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Less than human: Dehumanization underlies prejudice toward people with developmental disabilities

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Approved by Major Professor(s): Margo J. Monteith

Approved by: Christopher R. Agnew   4/15/2015

Head of the Departmental Graduate Program   Date

LESS THAN HUMAN: DEHUMANIZATION UNDERLIES PREJUDICE TOWARD

PEOPLE WITH DEVELOPMENTAL DISABILITIES

A Thesis

Submitted to the Faculty

of

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by

Laura Ruth Murry Parker

In Partial Fulfillment of the

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of

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ABSTRACT

Parker, Laura Ruth Murry. M.S., Purdue University, May 2015. Less Than Human: Dehumanization Underlies Prejudice Toward People With Developmental Disabilities. Major Professor: Margo Monteith.

The present research examined the nature of prejudice toward people with developmental disabilities, its underlying root in dehumanization and implication for opposition to social policies, and the efficacy of two strategies for reducing this bias. In Study 1 and Study 2, dehumanization significantly predicted both greater prejudice and greater opposition to social policies benefitting people with Autism and Down Syndrome. Furthermore, prejudice significantly mediated the effect of dehumanization on social policy support. Dehumanization predicted greater prejudice, which led to less support for social policies. Building on the consistent association between dehumanization and prejudice in the first two studies, Study 3 examined whether either humanizing or individuating a person with Autism or Down Syndrome would reduce prejudice and opposition to social policies toward the groups more broadly. Both humanizing and individuating a single person led to significant reductions in dehumanization of and prejudice toward the target group, relative to a control condition, and also increased support for social policies benefitting the group. A multiple mediation analysis suggested that these interventions reduced dehumanization, which reduced prejudice, and ultimately reduced opposition to social policies. This

research illustrates the potential utility of humanization and individuation to reduce

prejudice and mistreatment of people with developmental disabilities.

INTRODUCTION

Stereotyping and prejudice research has traditionally focused on the nature of bias toward women and ethnic minorities, and bias toward other types of outgroups has been relatively understudied. For example, very little research has examined prejudice toward people with developmental disabilities[1]. Thus, prejudice toward people with developmental disabilities remains poorly understood, despite a long history of marginalization (e.g., institutionalization) and mistreatment (e.g., higher incidence of abuse and neglect than peers without disabilities; O'Brien, 1999; Braddock & Parish, 2001; Gallagher, 2001; Denavas-Walt, Proctor, & Smith, 2013; Sullivan & Knutson, 2000). To reduce bias toward people with developmental disabilities, the nature of bias toward this group and its antecedents should be examined.

The primary goals of this research were to: (1) investigate the nature of prejudice toward people with developmental disabilities; (2) examine the extent to which this bias is rooted in dehumanization; (3) assess the consequences of this bias for social policy beliefs; and (4) investigate the efficacy of two strategies to reduce prejudice toward people with developmental disabilities.

The Nature of Prejudice Toward People With Developmental Disabilities

Although stereotyping and prejudice is a widely researched area in social psychology, prejudice toward people with developmental disabilities has received

relatively little attention in previous research. Indeed, little is known about how to

conceptualize this type of prejudice, nor how to measure it. Werner, Corrigan,

Ditchman, and Sokol (2012) reviewed and evaluated existing measures of stigma

toward individuals with intellectual disabilities.[2] They concluded that very few

measures were theoretically grounded or assessed multiple dimensions of attitudes

toward people with intellectual disabilities. In addition, several measures are overly

broad (e.g., prejudice toward all people with disabilities), collapsing across a wide

variety of disabilities that may differ across a number of dimensions (e.g., blindness,

physical limitations, and intellectual disabilities). The present research contributes to

the literature by developing a theoretically based, multi-dimensional scale to assess

prejudice toward people with developmental disabilities.

Prejudice is typically characterized by a negative evaluation or judgment of

others based on their group membership. For instance, in his seminal book "The Nature

of Prejudice," Allport (1954) defined ethnic prejudice as "an antipathy based upon a

faulty and inflexible generalization" (p. 9). Prejudiced attitudes toward many groups fit

Allport's (1954) definition neatly, with attitudes toward outgroups (e.g., old-fashioned

racism toward African Americans) reflecting negative evaluations, a desire for social

distance, and hostility (McConahay, 1986). However, prejudiced attitudes may be

more complex than mere disliking or antipathy. For example, according to Glick and

Fiske (1996), sexism is characterized by ambivalent prejudice. Attitudes toward

women not only reflect hostile attitudes (e.g., "Once a woman gets a man to commit to

her, she usually tries to put him on a tight leash") and negative evaluative judgments,

but also include more ostensibly favorable beliefs (e.g., "Many women have a quality of purity that few men possess").

These seemingly positive attitudes toward women are actually rooted in paternalistic beliefs. Benevolent sexism reflects a negative evaluation of women's competence and ability to take part in broader society. These paternalistic beliefs maintain that women need to be protected, cared for, and submissive to men. They appear favorable toward women at face value. In fact, many women endorse benevolent sexist beliefs. However, these benevolent attitudes are a type of prejudice. Not only is benevolent sexism strongly and positively associated with hostile sexism, both sets of attitudes are based on and reinforce gender roles and assumptions about male dominance (Glick & Fiske, 1996). While benevolent sexism rewards women who fit into the socially appropriate gender roles, hostile sexism punishes women who fail to do so. Furthermore, both benevolent and hostile sexism paint women as reliant on or subordinate to men, justifying and reinforcing male dominance in society.

Fiske and Stevens (1993) argue that this ambivalent prejudice is due to unique characteristics of gender. Unlike other targets of prejudice, women make up approximately 50% of the population. In addition, most people have close relationships with women, whereas interracial friendships and bonds are comparatively less common. Most importantly, the nature of gender and human reproduction dictates that men and women are mutually dependent upon one another to accomplish important life goals. Fiske and Stevens (1993) argue that closeness, paternalism, and mutual dependence provide the basis for the development of benevolent attitudes toward women.

Might prejudice toward people with developmental disabilities involve ambivalent attitudes? Like sexism, attitudes toward people with developmental disabilities may be similarly rooted in paternalistic beliefs. People with developmental disabilities often depend on others for some assistance to accomplish their goals and complete basic daily living tasks. Thus, paternalistic beliefs that people with developmental disabilities need to be protected and are dependent on others may be an important component of prejudice. Similar to ambivalent sexist beliefs, paternalistic beliefs about people with developmental disabilities may appear evaluatively positive, reflecting positive feelings toward the group. However, if prejudice toward people with developmental disabilities is ambivalent, then these paternalistic beliefs should be strongly, positively correlated with hostile beliefs.

Supporting the possibility that prejudice toward people with developmental disabilities may be ambivalent, Fiske, Cuddy, Glick, and Xu (2002) found that "disabled people" were rated similarly to housewives on measures of warmth and competence. Both groups were seen as possessing high warmth, but lacking competence. According to the Stereotype Content Model (Fiske et al., 2002), prejudice toward groups who are high in warmth but low in competence is characterized by paternalistic beliefs. These groups tend to be low in social status and to evoke pity in others.

However, another possibility is that prejudice toward people with developmental disabilities will be purely hostile. Unlike women, people without developmental disabilities do not tend to have mutually dependent relationships with people with developmental disabilities. This is partially due to the smaller incidence of

people with developmental disabilities in society than women in society. In addition, the history of institutionalization and marginalization of people with developmental disabilities has traditionally set them apart from the rest of society. Consistent with this possibility, Fiske et al. (2002) found that participants rated the group "retarded people" as low on both warmth and competence. The stereotype content model predicts that prejudice toward groups that are low in both warmth and competence is characterized by hostile prejudice, and tends to evoke contempt and disgust in others.

In sum, there are theoretical reasons to expect that prejudice toward people with developmental disabilities may be either purely hostile or may also include a benevolent component. The present research will determine which of these of these characterizations best fits the nature of people's attitudes.

Dehumanization: A Root of Prejudice Toward People With Developmental Disabilities?

Depending on the nature of prejudice toward people with developmental disabilities, dehumanization may or may not be a root of bias. Broadly, dehumanization is the relative denial of mind, complex internal life, and overall humanness to an individual or group (Haslam, 2006; Leyens et al., 2000; Bogdan & Taylor, 1989). If prejudice toward people with developmental disabilities is ambivalent, dehumanization may not be strongly associated with bias. According to the stereotype content model, groups that are viewed as possessing high levels of warmth and of competence (e.g., housewives) are often the recipients of paternalistic prejudice (Fiske, Cuddy, Glick, & Xu, 2002). These groups tend to elicit feelings of pity, whereas groups that are more commonly dehumanized tend to elicit feelings of disgust. Furthermore, neuroimaging

evidence suggests that recipients of paternalistic prejudice are less likely to be dehumanized. Typically, person perception involves the activation of the medial pre-frontal cortex (mPFC). For this reason, Harris and Fiske (2006) argued that lower activation of the mPFC when viewing an image of a person's face is indicative of dehumanization. When participants viewed recipients of paternalistic prejudice (e.g., housewives) the mPFC showed the expected pattern of activation involved in person perception. These findings suggest that ambivalent prejudice is not associated with reduced activation of the mPFC. These findings suggest that dehumanization is not strongly linked to benevolent prejudice, but may be linked to more hostile forms of prejudice.

If prejudice toward people with developmental disabilities takes a hostile rather than ambivalent form, it may well be rooted in dehumanization. The stereotype content model has established a link between low warmth/low competence stereotypes and dehumanization. For example, mentally ill or homeless people tend to be rated as lacking both warmth and competence (Fiske, Cuddy, Glick, & Xu, 2002). In contrast with recipients of paternalistic prejudice, Harris and Fiske (2006) found that participants displayed lower mPFC activation when viewing the faces of people from these low competence/low warmth groups relative to ingroup members. Due to the role of the mPFC in person perception, these findings suggest that members of these groups may be so severely dehumanized that they are not even processed as human beings.

Furthermore, dehumanization is an important antecedent of prejudice toward low-power groups. People in positions of low power in society tend to be dehumanized. In two experiments conducted by Gwinn, Judd, and Park (2013),

participants were randomly assigned to a position of high or low power within a dyad.

After an interaction, both participants rated their partner on a variety of traits, including

traits that are viewed as unique to human beings (e.g., culture and morality; see

Haslam, 2006). When compared to the low power participants, high power participants

in both studies were more likely to dehumanize their partners by failing to attribute

these uniquely human traits to their partners. In addition, low power groups in society

tend to be targets of stigmatization. In fact, Link and Phelan (2001) argue that power

discrepancies are an essential contributor to stigmatization. High power groups have

the ability to define and enforce standards for society. Any person or group who fails to

meet these standards can be stigmatized and labeled as deviant. Thus, outgroup

members who occupy low power roles in society, such as people with developmental

disabilities, may be vulnerable to dehumanization.

Dehumanization is central to the concept of stigma. By its very definition,

stigma conveys that an individual has a devalued or damaged identity (Bos, Pryor,

Reeder, & Stutterheim, 2013). The stigmatizing "mark" or characteristic (e.g., ethnic

group, illness, scarring, etc.) is socially devalued. People who are stigmatized are

essentially viewed as possessing a "spoiled identity," and thus less than fully human

(Goffman, 1963; as cited in Bos, Pryor, Reeder, & Stutterheim, 2013). People with

stigmatized identifies are derogated, tend to be avoided, and are often targets of

discrimination (Bos, Pryor, Reeder, & Stutterheim, 2013).

This potential link between dehumanization and prejudice toward people with

developmental disabilities is important to address because dehumanized people are

subject to a wide range of discrimination. In an archival analysis of news coverage of

death-eligible criminal cases from 1979-1999, Goff, Eberhardt, Williams, and Jackson (2008) found that Black defendants were more frequently described in newspaper articles with terms related to apes than White defendants. In addition, Black defendants who were later sentenced to death were described in the media with more ape-related words than Black defendants who were spared the death penalty (Goff et al., 2008). Furthermore, dehumanization predicts racial disparities in police treatment of children. Higher levels of implicit dehumanization of Blacks among police officers predicted greater use of force against Black children than non-Black children (Goff, Jackson, Di Leone, Culotta, & Di Tomasso, 2014).

Finally, in a classic experimental study of the consequences of dehumanization, Bandura, Underwood, and Fromson (1975) found that outgroup members who were described in dehumanizing terms by an experimenter received harsher and more punitive treatment at the hands of participants than outgroup members described with neutral or humanizing language. In fact, outgroup members described in humanizing terms received the least severe and least punitive treatment of all three conditions (Bandura, Underwood, & Fromson, 1975). Thus, viewing people as less than human facilitated more severe treatment of these individuals, whereas humanizing others lead to more positive treatment. These findings suggest that greater humanization could potentially reduce the negative effects of stigma and prejudice, contributing to more positive intergroup relations.

