial identity in context: The legacy of Kenneth B. Clark* (149-160). Washington, DC: American Psychological Association.
- Haqanee, Z., Lou, E., & Lalonde, R. N. (2014). Natural kind and entitative beliefs in relation to prejudice toward mental disorders. *Journal of Applied Social Psychology, 44*(2), 145-153. Doi: 10.1111/jasp.12249
- Hinkelman, L., & Granello, D. H. (2003). Biological Sex, Adherence to Traditional Gender Roles, and Attitudes Toward Persons with Mental Illness: An Exploratory Investigation. *Journal of Mental Health Counseling, 25*(4), 259-270. Doi: 10.17744/mehc.25.4.tglx0uudjk7q5dpk
- 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), 1003-1028. Doi:10.1037/pspi0000033
- Ho, A. K., Sidanius, J., Pratto, F., Levin, S., Thomsen, L., Kteily, N., & Sheehy-Skeffington, J. (2012). Social dominance orientation: revisiting the structure and function of a variable predicting social and political attitudes. *Personality and Social Psychology Bulletin*, 38(5), 583-606. Doi: 10.1177/0146167211432765
- Hudson, C. G. (2005). Socioeconomic status and mental illness: tests of the social causation and selection hypotheses. *American journal of Orthopsychiatry*, 75(1), 3-18. Doi: 10.1037/0002-9432.75.1.3
- Krajewski, C., Burazeri, G., & Brand, H. (2013). Self-stigma, perceived discrimination and empowerment among people with a mental illness in six countries: Pan European stigma study. *Psychiatry Res*, 210(3), 1136-1146. Doi: 10.1016/j.psychres.2013.08.013
- Krokstad, S., & Westin, S. (2002). Health inequalities by socioeconomic status among men in the Nord-Trøndelag Health Study, Norway. *Scandinavian journal of public health*, 30(2), 113-124.
- Kunst, J. R., Fischer, R., Sidanius, J., & Thomsen, L. (2017). Preferences for group dominance track and mediate the effects of macro-level social inequality and violence across societies. *Proceedings of the National Academy of Sciences*, 114(21), 5407-5412. Doi:10.1073/pnas.1616572114
- Kvaale, E. P., & Haslam, N. (2016). Motivational orientations and psychiatric stigma: Social motives influence how causal explanations relate to stigmatizing attitudes. *Personality and Individual Differences*, 89, 111-116. Doi:10.1016/j.paid.2015.09.044

- Lambert, M. J., & Barley, D. E. (2001). Research summary on the therapeutic relationship and psychotherapy outcome. *Psychotherapy: Theory, Research, Practice, Training*, 38(4), 357-361. Doi:10.1037/0033-3204.38.4.357
- Lerner, M. J. (1980). *The Belief in a Just World: A Fundamental Delusion*. New York, NY: Plenum Press.
- Lerner, M. J., & Miller, D. T. (1978). Just world research and the attribution process: Looking back and ahead. *Psychological Bulletin*, 85(5), 1030-1051. Doi: 10.1037/0033-2909.85.5.1030
- Martin, J. K., Pescosolido, B. A., & Tuch, S. A. (2000). Of fear and loathing: The role of "disturbing behavior," labels, and causal attributions in shaping public attitudes toward people with mental illness. *Journal of Health and Social Behavior*, 41(2), 208-223. Doi: 10.2307/2676306
- McDonald, M. M., Asher, B. D., Kerr, N. L., & Navarrete, C. D. (2011). Fertility and intergroup bias in racial and minimal-group contexts: Evidence for shared architecture. *Psychological Science*, 22(7), 860-865. Doi:10.1177/0956797611410985
- McDonald, M. M., Donnellan, M. B., Cesario, J., & Navarrete, C. D. (2015). Mate choice preferences in an intergroup context: evidence for a sexual coercion threat-management system among women. *Evolution and Human Behavior*, 36(6), 438-445. Doi:10.1016/j.evolhumbehav.2015.04.002
- Martinez, A. G., Piff, P. K., Mendoza-Denton, R., & Hinshaw, S. P. (2011). The Power of a Label: Mental Illness Diagnoses, Ascribed Humanity, and Social Rejection. *Journal of Social and Clinical Psychology*, 30(1), 1-23. Doi: 10.1521/jscp.2011.30.1.1
- Navarrete, C. D., McDonald, M. M., Molina, L. E., & Sidanius, J. (2010). Prejudice at the Nexus of Race and Gender: An Outgroup Male Target Hypothesis. *Journal of Personality and Social Psychology*, 98(6), 933-945. Doi: 10.1037/A0017931

