

UNIVERSITY OF CALIFORNIA

Santa Barbara

Motivated disbelief in immigration policy:  
When disagreeing with the solution means denying the problem

A Thesis submitted in partial satisfaction of the  
requirements for the degree Masters of Arts  
in Psychological & Brain Sciences

by

Jacob S. Brookfield

Committee in charge:

Professor David Sherman, Chair

Assistant Professor Kyle Ratner

Professor Kyle Lewis

September 2016

The thesis of Jacob S. Brookfield is approved.

---

Kyle Ratner

---

Kyle Lewis

---

David Sherman, Committee Chair

August 2016

## ACKNOWLEDGEMENTS

I would like to thank my parents for their unwavering support, David Sherman for his guidance and mentorship throughout the research process, as well as David M. Marx and Sei Jin Ko for their mentorship.

## ABSTRACT

Motivated disbelief in immigration policy:

When disagreeing with the solution means denying the problem

by

Jacob S. Brookfield

The motivation to be competent and correct in one's beliefs has been investigated in empirical research looking at the psychological biases that occur when individuals attempt to explain why their beliefs are correct, despite the presence of evidence that contradicts that. In two studies, I examine one form of these phenomena, motivated disbelief, in the novel domain of immigration policy. After reading a passage on the types of harm that undocumented immigrants experience in U.S., politically conservative participants who read about a proposed immigration policy that was incongruent with their ideology minimized the extent to which they perceived injured undocumented workers as neglected relative to conservative participants who read about a more ideologically-congruent policy (study 1). Similarly, conservative participants who showed low support for a given policy minimized the extent to which they perceived neglect toward undocumented workers and the extent to which undocumented workers experience wage theft (study 2). These studies provide first steps toward unpacking the phenomenon of motivated disbelief within a complex societal issue with multiple groups of people involved (i.e., liberals, conservatives, immigrants).

Future work will investigate ways to disrupt these biases in order to better understand the process of their occurrence.

## Motivated disbelief in immigration policy:

### When disagreeing with the solution means denying the problem

Intergroup conflict can have deadly consequences if not resolved (Buzan & Waeber, 2003).

History and empirical evidence suggest, though, that compromise between groups is difficult to achieve, particularly when the conflicts are long-standing and violent with a historical basis (Diehl, Reifschneider, & Hensel, 1996; Ross & Stillinger, 1991). Lay theory says that if individuals in conflict can just come to a compromise on the objective content of proposed solutions, then peace can be achieved. However, the content of the proposed solutions for conflicts are not always evaluated objectively by the individuals in those conflicts.

Psychological self- and group- biases can act as barriers to conflict resolution (Bar-Tal, 2000; Bar-Tal & Halperin, 2011). That is, individuals may disagree with proposed policies not only due to their disagreement with the objective facts of the policies, but because the individuals select and interpret the content of the policies in order to match with or justify their stance or ideology. Even more, the perception of the solutions may not be the only important factor related to compromise that is perceptually skewed due to these biases. The specific “problems” or issues associated with the conflict may be seen in a biased manner when the proposed solutions for those problems are unfavorable to one’s beliefs. This phenomenon of solution aversion has been examined in the domain of climate change and home intruder violence (Campbell & Kay, 2014) with the conclusion that individuals view the world and its problems as consistent or supportive of our beliefs, because they must be able to rationalize their beliefs.

In the following section, I will review the literature on motivated reasoning and specifically, motivated disbelief. Solution aversion, which is a case of motivated disbelief,

has yet to be examined within a complex domain that involves more than two opposing groups. Given this, I will then describe two studies which I conducted aimed at examining solution aversion in the domain of immigration policy (study 1) and solution support as a possible moderator of the effect (study 2).

### **Motivated reasoning**

Individuals typically believe that their reasons for holding the beliefs that they do, are objective (Ross & Ward, 1995). They see the evidence that they have collected, which supports their prior formed hypotheses, as the correct and objective evidence despite a number of psychological biases influencing the way that they pay attention to and interpret the possible spectrum of evidence. An example of one such psychological bias is reactive devaluation (Ross, 1995), where upon learning that a proposed solution for a problem comes from an undesirable party, the individual undermines or devalues the proposal by seeing it as biased and unfavorable. In general, this phenomena of building a reasoning to support a held belief is called motivated reasoning (Kunda, 1990). Reactive devaluation is just one example of a number ways in which individuals go about collecting and interpreting information in a biased manner that favors a prior held belief. Not only might these psychological biases be keeping individuals from properly accessing or interpreting objective information, but they also might be strengthening the positions that individuals already hold (Munro & Ditto, 1997; Lord, Lepper, & Ross, 1979).

Individuals' attention toward particular evidence is affected by motivated reasoning such that information that serves to backup a prior held hypothesis is more easily noticed and given more weight, while evidence that disconfirms prior held hypotheses are given less weight and seen as less convincing (Ditto & Lopez, 1992). Aside from differential attention,

disconfirming evidence is treated more suspiciously by individuals (Lord, Lepper, & Ross, 1979). Evidence that is seen as confirming an individual's attitude or evaluation is taken at "face value", while disconfirming evidence is treated more suspiciously and may even be denied. When presented with both pro- and anti-capital punishment articles (i.e., all participants were given the same information from both sides of the argument), participants rated the article that supported their prior-held view as more convincing (Lord, Lepper, & Ross, 1979). As a result of this effect, individuals actually grew further apart in their capital punishment attitudes. The importance of this line of research is not only in the existence of biased attention and interpretation of the evidence, but also of the outcome: increased polarization between groups even when all parties are given identical information.