Potential Implications for Social Policy Beliefs

Although dehumanization and related prejudice have been strongly linked to interpersonal discrimination, their relation to social policy beliefs has received less

attention. Public policies shape societal arrangements and conditions that are central to the well-being of stigmatized groups, ensuring equal treatment or lack thereof at the institutional and organizational levels. Thus, the present research examines the important relation between dehumanization, prejudice, and social policies beliefs in relation to people with developmental disabilities.

Social policies can help combat inequality, can provide protection against discrimination, and can provide important community resources for stigmatized groups. For example, by creating socially protected classes, civil rights legislation and hate crime legislation aim to protect stigmatized groups against discrimination and harm. In addition, programs like Medicaid assistance provide support for people with developmental disabilities to achieve personally important goals. Social policies can increase the quality of life for targets of discrimination and prejudice.

Prejudiced beliefs can undermine support for social policies benefitting targets of discrimination by legitimizing inequality. For example, hostile and benevolent sexist beliefs support and reinforce a social structure where women are dependent upon and subordinate to men (Glick & Fiske, 1996). By both rewarding women who appropriately fulfill their gendered role in society (benevolent sexist beliefs), and by punishing women who are seen as failing to fit into the appropriate gender role (hostile sexist beliefs), ambivalent sexism reinforces the social order. Thus, prejudiced belief systems help perpetuate and maintain the status quo.

Beyond punitive treatment, people who are dehumanized often face barriers to accomplishing their goals. Due to their stigmatized identity, people with intellectual disabilities (including mental illness and other intellectual disabilities) encounter social

barriers to a wide variety of social outcomes, including their participation in their own community, access to employment opportunities, and access to housing opportunities (Werner, Corrigan, Ditchman, & Sokol, 2012). Thus their devalued identity constrains the ability of stigmatized individuals to pursue basic activities important to living an independent and meaningful life.

Goals of the Present Research

The present research is designed to test alternative theoretical models concerning the nature of prejudice toward people with developmental disabilities, the link between prejudice toward this group and dehumanization, and finally implications of dehumanization and prejudice toward people with developmental disabilities for social policy beliefs. Specifically, the first two studies examined the nature of prejudice and developed a novel, multidimensional scale assessing prejudice toward people with Autism and Down Syndrome. Autism and Down Syndrome are two of the most commonly diagnosed developmental disabilities. One in every 691 children born in the United States is diagnosed with Down Syndrome ("Facts about Down Syndrome," 2011), whereas, approximately 1 in 88 children have been diagnosed with an autism spectrum disorder ("Data & Statistics," 2013).

In the first two studies both a hostile model of prejudice and an ambivalent model of prejudice were examined using confirmatory factor analysis to determine which model provided the best fit to the data. In addition, these studies examined whether prejudice toward people with Autism and Down Syndrome was associated with dehumanization. Finally, these studies examined the consequences of prejudice and dehumanization for social policy beliefs.

The third study reported herein examines the possibility that prejudice toward people with developmental disabilities, and in turn opposition to social policies, can be reduced by encouraging humanization. If prejudice toward people with developmental disabilities is hostile and rooted in dehumanization, then viewing people with developmental disabilities as possessing humanized traits and characteristics should reduce dehumanization, reduce prejudice, and ultimately boost support for beneficial social policies.

However, it is also possible that individuation, viewing people with developmental disabilities as individuals, will promote humanization of people with developmental disabilities. Individuation and person-first language strategies emphasize the personhood of people with developmental disabilities, and are widely used in fields that serve people with disabilities (Hadley & Brodwin, 1988; Blaska, 1993; APA, 2010). Person-first language removes the emphasis from the disability as a primary characteristic of the person (e.g., disabled person vs. person with disabilities). Efforts to individuate people with disabilities emphasize the unique capabilities and interests of the individual when planning care programs and services to assist them. Furthermore, these initiatives emphasize always referring to people with disabilities by their name, as opposed to the more dehumanizing language of "the patient" or "the client." In applied settings, these strategies are used in part to reduce biased language, while increasing focus on the individual (Blaska, 1993).

Previous research suggests that individuating information can reduce or eliminate the biasing effect of social stereotypes on social judgments (Locksley, Hepburn, & Ortiz, 1982). Locksley and colleagues (1982) gave participants

information about male and female targets, and then asked them to make judgments about the likelihood that a target would engage in a behavior in the future. When participants were given individuating information, gender stereotypes did not influence their judgments. However, when this information was not given or when this information was not related to the behavior being predicted, gender stereotypes did influence participant's judgments. By focusing attention on a single person's individual activities, relationships, and preferences, individuating information about a person with a developmental disability may reduce the effect of pre-existing stereotypes and beliefs on judgments of the humanness of people with developmental disabilities more broadly. If effective, the individuation manipulation would suggest that people with developmental disabilities can be humanized even if they are seen as possessing theoretically dehumanizing traits (e.g., primary emotions).

STUDY 1

Study 1 had two primary goals. The first goal was to develop a multidimensional measure of prejudice toward people with developmental disabilities. Second, Study 1 examined the nature of prejudice toward people with Autism and Down Syndrome.

One possibility was that prejudice toward people with developmental disabilities would be ambivalent, containing both hostile and benevolent components. Hostile bias is often measured with elements of stereotypes such as harm and separation. For example, old-fashioned racism includes beliefs that Black people are aggressive or dangerous and the desire to maintain social distance from Black people (McConahay, 1986). Furthermore, these two dimensions of stereotypes are salient aspects of negative beliefs about people with developmental disabilities (O'Brien, 1999). Thus, the hostile component of prejudice toward people with Autism and Down Syndrome was assessed with items reflecting beliefs that people with developmental disabilities are dangerous and beliefs that people with developmental disabilities should be kept apart from the rest of society. Following Glick and Fiske (1996), benevolent bias toward people with disabilities assessed dependence and idealization. In the ambivalent sexism inventory, these dimensions reflected paternalistic attitudes that women possess special, idealized qualities (e.g., "Women, compared to men, tend

to have a more refined sense of culture and good taste.") and are dependent on men (Glick & Fiske, 1996). Furthermore, these paternalistic beliefs may similarly apply to people with developmental disabilities, due to socially salient stereotypes of people with developmental disabilities as dependent on others, or even heroic for overcoming obstacles ("Attitudinal barriers for people with disabilities," 2015). As in Glick and Fiske (1996), if attitudes toward people with developmental disabilities are ambivalent, idealization and dependence should be strongly and positively associated with one another. Furthermore, hostile and benevolent prejudice should be positively correlated if bias toward people with developmental disabilities is ambivalent.

A second possibility was that prejudice toward people with developmental disabilities would be hostile. In this model, hostile prejudice would still be composed of the dimensions of harm and separation. However, unlike the ambivalent model, dependence would be evaluatively negative. That is, the belief that people with developmental disabilities rely on others for meeting their daily needs would be infused with negative evaluation. This association between hostile prejudice and perceptions of low status outgroup members as dependent is consistent with attitudes toward low competence/low warmth outgroups (Fiske, Cuddy, Glick, & Xu, 2002). For example, welfare recipients are viewed as freeloaders in society and are targets of hostile bias. Therefore, if bias toward people with developmental disabilities is hostile, dependence should correlate positively with harm and separation. Idealization would not be part of this hostile form of prejudice.

In addition, this study examined the novel link between dehumanization and support for social policies that benefit targets of prejudice. Greater dehumanization of

people with developmental disabilities was expected to be associated with greater

prejudice toward people with developmental disabilities (Hypothesis 1a) and with less

support for beneficial social policies (Hypothesis 1b). Furthermore, prejudice was

expected to mediate the association between dehumanization and social policy support

(Hypothesis 2).

Method

Participants

One hundred and ninety-six participants (121 men, M_{age} = 19.81 years, SD_{age} =

1.37 years) were recruited from the Introductory Psychology participant pool at Purdue

University. Participants completed the study online using the survey hosting service,

Qualtrics and received one research credit in return.

Procedure

After consenting to participate in the study, participants were randomly

assigned to respond to questions about people with Autism or people with Down

Syndrome throughout the study. First, participants completed a short demographics

questionnaire. Next, participants completed the study questionnaires.

Participants completed a commonly used measure of dehumanization

(Appendix C; Haslam, 2006). Participants indicated the extent to which they believed

10 uniquely human and 10 human nature traits are typical of either people with Autism

or people with Down Syndrome (1 = not at all, 7 = very much).

Following the dehumanization measure, participants completed our 19-item

measure of prejudice (Appendix D). This measure included items designed to tap into

hostile and benevolent prejudice. Hostile items reflected beliefs that people with

Autism and Down Syndrome are dangerous and a threat to others (i.e., the Harm subscale), and the desire for social distance from people with Autism and Down Syndrome (i.e., the Separation subscale). Items tapping into Benevolent prejudice were adapted from the Benevolent Sexism subscale of the Ambivalent Sexism Inventory (Glick & Fiske, 1996). These items were designed to capture paternalistic beliefs about people with Autism and Down Syndrome. Items on the Dependence subscale were written to capture the belief that people with Autism and Down Syndrome are dependent on others to accomplish their goals and complete daily living tasks. Items on the Idealization subscale were written to capture more complimentary, but also role restrictive, beliefs about people with Autism and Down Syndrome (e.g., "People with [either Autism or Down Syndrome] are sweeter and happier than people without disabilities"). Participants indicated their agreement on a scale from 1 (strongly disagree) to 7 (strongly agree).

Respondents rated their agreement with 14 items assessing support for social policies that benefit or affirm the agency or value of people with either Autism or Down Syndrome (1 = strongly disagree, 7 = strongly agree; Appendix E). These items were developed to assess support for a variety of social policies including special education funding, financial assistance programs, equal payment, and individual liberties. The scale focuses on these social policies because they reflect a wide variety of programs and policies that have the potential to improve distinct domains of life for people with developmental disabilities. For example, special education funding provides access to public education, while laws safeguarding individual liberties provide protection against discrimination.

Finally, we asked participants to indicate whether they had any close family members with either Autism or Down Syndrome.

Results

Item Analysis

I first examined descriptive statistics for the prejudice scale items. Means, standard deviations, skewness values, and kurtosis values for each of the indicators on the prejudice scale may be found in Table 1. One item was quite skewed, indicating that it was not normally distributed. The item, "People with [either Autism or Down Syndrome] should be welcome to participate in community events" had a skew value of -1.41.

Next, I calculated correlations between each of the scale indicators (Table 2). Correlations at or above .30 between items on the same factor indicate that the items have sufficient shared variance. However, very high correlations between items (e.g., r = .90) suggest a problem of extreme collinearity. Thus, moderately large correlations between items are the most desirable (Kline, 2011). The items on the harm factor were nicely correlated with each other (r range = .43 - .70). The items on the separate factor were less consistently correlated with one another (r range = -.12 - .34), with most of the correlations falling below .30. However, the items on the dependent factor were strongly related to one another. Correlations ranged from .24 - .61, with the majority of correlations falling above .40. One item, "people with [either Autism or Down Syndrome] need to be protected because they are easily exploited," was less strongly correlated with the other dependence items than any of the other items. The four idealization items were also nicely interrelated (r range = .28 - .59).

In addition, I looked for strong correlations between items on different subscales. Interestingly, the items on the dependence subscale were strongly and positively related to items on the harm subscale. This suggests that these two subscales may be very closely related to one another. Although we anticipated a strong association between dependent and idealization items in the case of benevolent bias, the items on these two subscales were only weakly correlated with one another. Taken together, this suggests that items on the Dependent and Idealization subscales are not tapping into the same construct. We would expect the Dependent and Idealization subscales to be strongly and positively related if they were both tapping into a benevolent form of prejudice. Indeed, the close association between dependence and harm supports a hostile, rather than ambivalent model of prejudice.

Following these analyses, one item was removed from the prejudice scale. The item, "people with [either Autism or Down Syndrome] should be welcome to participate in community events," was skewed, kurtotic, and did not correlate strongly with the other items on the separate subscale.

Confirmatory Factor Analyses

Confirmatory factor analyses (CFA) were performed to examine the nature of prejudice toward people with developmental disabilities using the statistical package Mplus (Version 6.0, Muthén & Muthén, 2008-2010). The items on the prejudice scale were relatively normally distributed (Table 1). Thus, the CFAs were conducted using maximum likelihood estimation. Few participants were missing responses for individual scale indicators (mean per item = 0.09 %, range = 0% - .3%). These data were missing completely at random due to a computer error. I used full information

maximum likelihood (FIML) modeling of missing data. This method for dealing with

missing data is the default option for missing data when using maximum likelihood

robust estimation in Mplus version 6.0 (Muthén & Muthén, 2008-2010). When data are

missing completely at random, FIML provides consistent parameter estimates (Brown,

2006).