Navarrete, C. D., Olsson, A., Ho, A. K., Mendes, W. B., Thomsen, L., & Sidanius, J. (2009).

Fear extinction to an out-group face: The role of target gender. *Psychological Science*, 20(2), 155-158. Doi: 10.1111/j.1467-9280.2009.02273.x 19175529

Nordt, C., Rossler, W., & Lauber, C. (2006). Attitudes of mental health professionals toward people with schizophrenia and major depression. *Schizophrenia Bulletin*, 32(4), 709-714. Doi: 10.1093/schbul/sbj065

Nunnally, J. C. (1978). *Psychometric theory*, 2nd ed. New York, NY: McGraw-Hill.

Oldmeadow, J., & Fiske, S. T. (2007). System-justifying ideologies moderate status-competence stereotypes: roles for belief in a just world and social dominance orientation. *European Journal of Social Psychology*, 37(6), 1135-1148. Doi: 10.1002/ejsp.428

Ottati, V., Bodenhausen, G. V., & Newman, L. S. (2005). Social Psychological Models of Mental Illness Stigma. In P. W. Corrigan (Ed.), *On the stigma of mental illness: Practical strategies for research and social change* (99-128). Washington, DC: American Psychological Association.

Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A., & Pescosolido, B. A. (1999). Public conceptions of mental illness: labels, causes, dangerousness, and social distance. *American Journal of Public Health*, 89(9), 1328-1333. doi:10.2105/ajph.89.9.1328

Phelan, J. C., Link, B. G., Stueve, A., & Pescosolido, B. A. (2000). Public conceptions of mental illness in 1950 and 1996: What is mental illness and is it to be feared? *Journal of Health and Social Behavior*, 41(2), 188-207. Doi: 10.2307/2676305

Phelan, J. E., & Basow, S. A. (2007). College students' attitudes toward mental illness: An examination of the stigma process. *Journal of Applied Social Psychology*, 37(12), 2877-2902. Doi: 10.1111/j.1559-1816.2007.00286.x

- Pratto, F., Stallworth, L. M., & Sidanius, J. (1997). The gender gap: Differences in political attitudes and social dominance orientation. *British Journal of Social Psychology*, 36(1), 49-68. Doi:10.1111/j.2044-8309.1997.tb01118.x
- Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. *European Review of Social Psychology*, 17(1), 271-320. Doi:10.1080/10463280601055772
- Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, 67(4), 741-763. Doi: 10.1037/0022-3514.67.4.741
- Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry Research*, 121(1), 31-49. Doi: 10.1016/j.psychres.2003.08.008
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg self-esteem scale. *Personality and Social Psychology Bulletin*, 27(2), 151-161. doi:10.1177/0146167201272002
- Rogers, C. R. (1975). Empathic: An unappreciated way of being. *The counseling psychologist*, 5(2), 2-10. Doi: 10.1177/001100007500500202
- Rusch, N., Angermeyer, M. C., & Corrigan, P. W. (2005). Mental illness stigma: concepts, consequences, and initiatives to reduce stigma. *European psychiatry*, 20(8), 529-539. Doi: 10.1016/j.eurpsy.2005.04.004
- Rusch, N., Todd, A. R., Bodenhausen, G. V., & Corrigan, P. W. (2010). Do people with mental illness deserve what they get? Links between meritocratic worldviews and implicit versus explicit stigma. *European Archives of Psychiatry and Clinical Neuroscience*, 260(8), 617-625. Doi: 10.1007/s00406-010-0111-4 20232073

- Schienze, A., Schäfer, A., Stark, R., Walter, B., Franz, M., & Vaitl, D. (2003). Disgust sensitivity in psychiatric disorders: a questionnaire study. *The Journal of nervous and mental disease, 191*(12), 831-834.
- Schnittker, J. (2000). Gender and reactions to psychological problems: An examination of social tolerance and perceived dangerousness. *Journal of Health and Social Behavior, 41*(2), 224-240. Doi: 10.2307/2676307
- Schomerus, G., Matschinger, H., & Angermeyer, M. C. (2014). Causal beliefs of the public and social acceptance of persons with mental illness: a comparative analysis of schizophrenia, depression and alcohol dependence. *Psychological medicine, 44*(2), 303-314. Doi: 10.1017/S003329171300072X
- Schumacher, M., Corrigan, P. W., & Dejong, T. (2003). Examining Cues That Signal Mental Illness Stigma. *Journal of Social and Clinical Psychology, 22*(5), 467-476. Doi: 10.1521/jscp.22.5.467.22926
- Sibley, C. G., Wilson, M. S., & Duckitt, J. (2007). Effects of dangerous and competitive worldviews on Right-Wing Authoritarianism and Social Dominance Orientation over a five-month period. *Political Psychology, 28*(3), 357-371. Doi: 10.1111/j.1467-9221.2007.00572.x
- Sibley, C. G., Wilson, M. S., & Duckitt, J. (2007). Antecedents of men's hostile and benevolent sexism: The dual roles of social dominance orientation and right-wing authoritarianism. *Personality and Social Psychology Bulletin, 33*(2), 160-172.
- Sidanius, J., Pratto, F., & Bobo, L. (1994). Social dominance orientation and the political psychology of gender: A case of invariance? *Journal of Personality and Social Psychology, 67*(6), 998-1011. doi:10.1037/0022-3514.67.6.998
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York, NY: Cambridge University Press.

Statistics Norway. (2016). Helse- og sosialpersonell, 2015, 4. kvartal. Retrieved from:

<https://www.ssb.no/arbeid-og-lonn/statistikker/hesospers/aar/2016-06-27#content>

Stuber, J. P., Rocha, A., Christian, A., & Link, B. G. (2014). Conceptions of Mental Illness:

Attitudes of Mental Health Professionals and the General Public. *Psychiatric Services*, 65(4), 490-497. Doi:10.1176/appi.ps.201300136

Trautmann, S., Rehm, J. and Wittchen, H.-U. (2016). The economic costs of mental disorders.

Do our societies react appropriately to the burden of mental disorders? *EMBO reports*, 17(9), 1245–1249. Doi:10.15252/embr.201642951

Truax, C. B., Wargo, D. G., Frank, J. D., Imber, S. D., Battle, C. C., Hoehn-Saric, R., Nash,

R., & Stone, A. R. (1966). Therapist empathy, genuineness, and warmth and patient therapeutic outcome. *Journal of Consulting Psychology*, 30(5), 395-401.

Doi:10.1037/h0023827

Tybur, J. M., Merriman, L. A., Caldwell Hooper, A. E., McDonald, M. M., & Navarrete, C.

D. (2010). Extending the Behavioral Immune System to Political Psychology: Are Political Conservatism and Disgust Sensitivity Really Related? *Evolutionary Psychology*, 8(4), 599-616. Doi: 10.1177/147470491000800406

United Nations Development Programme. (2016). Gender Inequality Index. Retrieved from:

<http://hdr.undp.org/en/composite/GII>

Van Vugt, M., De Cremer, D., & Janssen, D. P. (2007). Gender Differences in Cooperation

and Competition: The Male-Warrior Hypothesis. *Psychological Science*, 18(1), 19-23.

Doi: 10.1111/j.1467-9280.2007.01842.x 17362372

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are

single-item measures? *Journal of Applied Psychology*, 82(2), 247-252.

doi:10.1037/0021-9010.82.