The goodness of fit of the two confirmatory factor analysis models were

evaluated with the chi-square test, the comparative fit index (CFI), the Tucker-Lewis

index (TLI), the root-mean-square error of approximation (RMSEA), the standard root

mean square residual (SRMR), and the akaike information criterion (AIC). I adopted

the following standards suggested by Hu & Bentler (1999) in order to evaluate the fit

of the two confirmatory factor models: a non-significant chi-square test, CFI value

close to .95, TLI close to .95, RMSEA close to .08, and a SRMR value close to .06.

However, the chi-square test for model fit often is significant. Thus, greater emphasis

is on a model with the smallest chi-square value and the other indices. In addition, AIC

values for each model were examined. When comparing models, a smaller AIC value

suggests a better fit to the data. Values approaching these standards on multiple fit

statistics will suggest a good fit between the tested model and the data.

The ambivalent prejudice model included all four theorized components of the

prejudice scale: Harm, Separation, Dependence, and Idealization (Figure 1). The

hostile prejudice model included three of the theorized factors: Harm, Separation, and

Dependence (Figure 2). In the hostile model, dependence was conceptualized as a

component of hostile bias. Instead of reflecting more positive, paternalistic beliefs

about people with developmental disabilities, dependence is conceptualized as

reflecting evaluatively negative beliefs about people with developmental disabilities in the hostile model of prejudice. The fit statistics for these models are reported in Table 3. In the ambivalent prejudice model, harm and separation were expected to tap into hostile bias, whereas dependence and idealization were expected to tap into benevolent prejudice. Finally, hostile and benevolent prejudice were expected to correlate positively. According to the model fit statistics, the ambivalent model of prejudice was a good fit to the data. Although the chi-square test was significant, the CFI and TLI values fell at or near the standard values of .95. In addition, RMSEA was at the standard value of .05.

Next, I looked at the factor loadings for all of the scale indicators. All 19 indicators loaded significantly onto their respective subscales of prejudice. In addition, both the harm and separation prejudice subscales loaded significantly onto the latent variable for hostile prejudice. However, only dependence loaded significantly and positively onto the benevolent prejudice latent factor. The idealization subscale had a small, negative relationship with benevolent prejudice, suggesting that it was not as highly related to the dependence subscale as anticipated. Although this model was a good fit for the data, the low, negative association between the idealization subscale and the superordinate factor of benevolent prejudice does not support a benevolent model of prejudice. Instead of the expected strong and positive association between idealization and dependence, we see that the two subscales are negatively related.

In the hostile bias model, the harm, separation and dependence subscales were expected to tap into hostile bias. The fit statistics suggest that this model is an excellent fit for the data (see Table 3). In addition, the hostile model was a significantly better fit

for the data than the benevolent model of bias, $\Delta\chi^2$ (40) = 80.34, $p < .001$. Although the chi-square test was significant, CFI and TLI fell above .95, RMSEA fell below .05, and SRMR was below the standard of .06. In addition, the AIC for the hostile model was much smaller than the AIC for the ambivalent model, indicating significantly better fit. Furthermore, the factor loadings for each of the subscales onto the hostile prejudice latent factor were positive and significant. Thus, the hostile mode of prejudice provided a better fit for the data.

Finally, I examined a MIMIC model to examine whether mean levels of prejudice differed in the Down Syndrome versus the Autism condition. The fit statistics suggest that the model is an excellent fit for the data (Table 3). Furthermore, the path between condition and the latent variable for prejudice is significant, $B = .50$, $SE = .18$, $p < .006$, suggesting that participants reported greater prejudice toward people with Down Syndrome than people with Autism.

Dehumanization, Prejudice, and Social Policy Beliefs

Scores for the prejudice, dehumanization, and social policy scales were computed by averaging relevant item ratings. Descriptive statistics (e.g., means, standard deviations, reliabilities, and correlations) for these scales are reported in Table 4. All three scales had acceptable reliabilities.

In line with predictions, the greater the dehumanization, the greater the prejudice participants reported toward people with Autism and Down Syndrome, $r(196) = .55$, $p < .001$. Furthermore, as both dehumanization and prejudice increased, support for social policies benefitting people with developmental disabilities decreased, rs(196) = -.46 and - .50, respectively, ps $< .001$.

The hypothesized mediation model was tested using Hayes's (2014) PROCESS macro for SPSS (Model 4, 5000 bootstraps). The relationship between dehumanization and social policy beliefs was mediated by prejudice (Figure 3), as indicated by a significant indirect effect, CI [-.39, -.14]. As anticipated, greater dehumanization was related to higher levels of prejudice, which in turn was associated with decreased support for social policies.

An alternate mediation model was tested to examine whether dehumanization mediated the association between prejudice and social policy beliefs. The relationship between prejudice and social policy beliefs was significantly mediated by dehumanization (Figure 4), as indicated by a significant indirect effect, CI [-.23, -.05].

A moderated mediation model was examined to test whether the prejudice mediated the association between dehumanization and social policy support for both people with Autism and people with Down Syndrome. Specifically, I conducted a mediation analyses using group (i.e. Autism and Down Syndrome) as a moderator (PROCESS model 59, Hayes, 2013). The indirect effect of dehumanization on social policy was significant for Autism, CI [-.61, -.20]. Dehumanization predicted greater prejudice toward people with Autism. Greater prejudice in turn predicted less support for social policies. The indirect effect of dehumanization on social policy was not significant for Down Syndrome, CI [-.38, .05]. However, the direct effects were consistent with the proposed model. Dehumanization was associated with higher levels of prejudice toward people with Down Syndrome, and prejudice was associated with reduced support for beneficial policies.

Comparisons Involving Type of Disability

Independent samples t-tests were performed to assess whether people with Autism and people with Down Syndrome were rated differently on prejudice, dehumanization, and social policy. People reported significantly greater prejudice toward people with Down Syndrome ($M = 3.82$, $SD = .96$) than people with Autism ($M = 3.50$, $SD = 1.03$) $t(194) = -2.031$, $p < .03$, $d = .32$. The two groups did not differ on dehumanization, $t(193) = 1.49$, $p > .13$, or social policy $t(194) = .20$, $p > .83$.

Discussion

Study 1 provided preliminary validation for the measure of prejudice toward people with Autism and Down Syndrome. Although both the ambivalent and hostile models of prejudice proved a good fit for the data, the hostile model of prejudice provided a significantly better fit. In addition, the idealization subscale only had a small, negative factor loading on to benevolent prejudice, while harm and dependence items were strongly correlated with one another. Thus, the results of Study 1 suggest that the nature of prejudice toward people with developmental disabilities is hostile rather than ambivalent. In addition, Study 1 examined the prediction that the effect of prejudice on social policy beliefs would be mediated by participant prejudice. Both the predicted model and the alternate model were supported. Replication of these findings in a separate sample of participants will lend strength to these conclusions, which was the main goal of Study 2.

STUDY 2

Study 2 had two primary goals. First, I sought to confirm the hostile structure of the prejudice measure from Study 1 as superior to the ambivalent structure in a separate sample. Doing so also provided the opportunity to modify some items to strengthen the prejudice measure (i.e., rephrasing a double-barreled question and adding some reverse-score items).

A second goal of Study 2 was to replicate the model of the mediating effect of prejudice in the relation between dehumanization and social policy. As in Study 1, I expected that dehumanization would be associated with greater prejudice toward people with developmental disabilities (Hypothesis 1a), that dehumanization would be associated with lower levels of support for social policies (Hypothesis 1b), and that prejudice would predict lower levels of support for social policies (Hypothesis 1c). Finally, I expected that prejudice would mediate the association between dehumanization and social policy beliefs (Hypothesis 2).

Method

Participants

Three hundred and twelve participants were recruited from Amazon's Mechanical Turk, and completed the study on the online survey platform Qualtrics. Ten participants completed the survey twice. Their second completion data was

deleted. Six participants failed to follow directions and were removed from the dataset. After removing these participants, 296 participants (123 men, M_{age} = 37.53 years old, SD_{age} = 13.93 years) remained in the dataset. All participants received 40 cents in return for their participation in the study.

Procedure

As in Study 1, all participants were randomly assigned to respond in relation to either Autism or Down Syndrome. After consenting to participate in the study, all participants completed the study questionnaires. First, participants completed a short demographics questionnaire.

Next, participants completed the measure of dehumanization. They rated the extent to which they believed that 10 uniquely human and 10 human nature traits (Appendix C; Haslam, 2006) are typical of either people with Autism or people with Down Syndrome (1 = not at all, 7 = very much).

Following the dehumanization measure, participants completed an updated 18 item measure of prejudice (see Appendix F for information on how items were changed). Several items on the prejudice scale were updated following Study 1. Several items were altered to eliminate "double-barreling." For example, the item "People with [either Autism or Down Syndrome] are impulsive and unpredictable, and should be closely watched," was changed to "People with [either Autism or Down Syndrome] are impulsive and unpredictable." In addition, I reverse scored items were added to the Harm subscale (e.g., "People with [either Autism or Down Syndrome] are harmless"). Finally, items were added to the separate subscale (e.g., "I prefer not to interact with people who have [either Autism or Down Syndrome]"). Participant indicated their

agreement with 18 items assessing prejudice toward people with Autism or people with Down Syndrome (1= strongly disagree, 7 = strongly agree)

Respondents rated their agreement with 13 items assessing support for social policies that benefit or affirm the agency or value of people with either Autism or Down Syndrome (1 = strongly disagree, 7 = strongly agree; Appendix E).

Finally, participants indicated whether they had any close family members with either Autism or Down Syndrome.

Results

Item Selection

Descriptive statistics and correlations for each of the items on the prejudice scale are shown in Table 5. The item, "I feel some disgust when looking at people with [either Autism or Down Syndrome]," was quite skewed and kurtotic. This item was removed. All other items were relatively normally distributed.

Correlations between the indicators for the prejudice scale are shown in Table 6. The item, "People with [either Autism or Down Syndrome] are easily exploited," did not correlate well with other items on the dependence subscale ($r_s \leq .22$). In addition, the item, "People with [either Autism or Down Syndrome] overcome many hardships," had only a small correlation with items on the idealization subscale (rs = .22, .23, and .40, respectively, $p < .05$), suggesting that this item was not tapping into the same construct as the idealization subscale. Furthermore, when these items are included in CFA, they do not load onto their respective subscales above .40. These two items were removed from the prejudice scale due to their low correlations with other items.

As in Study 1, items on the idealization and dependence subscales were weakly and even negatively correlated with one another. These weak associations demonstrate that these two subscales are not closely related. In addition, these correlations suggest that prejudice toward people with developmental disabilities is not ambivalent.

Confirmatory Factor Analyses

Mplus (Version 6.0, Muthén & Muthén, 2008-2010) was used to perform CFA analyses for examining whether the prejudice scale is tapping ambivalent or hostile attitudes toward people with developmental disabilities. Items on the prejudice scale were relatively normally distributed [skew < 1.0; kurtosis < 1.2], so maximum likelihood estimation was used.. Few participants were missing responses for individual scale indicators (mean per item < 0.7 %, range = 0.67% - 1.01%). These data were missing completely at random due to a computer error, so FIML was used, which is the default method for dealing with missing data in MPLUS version 6.0 (Muthén & Muthén, 2008-2010).

Goodness of fit of the models was evaluated in the same was as in Study 1. Four separate models were run. The ambivalent prejudice model included all four theorized components of the prejudice scale: harm, separation, dependence, and idealization (Figure 5). Harm and separation loaded onto hostile prejudice in the ambivalent model, whereas dependence and idealization loaded onto benevolent prejudice. Hostile and benevolent prejudice were then free to covary with one another in the model. The hostile prejudice model included three of the theorized factors: harm, separation, and dependence (Figure 6). These factors loaded onto a latent factor of hostile prejudice.

The fit statistics for these models are reported in Table 7. The ambivalent model was a poor fit for the data. The chi-square test was significant, CFI and TLI fell well below the standard of .95, and SRMR was above the standard of .06. Only RMSEA fell near Hu and Bentler's (1999) recommended value of equal to or less than .08. Overall, these values suggest some misfit between the ambivalent model of prejudice and the data.

The model of hostile was a significantly better fit for the data ($\Delta\chi^2$ (40) = 168.47, $p < .001$). Modification indices for this model suggested that three correlated disturbances be added to the model, so correlations were added between the following pairs of indicator disturbances: Separation items endorsing the need for separate housing and the need for people with developmental disabilities to spend time apart from people without disabilities; Separation items endorsing the desire to avoid interactions with people with disabilities and feelings of discomfort when near people with developmental disabilities; and finally between the Dependence items endorsing that people with developmental disabilities need to be cared for and need to be protected. Looking at the individual factors, these pairs of items are more closely related to one another conceptually than they are to the other items on the same subscale. These disturbances are correlated in all subsequent analyses. With the correlated disturbances, the fit statistics suggest that this model is an acceptable fit to the data. Although the chi-square test was significant, this model was a significantly better fit for the data than the hostile prejudice model without correlated disturbances ($\Delta\chi^2$ (2) = 114.7, $p < .01$). CFI and TLI fell below the .95 standard of good fit but above .90, suggesting acceptable fit (Brown, 2006). Furthermore RMSEA fell below

.08, SRMR was below the standard of .06, and the CFI value was .92. In addition, this model has the lowest AIC of all models examined. Finally, the factor loadings for all of the indicators were significant in this model.