Whitley, B. E. (1999). Right-wing authoritarianism, social dominance orientation, and prejudice. *Journal of Personality and Social Psychology*, 77(1), 126-134. Doi: 10.1037/0022-3514.77.1.126

Zakrisson, I. (2005). Construction of a short version of the right-wing authoritarianism (RWA) scale. *Personality and Individual Differences*, 39(5), 863-872. Doi: 10.1016/j.Paid.2005.02.026

Footnotes

¹We note that mental diseases in a neurological sense also are physiological, but use this term in this manuscript to refer to a non-mental disease.

Table 1

Correlation Matrix for the Independent and Dependent Variables in Study 1

Items	1.	2.	3.	4.	5.	6.	7.
1.SDO	-						
2.BJW	.24**	-					
3.RWA	.29***	.35***	-				
4.Empathy Towards Target	-.25**	-.05	-.12	-			
5.Perceived Likelihood	-.19*	-.21**	-.12	.41***	-		
6 Feelings Towards Target	-.28***	-.05	-.14	.75***	.28***	-	
7.Victim blaming	.25**	.20*	.14	-.42***	-.20**	-.31***	-
8.Societal Responsibility	-.35***	-.14	-.29***	.42***	.11	.41***	-.34***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Multiple Regression Models Predicting Different Attitudes in Study 1

Predictors	Perceived Societal Responsibility to Help	Blaming the Target for his/her Illness	Positive Feelings Towards the Mentally Ill	Empathy Towards the Mentally Ill	Perceived Likelihood of Getting the Same Illness
RWA	-.101	.001	.006	.015	.036
SDO	-.265 *	.216 *	-.271 *	-.221 *	-.109
BJW	-.036	.137	-.008	-.049	-.213
Target gender ^a	.099	-.047	-.056	.008	.091
Target status ^b	-.109	.115	-.068	-.100	.047
RWA X Status	-.150	.042	.055	.062	-.048
SDO X Status	.035	.085	-.017	-.105	-.079
BJW X Status	-.084	.052	-.017	-.077	.022
RWA X Gender	.017	.026	-.057	-.065	.090
SDO X Gender	-.006	-.122	.140	.131	.073
BJW X Gender	-.174	.173	-.210	-.228 *	-.175
SDO X Gender X Status	-.048	-.112	-.023	.041	.111
RWA X Gender X Status	.055	.014	.022	-.110	-.043
BJW X Gender X Status	.071	.071	.074	.070	.016

Note. Standardized coefficients are displayed. Participant age and gender are controlled for in the models. Two participants indicating “other” as gender were not included in analyses. ^a -.50 woman, .50 man. ^b -.50 low status, .50 high status. *F* Statistics for Empathy: $F(16, 149) = 2.61, p = .001$; Feelings: $F(16, 149) = 2.34, p < .01$; Victim blaming: $F(16, 149) = 1.46, p > .05$; Perceived Societal responsibility: $F(16, 149) = 2.97, p < .001$; Perceived Likelihood: $F(16, 149) = 1.70, p > .05$. *P*-values are Bonferroni-corrected to adjust for family-wise error rate given multiple-comparisons. * $p < .017$. Significant estimates are presented in bold.

Table 3

Correlation Matrix for Independent and Dependent Variables in Study 2

Items	1.	2.	3.	4.	5.	6.	7.
1 SDO	-						
2 BJW	.13*	-					
3 RWA	.32***	.10	-				
4 Empathy Towards Target	-.23***	-.04	-.01	-			
5 Perceived Likelihood	-.04	-.14*	-.05	.21***	-		
6 Feelings Towards Target	-.09	-.02	-.03	.60***	.20***	-	
7 Victim blaming	.24***	.02	.12*	-.28***	.04	-.22***	-
8 Societal Responsibility	-.07	-.03	-.02	.38***	.03	.34***	-.22***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4

Multiple Regressions Predicting Different Attitudes in Study 2

Predictors	Perceived Societal Responsibility to Help	Blaming the Target for his/her Illness	Positive Feelings Towards the Mentally Ill	Empathy Towards the Mentally Ill	Perceived Likelihood of Getting the Same Disorder
Target gender ^a	-.044	.114	-.040	-.035	-.073
SDO	-.079	.191 *	-.107	-.263 *	-.030
RWA	-.039	.032	-.006	.085	-.064
BJW	-.051	.010	-.030	.005	-.069
Schizophrenia	.174 *	-.004	.141	.026	-.383 *
Depression	-.094	.356 *	.008	-.164	.068
SDO X Target gender	-.008	.106	-.006	.008	-.061
RWA X Target gender	.013	-.081	.023	-.013	.021
BJW X Target gender	.122	-.010	.041	.024	-.024
Depression X Target gender	-.022	.115	-.121	-.041	.056
Schizophrenia X Target gender	-.019	.002	.011	-.037	.103
SDO X Schizophrenia	-.003	.029	-.012	-.039	-.080
SDO X Depression	-.003	.108	.006	.078	.016
RWA X Schizophrenia	-.049	-.020	.067	.056	-.016
RWA X Depression	-.040	-.016	.082	.024	.040
BJW X Schizophrenia	-.090	.045	-.013	-.025	.044

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BJW X Depression	-.149	.009	.046	-.027	.046
SDO X Target gender X Schizophrenia	-.009	-.053	-.027	.062	.004
SDO X Target gender X Depression	.026	.035	-.060	.071	-.003
RWA X Target gender X Schizophrenia	-.040	.165	-.184	-.119	-.028
RWA X Target gender X Depression	-.074	.030	-.037	-.103	-.030
BJW X Target gender X Schizophrenia	-.082	.048	.034	-.049	.043
BJW X Target gender X Depression	-.105	-.069	-.012	-.055	.015

Note. Standardized coefficients are displayed. Participant age is controlled for. ^a -.50 woman. .50 man. *F* Statistics for Empathy: $F(24, 288) = 1.57, p < .05$; Feelings: $F(24, 288) = 1.31, p > .05$; Victim blaming: $F(24, 286) = 4.19, p < .001$; Perceived Societal responsibility: $F(24, 288) = 1.61, p < .05$; Perceived Likelihood: $F(24, 288) = 3.52, p < .001$. *P*-values are Bonferroni-corrected to adjust for family-wise error rate given multiple-comparisons. * $p < .017$. Significant estimates are presented in bold.

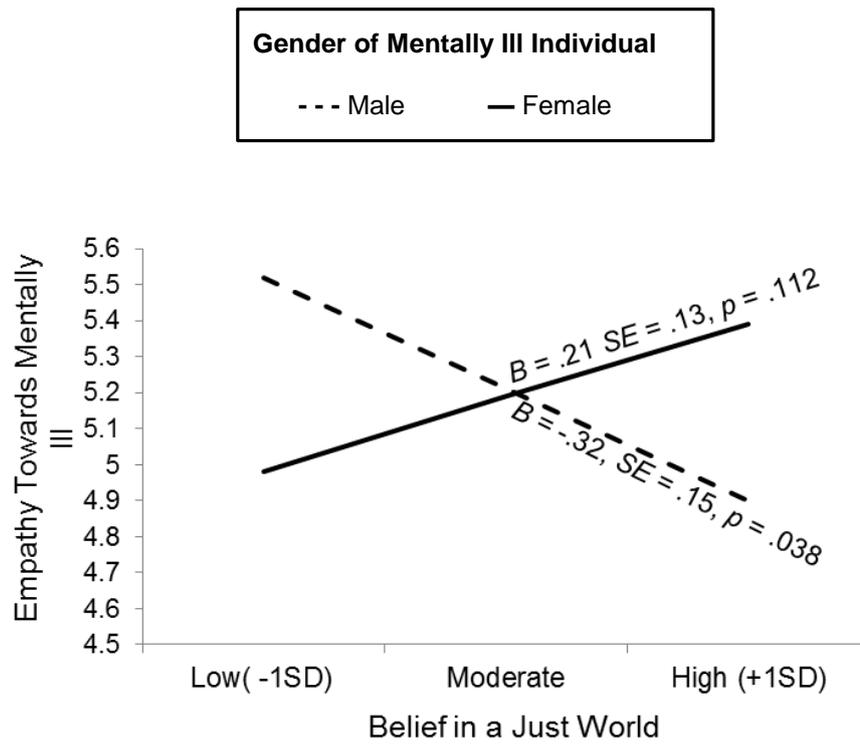


Figure 1. Simple slopes for interaction between belief in a just world and the mentally ill's gender in Study 1 are displayed.