Dehumanization, Prejudice, and Social Policy Beliefs

Descriptive statistics (e.g., means, standard deviations, reliabilities, and correlations) for each of the scales completed in this study are listed in Table 8. All scales had acceptable scale reliabilities.

As in Study 1, the greater the dehumanization, the greater prejudice was reported toward people with Autism and Down Syndrome, $r(296) = .60$, $p < .001$. In addition, as both dehumanization and prejudice increased, support for social policies decreased, rs$(296) = -.36$ and $-.59$, respectively, ps $< .001$.

A mediation analysis using Hayes's (2014) PROCESS for SPSS (Model 4, 5000 bootstraps) was used to test the proposed model. As in Study 1, prejudice significantly mediated the relationship between dehumanization and social policy support (Figure 7). The indirect effect was significant, CI [-.55, -.28]. Dehumanization predicted greater prejudice toward people with either Autism or Down Syndrome. Prejudice in turn was associated with decreased support for social policies.

As in study 1, an alternate mediation model was tested to examine whether dehumanization mediated the association between prejudice and social policy beliefs. The relationship between prejudice and social policy beliefs was not significantly mediated by dehumanization (Figure 8), as indicated by a significant indirect effect, CI [-.07, .07].

As in Study 1, a moderated mediation model was examined to test whether the prejudice mediated the association between dehumanization and social policy support for both people with Autism and people with Down Syndrome. Specifically, I conducted a mediation analyses using group (i.e. Autism and Down Syndrome) as a moderator (PROCESS model 59, Hayes, 2013). Unlike Study 1, prejudice significantly mediated the effects of dehumanization on social policy support for both people with Autism, CI [-.58, -.27] and people with Down Syndrome, CI [-.69, .21]. Dehumanization predicted greater prejudice toward people with Autism and Down Syndrome. In turn, greater prejudice predicted less support for beneficial policies.

Comparisons Involving Type of Disability

Independent samples t-tests were performed to assess whether people with Autism and people with Down Syndrome were rated differently on dehumanization, prejudice, and social policy. People reported greater dehumanization of people with Autism ($M = 4.04$, $SD = .81$) than people with Down Syndrome ($M = 3.47$, $SD = .69$), $t(293) = 6.01$, $p < .001$, $d = .76$. Prejudice, $t(289) = 1.78$, $p > .07$, and support for social policies, $t(289) = .89$, $p = .37$, did not differ between the two conditions.

<div align="center">

Discussion

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This study provided additional support for a purely hostile model of prejudice. The CFA indicated that the hostile model of prejudice was a significantly better fit for the data than the ambivalent model of prejudice. Furthermore, the hostile model of prejudice had an adequate level of fit according to the recommendations of Hu and Bentler (1999). This support for the hostile model of prejudice suggests that people prefer that people with developmental disabilities be kept away from mainstream

society because they are seen as dangerous people who are dependent on rather than contributing to society.

Furthermore, consistent with a hostile prejudice model, prejudice toward people with developmental disabilities was strongly associated with dehumanization. Additionally, prejudice mediated the effect of dehumanization on social policy. Taken together, the data from Study 1 and Study 2 support a hostile model of prejudice toward people with developmental disabilities.

STUDY 3

Study 3 investigated the efficacy of strategies to reduce bias toward people with developmental disabilities. If this form of prejudice is hostile and closely linked to dehumanization, then an intervention designed to humanize people with developmental disabilities should result in a significant reduction of dehumanization (Hypothesis 1), a reduction in prejudice (Hypothesis 2), and an increase in support for beneficial social policies (Hypothesis 3). Furthermore, the increase in support for social policies due to the intervention should be mediated by respective decreases in dehumanization and prejudice (Hypothesis 4).

In addition, I sought to examine the efficacy of an alternative prejudice reduction strategy, individuation. Focusing on the individual and his/her specific goals and abilities, as opposed to the disability, has long been championed in fields that serve people with disabilities. Person-centered language is viewed as a method for reducing the casual depersonalization of clinical, disability focused language. Study 3 examined whether mere individuation is sufficient to reduce dehumanization, reduce prejudice, and boost support for social policies benefitting people with developmental disabilities (Hypotheses 5-7).

Finally, Study 3 investigated the implications of these strategies beyond the reduction of prejudiced attitudes and opposition to beneficial social policies. I assessed

whether individuation and/or humanization might boost participants' willingness to engage in action for social change benefitting people with developmental disabilities.

Method

Participants

One hundred and fifty-six participants (90 men, 66 women, M_{age} =19.79 years old, SD_{age} = 1.49 years) were recruited from the Introductory Psychology participant pool at Purdue University and received research credit for participating.

Design

A 2 group (Autism vs. Down Syndrome) x 3 framing condition (Neutral, Individuated, vs. Humanized) between-participants design was used.

Procedure

Participants arrived at the lab in groups of up to six people. Participants signed informed consent forms (Appendix G). Each participant sat in front of an individual computer station. Participants were randomly assigned to both framing condition and group condition.

At the beginning of the session, the experimenter explained that the study investigated the kinds of attitudes that people had toward other groups of people. Participants were told that they would read a description of a typical person with either Autism or Down Syndrome. They were further informed that the description was written by the target person's mother. Participants in the humanized condition read a description of Tim that included information about his experience of secondary emotions (e.g., jealousy), goals (e.g., to get a job), and reciprocal relationships (e.g., his mutually beneficial relationship with his brother; Appendix H). In contrast, participants

in the individuated condition read a description that included information about Tim's emotions, future plans, and relationships but without humanizing traits. Thus, Tim experienced primary emotions (e.g., anger), other-directed goals (e.g., his mother wants him to get a job), and more one-sided relationships (e.g., his brother tries to pull him out of his shell). In the neutral condition, participants read the same description of Tim with the humanizing and individuating traits removed.

After reading the description of Tim, all participants completed the dehumanization scale (Haslam, 2006; Appendix C). Also included were dehumanization items assessing beliefs about whether people with Down Syndrome and Autism participate in reciprocal social relationships and have a place in society (adapted from Bogdan & Taylor, 1989). Participants rated the dehumanization items on a response scale from 1 (not at all) to 7 (very much). Items were scored such that higher values indicated greater levels of overall dehumanization.

Next, participants completed the 18-item measure of prejudice that was developed in the Studies 1 and 2 (Appendix F). Participants rated their agreement with each item on a response scale from 1 (not at all) to 7 (very much). Items were scored such that higher values indicated greater prejudice.

Participants were asked to rate their agreement with the 13-item questionnaire assessing social policy beliefs on 1 (strongly disagree) to 7 (strongly agree) scales (Appendix E). Items were scored such that higher values indicated greater levels of support for social policies that lead to greater social inclusion and self-determination of people with developmental disabilities.

Participants also completed a measure of Social Dominance Orientation (Pratto, Sidanius, Stallworth, & Malle, 1994; Appendix I). Social Dominance Orientation was assessed as a potential covariate of support for social policies. Because Social Dominance Orientation reflects a preference for social inequality, I expect that it would be negatively correlated with support for social policies, regardless of framing condition. Participants rated their reactions to 16 statements from 1 (very negative) to 7 (very positive). A sample item is, "Sometimes other groups must be kept in their place." Responses were scored such that higher values indicate greater support for group-based social inequality.

To examine construct validity for the prejudice scale, participants responded to five semantic differential items (e.g. Bad-Good; Appendix J) on a 1 to 6 response scales. Items were scored such that lower values reflect more negative evaluations.

Then the experimenter told participants that they had completed the experiment. The experimenter explained that a local chapter of a national non-profit organization asked the researchers to distribute a questionnaire to participants in our study. The experimenter emphasized that this questionnaire was not related to the study and was completely optional. The experimenter then directed participants to the link to the organization's questionnaire and stepped out of the room for a few minutes while participants reviewed a petition supporting minimum wage protection for people with developmental disabilities and completed relevant items (Appendix K). I created an index of petition support by averaging responses to the questions, "How interested are you in being contacted by this organization in the coming months about opportunities to get involved in similar causes?" and "How willing would you be to volunteer time in

a local chapter office of the American Association of People with Disabilities over the next three months?," $r(156) = .74$, $p < .001$. The item "Please indicate how favorable you feel toward this petition," was not included in the index because it did not correlate well with the other items, rs $< .20$. This lack of association with the other petition items appears to be due to a ceiling effect on this item, $M = 5.99$, $SD = 1.48$.

After the petition, participants completed demographic measures, including ratings of previous contact with people with Down Syndrome or Autism (Appendix L). Participants rated how much previous contact they have had, the nature of their relationships (if applicable) they have had, and indicated what sources (e.g., media, jokes, etc.) have influenced their attitudes toward people with Autism or Down Syndrome on four items. In order to check whether our manipulation affected the perceived level of severity of the disability, participants rated three items assessing how debilitating, limiting, and severe they consider Autism or Down Syndrome to be. In addition to standard demographic questions, participants also reported their political affiliation.

Finally, participants were fully debriefed and asked for permission to use their data (Appendix M; Appendix N). The experimenter emphasized the potential importance of humanizing people with disabilities in everyday life in order to combat prejudice. Before leaving, participants indicated their political affiliation and whether they had any close family members with either Autism or Down Syndrome.

Results

Five participants indicated that they had a close family member (e.g., sibling) with either Autism or Down Syndrome. The following analyses were conducted with

these participants in the sample. Results do not differ when these participants are excluded from analyses.

Descriptive statistics (e.g., means, standard deviations, reliabilities, and correlations) for each of the scales completed in this study are provided in Table 9. As in Studies 1 and 2, as dehumanization increased, prejudice toward people with Autism and Down Syndrome increased, $r(156) = .45$, $p < .05$. In addition, the greater the dehumanization and the greater the prejudice, the less support for social policies benefitting people with disabilities was reported, rs$(156) = -.38$ and $-.45$, respectively, ps $< .05$. As anticipated, greater prejudice was associated with less positive evaluations of people with developmental disabilities on the semantic differential scale, $r(156) = -.36$, $p < .05$.

A 3 frame (Neutral, Individuated, vs. Humanized) X 2 group (Autism vs. Down Syndrome) ANOVA on dehumanization yielded a main effect of frame condition, $F(2, 149) = 10.96$, $p < .001$ $\eta^2_p = .13$.[3] As expected, reading the humanized description of "Tim" led participants to report less dehumanization of people with disabilities ($M = 3.43$, $SD = .56$) than participants in the neutral description condition ($M = 3.97$, $SD = .64$), $t(100) = 4.49$, $p < .001$, $d = .90$. In addition, participants reported less dehumanization following the individuated ($M = 3.62$, $SD = .61$) than the neutral description, $t(102) = 2.83$, $p < .007$, $d = .56$. The humanized and individuated frame conditions did not differ significantly, $p > .10$. These findings support our expectation that both individuation and humanization may be effective strategies for reducing dehumanization. There was also a marginal effect of group condition, $F(1, 149) = 3.71$,

$p = .06$, $\eta^2_p = .02$. People reported slightly higher dehumanization of people with Autism ($M = 3.58$, $SD = .67$) than of people with Down Syndrome ($M = 3.58$, $SD = .64$).

A 3 frame (Neutral, Individuated, vs. Humanized) X 2 group (Autism vs. Down Syndrome) ANOVA on prejudice revealed a main effect of frame condition, $F(2, 149) = 5.73$, $p = .004$, $\eta^2_p = .07$. People who read the neutral frame ($M = 3.45$, SD = .81) reported higher levels of prejudice toward people with disabilities than people who read the humanizing frame ($M = 3.13$, $SD = .71$), $t(100) = 2.12$, $p < .04$, $d = .42$, or the individuated frame ($M = 2.93$, $SD = .80$) $t(102) = 3.25$, p $< .003$, $d = 65$. The individuated frame and humanizing frame did not significantly differ from one another, $t(102) = 1.32$, $p > .19$. There were no other significant effects, $ps > .53$.

A 3 frame (Neutral, Individuated, vs. Humanized) X 2 group (Autism vs. Down Syndrome) ANOVA on social policy beliefs revealed a non-significant main effect of frame condition, $F(2, 149) = 2.24$, $p < .12$, $\eta^2_p = .03$. I conducted planned comparisons between the individuated and neutral conditions and between the humanized and neutral conditions. People expressed greater support for social policies in the individuated frame condition ($M = 5.57$, $SD = .48$) than in the neutral condition ($M = 5.29$, $SD = .85$), $t(78) = 2.08$, p $< .05$, $d = .41$. (Note that Levene's test indicated unequal variances, $F = 7.58$, $p < .008$, so degrees of freedom were adjusted from 102 to 78). However the expected difference between the neutral and humanizing ($M = 5.43$, $SD = .69$) conditions was not significant, $t(96) = -.93$, p $> .35$. (Levene's test indicated unequal variances, so degrees of freedom for this test were adjusted from 100 to 96.)

Due to links between social dominance orientation and support for social policies in previous research, I re-analyzed social policy beliefs using a 3 frame

condition x 2 group condition ANCOVA with social dominance orientation as a covariate. Social dominance orientation was a significant covariate, $F(1, 148) = 44.99$, $p < .001$, $\eta^2_p = .23$, with higher levels of social dominance orientation associated with decreased support for social policies benefitting people with Autism and Down Syndrome. With SDO in the model, the main effect for framing condition was significant, $F(2, 148) = 5.16$, $p < .008$, $\eta^2_p = .07$. Participants who read the individuated description ($M = 5.64$, $SD = .48$) reported greater support for social policies than those who read the neutral frame, ($M = 5.26$, $SD = .85$), $t(102) = 2.82$, $p < .01$, $d = .55$. Unexpectedly, people who read the individuated description also reported significantly greater support for social policies than those who read the humanized descriptions ($M = 5.40$, $SD = .69$), $t(102) = 2.07$, $p < .05$, $d = .40$. However, the humanized condition did not differ from the neutral condition, $t(100) = .91$, $p > .36$, $d = .18$.

The 3 frame (Neutral, Individuated, vs. Humanized) X 2 group (Autism vs. Down Syndrome) ANOVA on the index of petition support showed no significant effects (ps > .25). An ANCOVA on petition support examining SDO as a covariate revealed no significant effects (ps > .22). Although I expected that reading the humanized frame would increase favorability toward the petition (relative to the neutral condition), there were no significant differences between conditions.

Next, I examined whether support for the petition was related to political affiliation. The majority of participants indicated that they were affiliated with the Democratic ($n = 56$) or Republican ($n = 53$) political parties, with the remainder of participants selecting Libertarian ($n = 17$), Tea Party ($n = 1$), or Other ($n = 28$). Democrats reported marginally greater support for the petition ($M = 3.22$, $SD = 1.85$)

than Republicans ($M = 2.63$, $SD = 1.49$), $t(104.37) = 1.84$, $p < .07$. Levene's test for equality of variances was significant, $F = 5.42$, $p < .03$, indicating unequal variances. The degrees of freedom were adjusted from 107 to 104.37. Democrats were also significantly more likely to sign the petition than Republicans, $\chi^2 (1) = 4.01$, $p < .05$.

Mediation Analysis

The effect of the interventions on social policy through dehumanization and prejudice was tested using a multiple serial mediation analysis. If prejudice toward people with developmental disabilities is hostile and rooted in dehumanization, then the interventions ought to increase support for social policies through reduced dehumanization and reduced prejudice. In Study 3, both individuation and humanization interventions significantly reduced dehumanization and prejudice relative to the neutral condition. Thus, I collapsed across treatment condition to examine the effects of the interventions compared to the control on social policy beliefs.

Specifically, I conducted a mediation analysis to examine the effect of the manipulation (0 = neutral, 1 = individuated/humanized) on social policy through dehumanization and prejudice (PROCESS model 6, Hayes, 2013). The indirect effect was significant, CI [.02, .18]. As anticipated, the relationship between framing condition and social policy support was mediated by dehumanization and prejudice (Figure 9). The individuation and humanizing fames were associated with significantly less dehumanization. Dehumanization was associated with greater prejudice, which in turn predicted decreased support for social policies. This suggests that the individuated and humanized frames increased participants' support for social policies by reducing

dehumanization of people with developmental disabilities and prejudice toward people with developmental disabilities.

Discussion

This study demonstrated the effectiveness of both individuation and humanization strategies at reducing bias toward people with Autism and Down Syndrome. Although only the humanization frame attributed theoretically humanizing traits to "Tim," both the humanization frame and the individuating frame led to significant reductions in dehumanization and prejudice toward people with developmental disabilities. Even in the absence of uniquely human traits (Haslam, 2006) or secondary emotions (Leyens et al., 2001), simply learning more about Tim's personal preferences and relationships led participants to report less dehumanization of and prejudice toward people with either Autism or Down Syndrome. These findings suggest that individuation may be an effective tool for reducing bias and dehumanization toward people with more severe developmental limitations, who may be unable to effectively express to others that they possess uniquely human traits and emotions.

Although only individuation led to a significant increase in support for social policies, serial mediation analyses demonstrated that the interventions had a significant, positive indirect effect on support for beneficial social policies through their effects on dehumanization and prejudice. There were no interactions between group condition and frame condition, suggesting that the effects of the interventions on dehumanization, prejudice, and social policy beliefs were not moderated by group condition (Autism vs. Down syndrome).

GENERAL DISCUSSION

The present research investigated the nature of prejudice toward people with Autism and Down Syndrome. Study 1 and Study 2 provided initial and confirmatory support for a hostile model of prejudice. In both studies, the hostile model of prejudice provided a better fit to the data than the ambivalent model of prejudice. This hostile model of prejudice has three primary components: beliefs that people with Autism and Down Syndrome may be dangerous, desire for social distance from people with Autism and Down Syndrome, and beliefs that people with Autism and Down Syndrome are dependent on assistance from others. Together, these three subcomponents of prejudice toward people with Autism and Down Syndrome paint a rather bleak picture. People with these disabilities are viewed negatively in terms of requiring assistance, being a risk to others, and necessitating separation from the rest of society.

This hostile form of prejudice was consistently associated with dehumanization. Across three studies, the greater the prejudice, the greater the dehumanization reported toward people with Autism and Down Syndrome. This link between prejudice toward people with developmental disabilities and dehumanization matters because of the severe consequences of dehumanization for the treatment of marginalized group members. Dehumanization has been linked to harsher and more punitive punishment of dehumanized group members (Goff et al., 2014; Bandura et al., 1975). This link

between bias and dehumanization may explain the extreme forms of discrimination and harm committed against people with developmental disabilities in the twentieth century (e.g., O'Brien, 1999).

Furthermore, prejudice toward people with Autism and Down Syndrome was consistently associated with decreased support for social policies. Across all three studies, as both prejudice and dehumanization increased, support for social policies benefitting people with developmental disabilities decreased. Although one subcomponent of this bias reflects the belief that people with Autism and Down Syndrome need assistance, as reported prejudice increased participants reported decreased support for social policies providing that assistance. In fact, prejudice toward people with Autism and Down Syndrome significantly mediated the link between dehumanization and decreased support for beneficial social policies. Dehumanization predicted greater prejudice, which was associated with less support for social policies. Thus prejudice and dehumanization undermine support for the very social policies that can help people with developmental disabilities flourish.

Although the present research provided consistent support for dehumanization as a root of bias toward people with developmental disabilities, the causal relationship between dehumanization and prejudice may not be unidirectional. In some circumstances, greater dehumanization may produce greater prejudice toward outgroups. Similarly, growing prejudice could promote greater dehumanization of others. Future research should further examine how dehumanization and prejudice feed into and contribute to one another.

Although the present research supported a hostile model of prejudice toward people with developmental disabilities, more ambivalent forms of prejudice toward this group may form under certain circumstances. Most participants in the present research reported having limited or no contact with people with developmental disabilities. Although greater contact with people with disabilities has been linked to lower levels of prejudice in previous research (McManus, Feyes, & Saucier, 2011), it is possible that closer relationships with people with developmental disabilities might lead to the development of more ambivalent forms of bias. Close relationships with people with developmental disabilities could increase people's endorsement of benevolent biases, instead of truly reducing bias. Additional research is needed to investigate this possibility.

This consistent link between prejudice and dehumanization points to possible interventions to reduce bias and increase support for policies that would provide protection for people with disabilities within society. Study 3 examined the efficacy of two distinct interventions to reduce dehumanization of people with Autism and Down Syndrome. The humanization strategy portrayed a single person with a developmental disability as possessing theoretically humanizing traits (e.g., complex secondary emotions, close reciprocal social relationships, and personal goals). The second strategy involved merely individuating a person with a developmental disability. The target person was not presented as possessing theoretically humanizing traits, but as simply an individual with a routine, and emotions, and connections. Both strategies were effective for reducing dehumanization and prejudice. That is, both viewing a person with disabilities as possessing particular, humanizing traits, and merely viewing

them as an individual person led to a significant reduction in dehumanization and prejudice relative to a neutral condition. Furthermore, when controlling for social dominance orientation, individuation led to a moderate-sized boost in support for beneficial social policies, whereas humanization led to a smaller boost that did not reach statistical significance. Finally, mediation analyses demonstrated that these strategies (relative to a neutral condition) affected social policy support by reducing dehumanization, which then led to lower levels of prejudice toward people with developmental disabilities.

Although the interventions were anticipated to boost participants' support of the petition in favor of minimum wage protection for people with Autism and Down Syndrome, they had no effect even when controlling for social dominance orientation. One possible reason the interventions failed to boost support for social policies is that the index of petition support was not significantly associated with either dehumanization or prejudice. Thus, any changes in the variables primarily targeted by the intervention would not boost support for the petition. Furthermore, the petition was only weakly associated with social policy beliefs. This unexpectedly weak association may have been due to the index of petition support itself. This index included only two items (i.e., willingness to be contacted by the organization, willingness to volunteer with the organization). The third item, assessing favorable feelings toward the petition, was not related to the other two items and was removed from the index. Thus the support for petition index assessed willingness to engage in prosocial actions to benefit people with disabilities, as opposed to favorable feelings toward the petition and the policy it supported. Other factors may have played a more important role in

determining participants' willingness to engage in prosocial behavior than their level of prejudice and social policy beliefs.

The efficacy of both humanization and individuation for reducing dehumanization and prejudice have important policy implications. First, these findings suggest that it is important to think of and treat people with developmental disabilities as individuals. In addition, these findings suggest that initiatives already in place in industries that provide services to people with disabilities (e.g., person-first language, person-centered care planning) may be useful tools for reducing dehumanization and bias against people with developmental disabilities, at least in the specific settings where they receive care. Furthermore, individuation may have more practical utility as an intervention to reduce bias toward people with developmental disabilities. People with more severe communication and functional limitations due to their developmental disability may have difficulty displaying traits and characteristics associated with humanization (e.g., secondary emotions; Leyens et al., 2000). However, they are still unique individuals and capable of being seen as such. Thus, individuation may be an easier strategy to implement to reduce bias toward people with more severe limitations.

These findings suggest that policies promoting the involvement of people with developmental disabilities within their local communities may help reduce dehumanization and prejudice. Previous research has shown that meaningful relationships and contact with people with intellectual disabilities is linked to lower levels of prejudice (McManus, Feyes, & Saucier, 2011). One way in which meaningful contact might reduce prejudice toward people with developmental disabilities is by increasing individuation. By spending time with and getting to know an individual with

a developmental disability, one may come to see people with disabilities as unique individuals. Thus, a person may see people with disabilities both as distinct individuals, as opposed to fungible group members, and as human beings (Bogdan & Taylor, 1989). Future research should investigate whether meaningful contact is promoting individuation of people with disabilities.

The present research has both strengths and limitations. The first two studies presented and assessed the validity of a novel measure of prejudice toward people with developmental disabilities. In Study 3, the hostile measure of prejudice was only moderately associated with a semantic differential scale of evaluations of people with developmental disabilities. Although the measure of prejudice was associated with dehumanization and social policy beliefs in theoretically anticipated ways, future research should further examine the convergent validity of the hostile measure of prejudice. In addition, the first two studies did not have large enough samples to fully test measurement invariance for prejudice toward people with Autism and prejudice toward Down Syndrome. Multiple groups CFA require the estimation of a larger number of parameters than other forms of CFA. Thus, these analyses require much larger samples. Future studies should examine measurement invariance of the hostile prejudice measure using a multiple groups CFA in a larger sample to examine whether the measure of prejudice performs similarly for both groups.

Study 3 demonstrated that both individuation and humanization were effective strategies for reducing bias and dehumanization toward people with developmental disabilities. The manipulations used in this study were relatively subtle. Participants read a brief paragraph about a day in the life of a single person with a developmental

disability. Although this manipulation was successful, Study 3 was a single demonstration of the efficacy of these strategies for reducing dehumanization and bias. Additional research is needed to further determine the relative advantages and disadvantages of each strategy, and to further examine their efficacy as prejudice reduction strategies.

Overall, the present research suggests that increasing humanization can both combat prejudice and potentially improve outcomes for dehumanized groups. Coupled with previous work showing that dehumanization uniquely predicted mistreatment of marginalized group members (Goff et al., 2013), this research suggests that addressing dehumanization in addition to prejudice is important for improving outcomes for dehumanized group members.