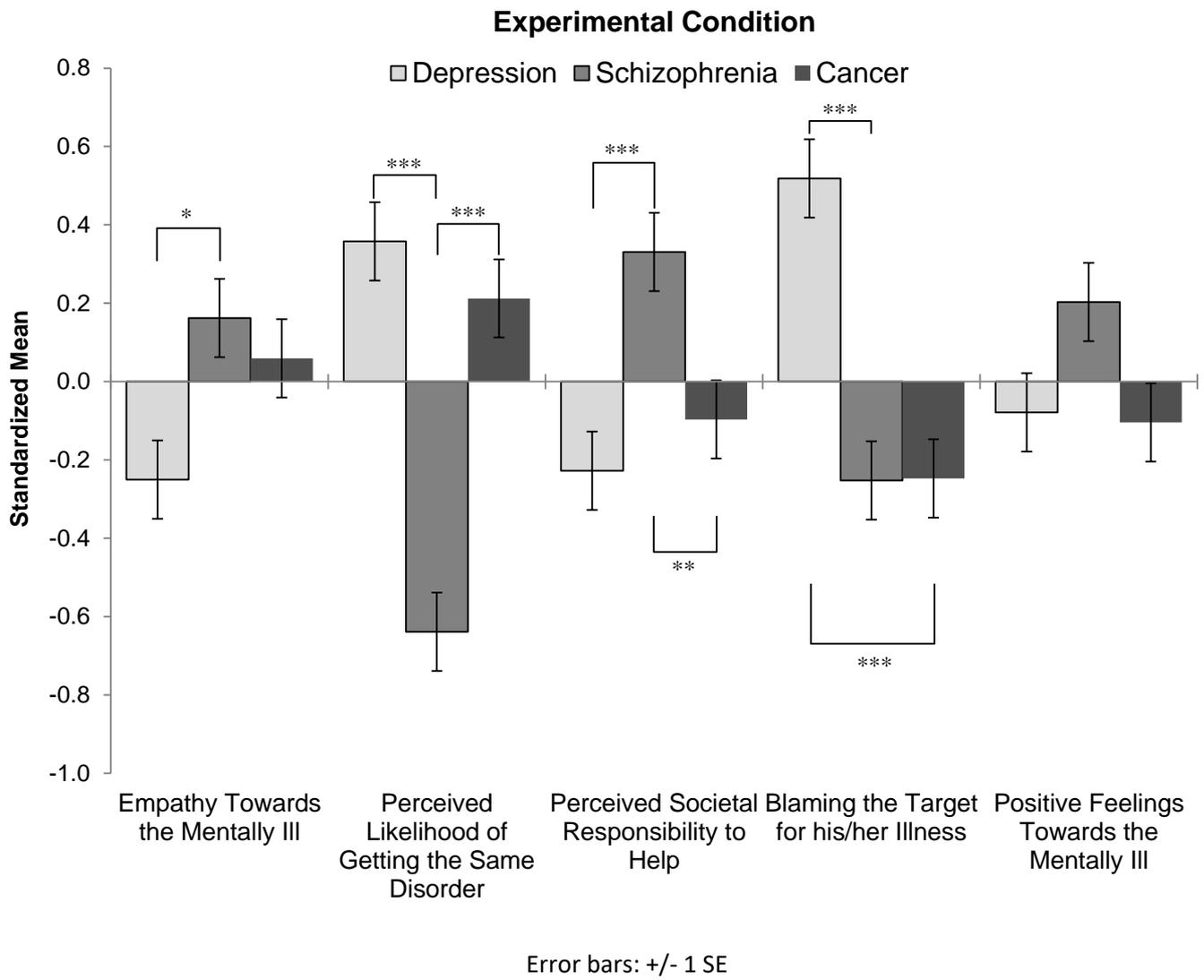


Figure 2. Differences in standardized dependent variables between illness conditions in Study

2 are displayed. * $p < .05$, ** $p < .01$, *** $p < .001$.