NOTES

[1] Developmental disabilities are defined by the Developmental Disabilities Assistance and Bill of Rights act of 2000 as mental, physical, or a combination of impairments that appear before age 22, are chronic, and result in at least three of the following severe limitations: self-care, language, learning, self-direction, independent living, and economic self-sufficiency.

[2] Like prejudice, public stigma is characterized by the affective, cognitive, and behavioral responses that people have to a stigmatized person (for a review, see Werner et al., 2012).

[3] When gender was included in the model as a predictor, there were no significant main effects of gender or interactions with gender on dehumanization or prejudice. There was a significant main effect of gender on social policy beliefs, but no interaction. When included in the model predicting social policy support as a factor, gender had a significant main effect, $F(1, 143) = 6.83$, $p < .02$, $\eta^2 = .05$. Women reported greater support of social policies ($M = 5.61$, $SD = .55$) than men ($M = 5.30$, $SD = .76$), $t(152.9) = 2.92$, $p < .005$. Levene's test for equality of variances was significant, $F = 7.59$, $p < .008$, indicating unequal variances. The degrees of freedom were adjusted from 153 to 152.9. This main effect was qualified by a significant interaction with framing condition, $F(2, 143) = 4.96$, $p < .01$. In the neutral condition,

women expressed significantly more support for social policies ($M = 5.79$, $SD = .56$)
than men ($M = 5.00$, $SD = .87$), $t(48) = 3.94$, $p < .001$. Levene's test indicated unequal
variances, $F = 8.69$, p $< .006$. The degrees of freedom were adjusted from 49 to 48.
However, there were no significant gender differences in the individuated framing
condition, $t(51) = .23$, $p > .80$, or in the humanized priming condition, $t(49) = -.68$, $p >$
$.50$.

When included in the model predicting petition support, gender had a
significant main effect, $F(1, 143) = 10.88$, $p < .002$, $\eta^2 = .07$. Women reported greater
support of the petition ($M = 3.36$, $SD = 1.82$) than men ($M = 2.52$, $SD = 1.49$), $t(123) =$
3.07, $p < .004$. Levene's test suggested unequal variances, $F = 4.14$, $p < .05$. The
degrees of freedom were adjusted from 153 to 123. This main effect is qualified by a
significant interaction between gender and framing condition, $F(2, 143) = 5.72$, $p <$
$.005$, $\eta^2 = .07$. In the neutral framing condition, women reported greater support for the
petition ($M = 3.92$, $SD = 2.05$) than men ($M = 1.89$, $SD = 1.26$), $t(26) = 3.91$, $p < .002$.
Levene's test suggested unequal variances, $F = 13.86$, $p < .002$, thus the degrees of
freedom were adjusted from 49 to 26. However, men and women did not differ in their
support of the petition in either the individuated condition, $t(51) = .47$, $p > .63$, or the
humanized condition, $t(49) = .69$, $p > .49$. There were no other significant main effects
or interactions in the model for petition support when gender was included.

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APPENDICES

Appendix A: Tables

Table 1

Study 1: Descriptive Statistics for Indicators on the Prejudice Toward People With

Developmental Disabilities Scale in Study 1

Subscale	*M*	*SD*	Range	Skew	Kurtosis
Harm					
1. Harm Others	3.59	1.54	1-7	.175	-.44
2. Aggressive	3.90	1.52	1-7	-.07	-.68
3. Impulsive	3.79	1.51	1-7	.00	-.50
4. Moral Control	3.72	1.45	1-7	.01	-.43
Separate					
5. Comfortable (R)	5.17	1.69	1-7	-.53	-.85
6. Welcome (R)*	6.09	1.14	1-7	-1.41	2.00
7. Same Class	3.16	1.75	1-7	.36	-.89
8. Housing	3.31	1.55	1-7	.20	-.67
9. Spend Time	3.10	1.58	1-7	.47	-.44
Dependent					
10. Caretakers	4.15	1.47	1-7	-.21	-.41
11. Easily Exploited	4.50	1.37	1-7	-.10	-.29
12. Childlike	4.21	1.49	1-7	-.25	-.34

(*table continues*)

Subscale	*M*	*SD*	Range	Skew	Kurtosis
13. Independent lives (R)	3.22	1.54	1-7	.29	-.67
14. Accompanied	3.60	1.48	1-7	.18	-.55
15. Unable to Care	3.32	1.47	1-7	.31	-.41
Idealization					
16. Make Sacrifices	4.27	1.47	1-7	-.35	-.29
17. Heroes	4.59	1.44	1-7	-.31	-.34
18. Sweeter	4.11	1.37	1-7	-.06	-.32
19. Inspirational	5.07	1.42	1-7	-.40	-.32

Note. *N* = 196.

*removed from scale

Table 2

Correlations Between Indicators on the Prejudice Toward People With Developmental Disabilities Scale

Variable	Subscale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Harm Others	Harm	–	**.50**	**.70**	**.67**	**-.25**	-.14	**.22**	**.31**	**.33**	**.46**	**.34**	**.64**	**.54**	**.56**	**.59**	.06	**-.16**	-.10	-.14
2. Aggressive	Harm		–	**.52**	**.43**	-.12	-.06	**.18**	**.16**	**.21**	**.29**	**.23**	**.41**	**.33**	**.38**	**.27**	-.07	**-.21**	**-.16**	**-.18**
3. Impulsive	Harm			–	**.65**	**-.27**	**-.21**	**.33**	**.21**	**.38**	**.38**	**.36**	**.58**	**.49**	**.56**	**.55**	-.05	**-.22**	-.06	**-.17**
4. Moral Control	Harm				–	**-.23**	**-.16**	**.34**	**.28**	**.33**	**.50**	**.49**	**.66**	**.54**	**.65**	**.59**	.07	-.07	.00	**-.16**
5. Comfortable	Sep					–	**.34**	**-.29**	-.12	**-.30**	**-.19**	-.04	**-.21**	**-.26**	**-.23**	**-.20**	**.19**	**.33**	**.27**	**.39**
6. Welcome	Sep						–	**-.20**	-.11	**-.26**	-.07	.10	-.12	**-.28**	**-.25**	**-.23**	**.30**	**.25**	**.17**	**.34**
7. Same Class	Sep							–	**.23**	**.26**	**.26**	**.24**	**.29**	**.24**	**.33**	**.40**	-.03	**-.22**	-.02	**-.23**
8. Housing	Sep								–	**.24**	**.31**	.14	**.25**	**.26**	**.27**	**.17**	.03	-.03	-.05	**-.15**
9. Spend Time	Sep									–	**.27**	**.21**	**.33**	**.35**	**.44**	**.33**	-.07	**-.22**	-.03	**-.27**
10. Caretakers	Dep										–	**.32**	**.51**	**.40**	**.43**	**.47**	**.12**	.00	-.04	-.09
11. Exploited	Dep											–	**.45**	**.24**	**.35**	**.30**	**.28**	.00	.11	.00
12. Childlike	Dep												–	**.53**	**.55**	**.53**	.12	-.11	.03	**-.15**
13. Independent	Dep													–	**.61**	**.56**	-.13	**-.27**	**-.15**	**-.27**
14. Accompanied	Dep														–	**.55**	-.01	**-.23**	-.11	**-.26**
15. Unable to Care	Dep															–	.01	-.12	-.08	**-.21**
16. Sacrifices	Ideal																–	**.44**	**.28**	**.35**
17. Heroes	Ideal																	–	**.30**	**.59**
18. Sweeter	Ideal																		–	**.39**
19. Inspirational	Ideal																			–

Note. Correlations in bold typeface were significant, $p < .05$.

Table 3

Study 1 Model Fit Statistics

Model	χ^2	*df*	*p*	*CFI*	*TLI*	*RMSEA*	*SRMR*	*AIC*
1. Ambivalent Model	171.57	113	.000	.95	.94	.052	.060	10691.72
2. Hostile Model	91.23	63	.01	.97	.97	.048	.037	8124.60
3. MIMIC model with correlated disturbances	122.76	75	.000	.96	.95	.057	.046	8401.84

Note. * *p* < .001.

Table 4

Study 1 Descriptive Statistics

Measure	*M*	*SD*	1	2	3
1. Dehumanization	3.76	.65	.83	.55**	-.46**
2. Prejudice	3.66	1.00		.89	-.50**
3. Social Policy Beliefs	5.36	.86			.85

Note. N = 196. Values in diagonal represent scale reliabilities.

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

Table 5

Study 2: Descriptive Statistics for Indicators on the Prejudice Toward People With

Developmental Disabilities Scale

Subscale	*M*	*SD*	Range	Skew	Kurtosis
Harm					
1. Harm Others	2.72	1.50	1-7	.73	-.06
2. Aggressive	3.73	1.61	1-7	.05	-.67
3. Impulsive	3.88	1.56	1-7	-.13	-.60
4. Harmless (R)	3.26	1.45	1-7	.36	-.30
5. Appropriate (R)	3.95	1.32	1-7	.15	.13
Separate					
6. Same Class	4.00	1.65	1-7	.09	-.83
7. Housing	2.89	1.75	1-7	.62	-.52
8. Spend Time	2.86	1.69	1-7	.76	-.09
9. Not Interact	2.64	1.76	1-7	.89	-.21
10 Uncomfortable	2.98	1.83	1-7	.54	-.84
Dependent					
11. Independent lives (R)	3.12	1.54	1-7	.35	-.54
12. Need Care	4.68	1.53	1-7	-.32	-.56
13. Exploited* removed	5.11	1.30	1-7	-.50	.34

(*table continues*)

Subscale	*M*	*SD*	Range	Skew	Kurtosis
14. Protect	5.04	1.36	1-7	-.43	-.21
15. Decisions	3.78	1.52	1-7	.03	-.51
Idealization					
16. Heroes	3.70	1.68	1-7	.07	-.60
17. Hardships*removed	5.57	1.23	1-7	-.92	1.20
18. Sweeter	4.14	1.57	1-7	-.23	-.34
19. Inspirational	4.65	1.66	1-7	-.55	-.40

Note. *N* = 296.

Table 6

Study 2: Correlations Between Indicators on the Prejudice Toward People With Developmental Disabilities Scale

Variable	Subscale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Harm Others	Harm	–	**.59**	**.49**	**.38**	**.35**	**.20**	**.37**	**.43**	**.53**	**.38**	**.38**	**.17**	-.04	.06	**.41**	**-.16**	**-.32**	**-.20**	**-.22**
2. Aggressive	Harm		–	**.65**	**.39**	**.44**	**.27**	**.27**	**.31**	**.46**	**.40**	**.35**	**.26**	.04	.09	**.39**	**-.15**	**-.21**	**-.30**	**-.23**
3. Impulsive	Harm			–	**.36**	**.53**	**.28**	**.23**	**.24**	**.36**	**.37**	**.29**	**.25**	.04	**.20**	**.30**	**-.14**	-.09	**-.27**	**-.15**
4. Harmless	Harm				–	**.32**	**.24**	**.13**	**.16**	**.30**	**.29**	**.27**	.09	-.04	.00	**.22**	**-.24**	-.11	**-.35**	**-.25**
5. Appropriate	Harm					–	**.32**	**.16**	**.15**	**.37**	**.26**	**.36**	**.22**	.06	**.21**	**.31**	**-.21**	**-.16**	**-.28**	**-.32**
6. Same Class	Sep						–	**.16**	**.23**	**.32**	**.26**	**.36**	**.24**	-.01	.07	**.33**	**-.21**	**-.19**	**-.23**	**-.26**
7. Housing	Sep							–	**.41**	**.31**	**.25**	**.26**	**.20**	**.14**	**.19**	**.30**	**-.12**	-.04	-.00	-.03
8. Spend Time	Sep								–	**.34**	**.29**	**.36**	**.28**	.08	.07	**.40**	-.05	**-.28**	-.06	-.06
9. Not Interact	Sep									–	**.66**	**.44**	**.24**	.07	.03	**.44**	**-.36**	**-.35**	**-.25**	**-.44**
10. Uncomfortable	Sep										–	**.41**	**.23**	.01	.04	**.35**	**-.34**	**-.24**	**-.23**	**-.37**
11. Independent	Dep											–	**.48**	.10	**.22**	**.57**	**-.27**	**-.25**	-.11	**-.35**
12. Need Care	Dep												–	**.20**	**.54**	**.52**	-.10	-.05	.04	-.08
13. Exploited	Dep													–	**.17**	.11	.08	**.20**	.11	.08
14. Protect	Dep														–	**.35**	**.17**	**.16**	**.13**	**.20**
15. Decisions	Dep															–	**-.17**	**-.20**	-.02	**-.22**
16. Heroes	Ideal																–	**.22**	**.36**	**.73**
17. Hardships	Ideal																	–	**.23**	**.40**
18. Sweeter	Ideal																		–	**.46**
19. Inspirational	Ideal																			–

Note. Correlations in bold typeface were significant, $p < .05$.

Table 7

Study 2 Model Fit Statistics

Model	χ^2	*df*	*p*	*CFI*	*TLI*	*RMSEA*	*SRMR*	*AIC*
1. Ambivalent Prej.*	472.82	114	.000	.82	.78	.10	.09	17711.08
2. Hostile Prej.	304.35	74	.000	.84	.81	.10	.07	14587.80
3. Hostile Prej with correlated disturbances	189.65	72	.000	.92	.90	.07	.05	14477.10

Note. *Model error. Estimates are unreliable.

Table 8

Study 2 Descriptive Statistics

Measure	*M*	*SD*	1	2	3
1. Dehumanization	3.76	.81	.88	.60**	-.36**
2. Prejudice	3.54	.94		.86	-.59**
3. Social Policy Beliefs	5.56	.92			.85

Note. $N = 296$. Values in diagonal represent scale reliabilities.

** $p < .001$

Table 9

Study 3 Descriptive Statistics, Reliabilities, and Correlations for all Scales

Index	Means	*SD*	1	2	3	4	5	6
1. SDO	2.68	.92	.89	**-.29**	.14	**.18**	**-.47**	-.04
2. Semantic Dif.	4.69	.95		.87	**-.39**	**-.36**	**.40**	**.23**
3. Dehumanization	3.65	.63			.86	**.45**	**-.38**	-.16
4. Prejudice	3.32	.75				.78	**-.45**	-.11
5. Social Policy	5.28	.66					.75	**.16**
6. Petition	2.88	1.68						.74

Note. *N* =156. Values on the diagonal represent scale reliabilities.

Bold numbers are *p* < .05

Appendix B: Figures
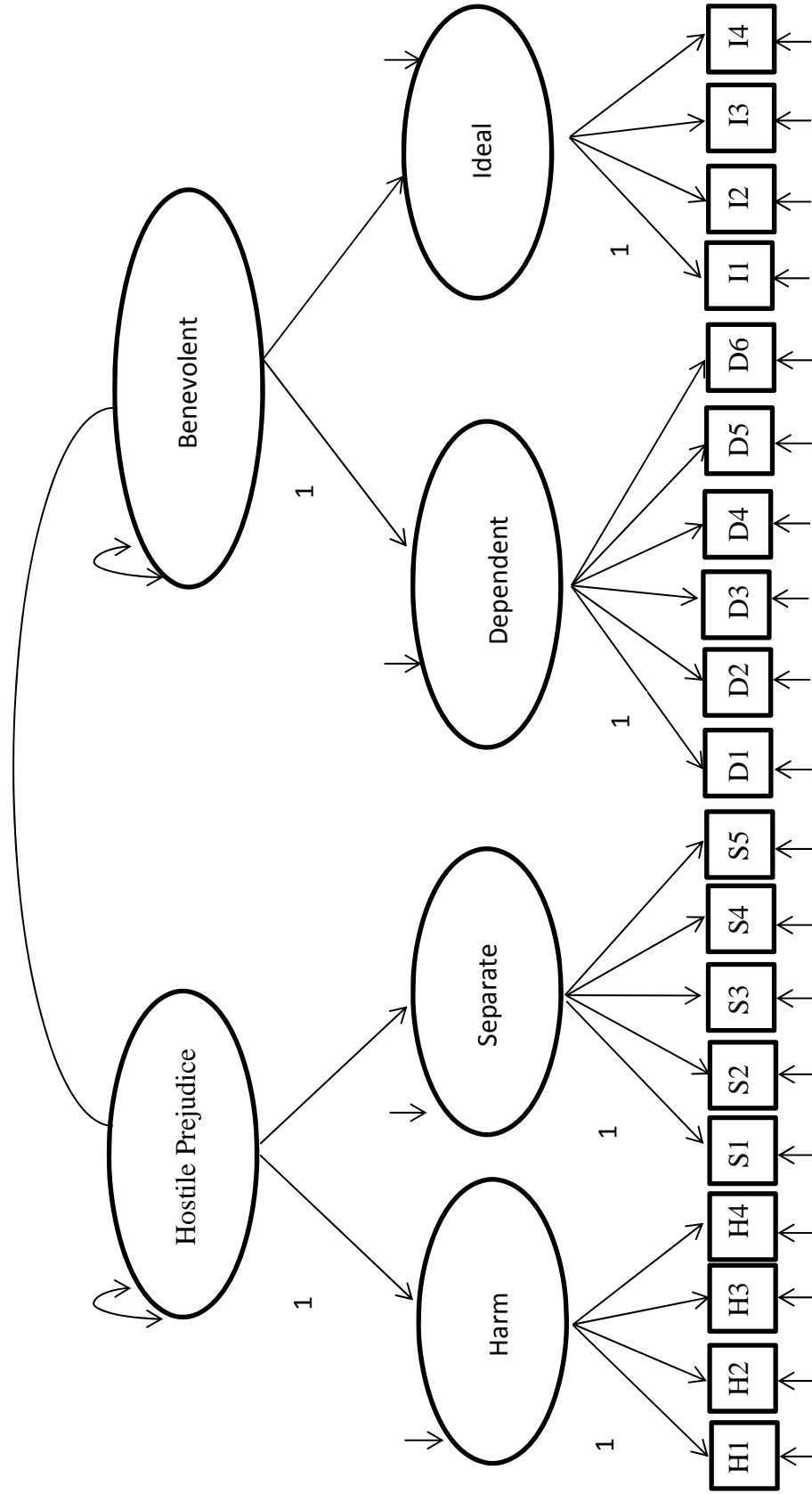
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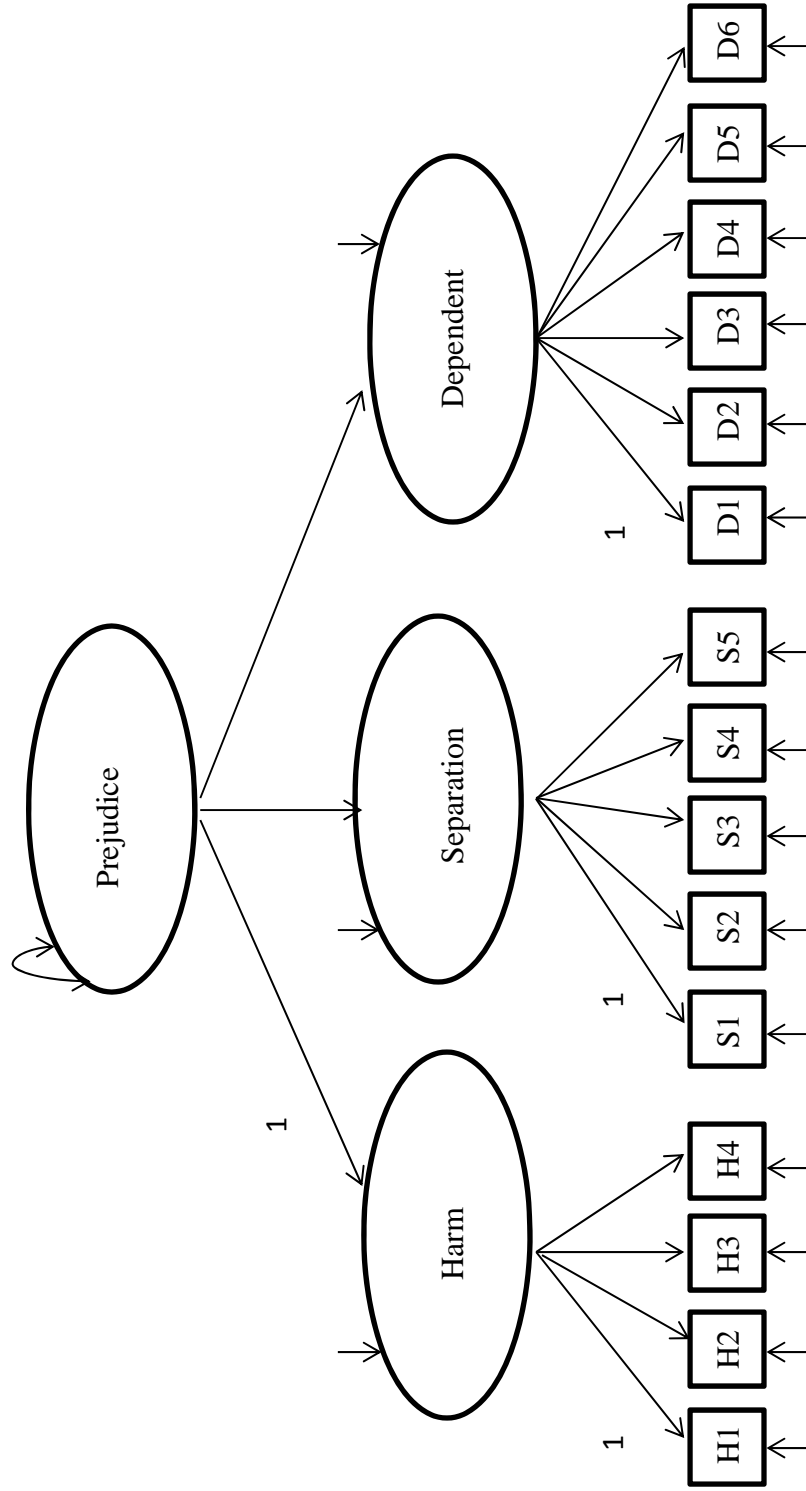
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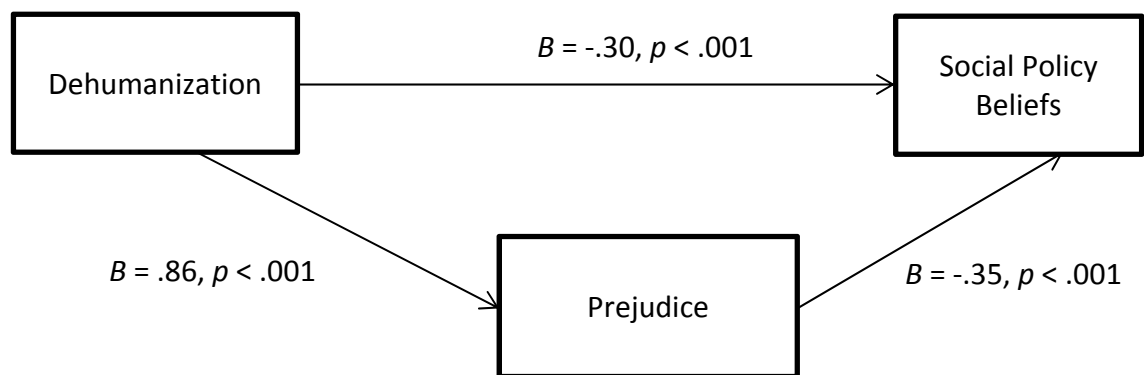
Figure 3. Study 1 mediation model.
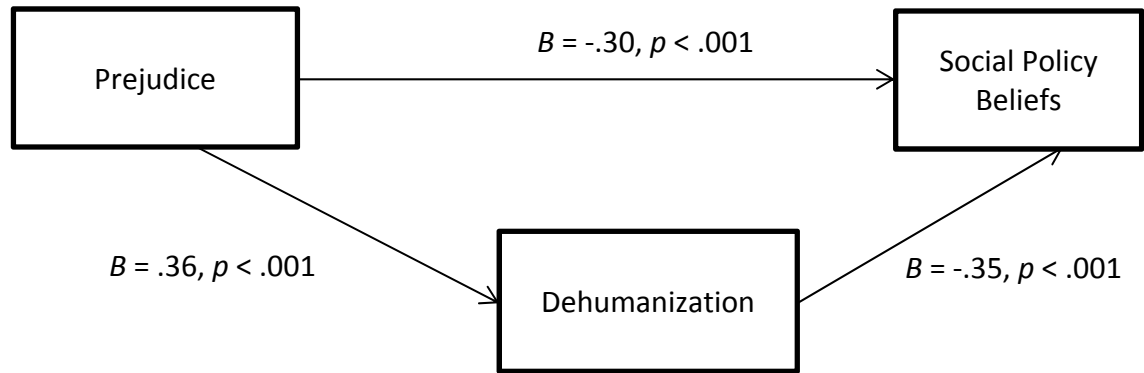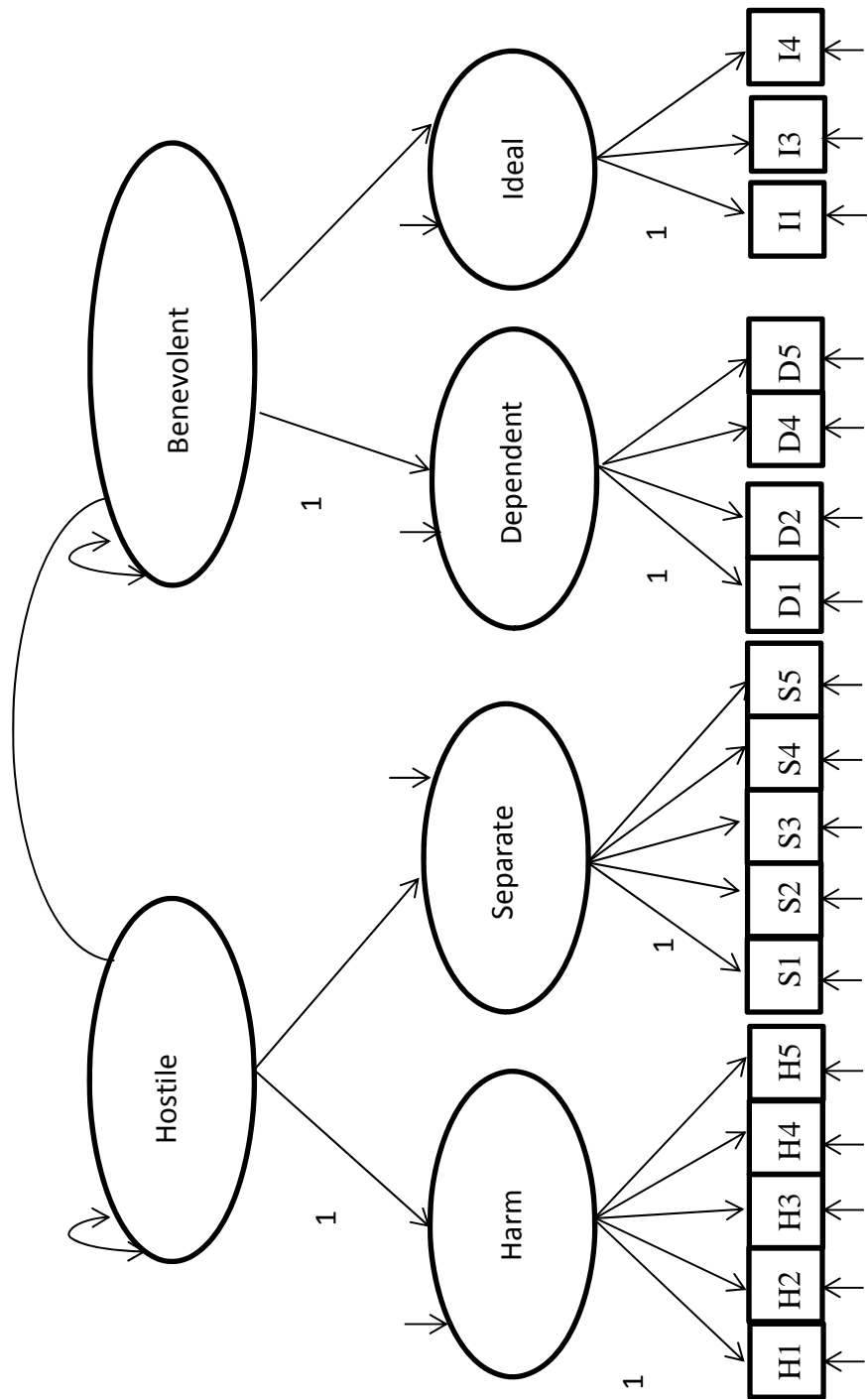
Figure 4. Study 1 alternate mediation model.

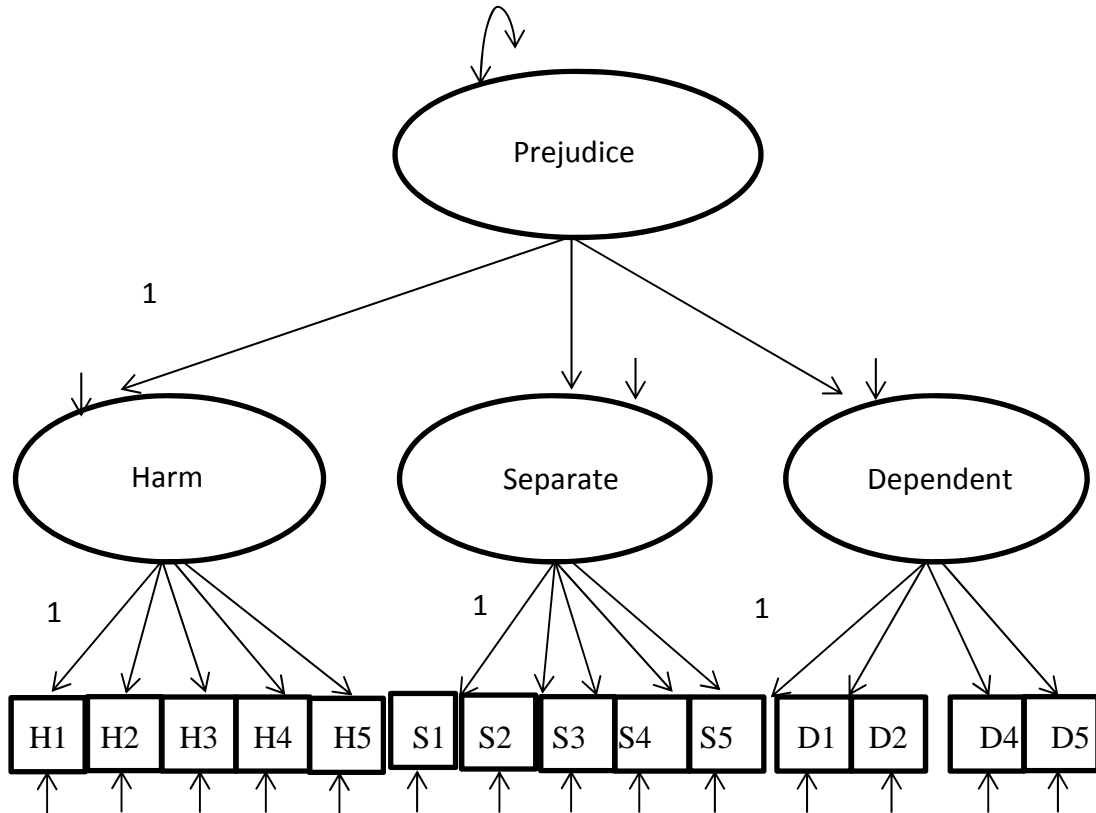*Figure 5.* Study 2 ambivalent model of prejudice.
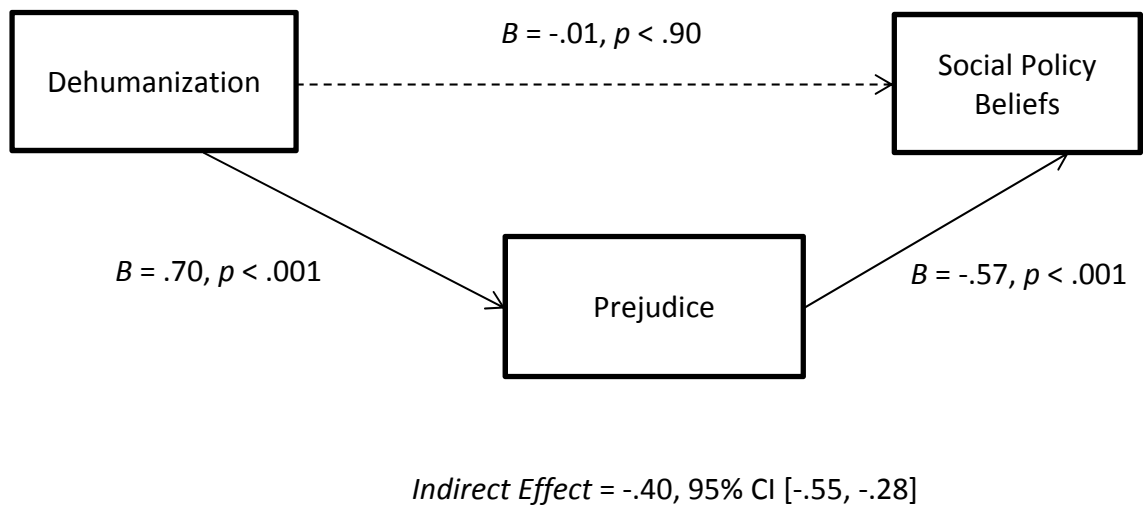
Figure 6. Study 2 hostile model of prejudice.

Figure 7. Study 2 mediation model.

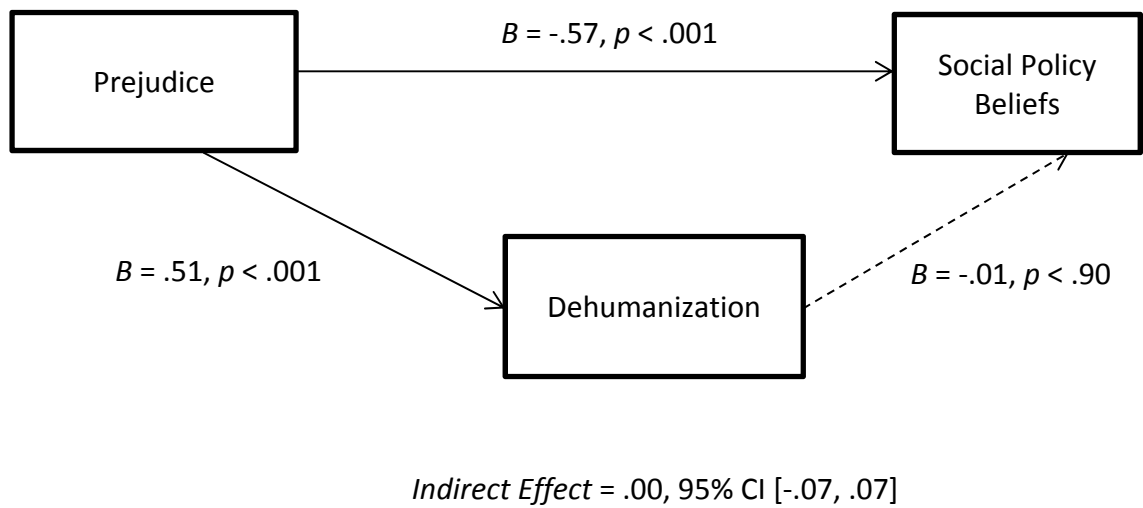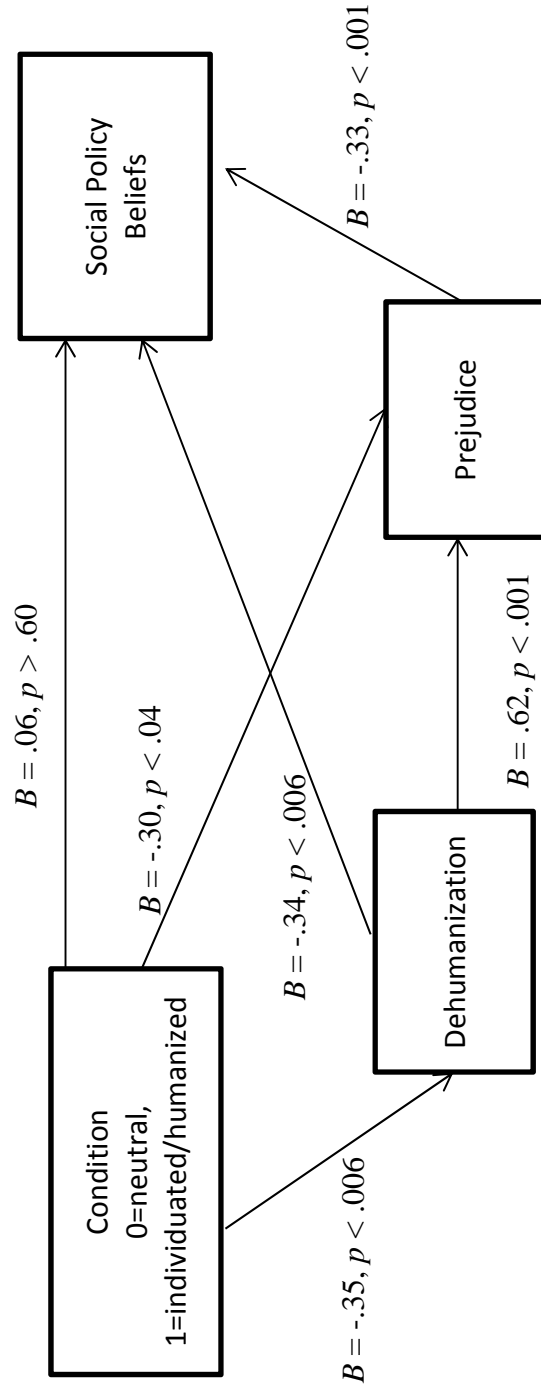*Figure 8.* Study 2 alternate mediation model.

Figure 9. Study 3 mediation analysis.