As briefly described above, reactive devaluation has an important impact on intergroup conflict through changes in the interpretation of evidence for proposed solutions to conflict. The favorability of negotiation offers is diminished by the knowledge that its origin is from the adversary (Ross, 1995). Importantly for the current research, reactive devaluation not only occurs between large groups, but also within groups, based on ideological differences (Maoz, Ward, Katz, & Ross, 2002). Specifically, individuals on both sides of the Israeli-Palestinian conflict derogated the same proposal whether it was actually proposed by their side or the opposing side, when it was described as originating from the opposing side (Maoz, Ward, Katz, & Ross, 2002). This effect occurred across Israeli-Arab group boundaries, but also within the Israeli group, as a function of whether the proposal was from ideological "hawks" (i.e., conservative-leaning) or ideological "doves" (i.e., liberal-leaning).



Proposed solutions can not only be differentially favored based on who proposes them, but can be evaluated based on the actual content of the solutions and how well they match with their prior held ideologies. Even more, the conflict-related problems themselves can be evaluated differentially based on whether the proposed solutions are congruent or incongruent with one's ideological stance. For example, if an individual dislikes a particular proposed climate change policy because the content of the policy conflicts with their ideology, then that individual may be more likely to minimize or even deny the existence of climate change. In recent work, researchers have examined this phenomena—named solution aversion--in which ideological disagreement with proposed solutions may lead to the minimization or even the denial of the problem for which the solution was proposed. That is, the perception of societal problems are, in part, a function of one's level of ideological congruence with the proposed solution for that societal problem. Individuals may minimize (or even deny—such as in the case of climate change) a societal problem if the solution that has been proposed for that problem is ideologically undesired (Campbell & Kay, 2014). Participants who read about the problem of climate change were more likely to minimize the extent of the climate change problem when their prior-held beliefs were inconsistent, as opposed to consistent, with a proposed solution as (e.g., conservatives reading about a climate change tax solution vs. a pro-business solution; Campbell & Kay, 2014). Climate change, while an interesting and important societal problem, is an issue that is fairly straightforward in terms of individual beliefs regarding the existence of the problem. An individual either believes that the Earth is warming or not. In the current research, I wish to examine this phenomena of solution aversion (i.e., motivated disbelief) in the context of a

more complex societal issue with the hopes of demonstrating it's influence even when the problem is much less clear.

In two studies, I hope to bring the phenomenon of solution aversion into a new and complex domain—undocumented immigration—and investigate potential moderators of this effect. Undocumented immigration is a complex issue precisely because it involves multiple parties (immigrants, citizens) and multiple potential problems (e.g., economy, safety, culture, wellbeing of citizens and immigrants). With such an issue, it may be more difficult to capture whether proposed policies impact views of the problem of undocumented immigration, because not everyone agrees on what the problem is. In this paper I aim to examine the influence of policy support on views of the problem by holding the problem constant and manipulating the proposed solutions. I do this in hopes that this will shed light on whether this phenomena does indeed occur in a wider range of issues than has previously been studied. Specifically, in study 1, policy proposal will be manipulated to be either stringent (i.e., conservative friendly) or lenient (i.e., not conservative friendly) and perceptions of the problem of immigrant harm will be assessed. In study 2, policy will again be manipulated, but with the goal of examining a moderator of the solution aversion effect: policy support.

### Study 1

The intention of this study is to replicate the solution aversion effect within the domain of immigration policy in the United States as well as breakdown further how the solution aversion affect manifests in a domain that is more complex than the previously studied domains of climate change or home intruder violence where multiple groups of people (liberals, conservatives, and immigrants) are all subject to perceived gains and losses. The aim of the current study is to examine the circumstances under which individuals exhibit

motivated disbelief in a societal problem, but because different groups of people (e.g., liberals and conservatives) see different “problems” associated with immigration, the current study will manipulate the solution while holding the problem constant.

## Method

### Participants

Participants were 56 UCSB undergraduates. Six participants were excluded from all analyses for self-reporting as non-US citizens and therefore 50 participants remained. The sample was 64% female ( $n = 32$ ) with a mean age of 19.3 years ( $SD = 1.03$ ). The ethnicity of the sample was fairly mixed (20 Hispanic, 17 White, 7 Asian, 4 African-American, and 2 Other). Three measures of political orientation were obtained (General, Economic, and Social) and were all measured using a 1 (very liberal) to 7 (very conservative) likert scale. The sample was fairly socially liberal ( $M = 2.78$ ,  $SD = 1.39$ ), but economically moderate ( $M = 4.02$ ,  $SD = 1.57$ ), while the average general political orientation reported was slightly liberal ( $M = 3.54$ ,  $SD = 1.37$ ).

### Measures

For the purposes of correlational analyses, various measures that were expected to be related to the variables of interest were collected. See Table 1 for correlational analyses.

*Perceived vulnerability of undocumented immigrants* ( $\alpha = .843$ ) was measured using a 12 -item self-report scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree). Higher numbers on this scale represent greater levels of perceived vulnerability of undocumented immigrants and included items such as “Undocumented immigrants are victims” and “I worry about the abuse of undocumented immigrants.” It is important to note

that while this scale has not been previously validated, the Cronbach Alpha level of .843 is reasonable. See Appendix A for scale items.

*Perceived realistic threat of undocumented immigrants* was measured using 7-item self-report scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree) with greater values signifying greater perceived realistic (i.e., resource based) threat from undocumented immigrants ( $\alpha = .811$ ; Stephan, Ybarra, & Bachman, 1999).

*Perceived symbolic threat of undocumented immigrants* was measured using a 7-item self-report scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree) with greater values signifying greater perceived symbolic (i.e., cultural) threat from undocumented immigrants ( $\alpha = .515$ ; Stephan, Ybarra, & Bachman, 1999). Although the Cronbach's Alpha for symbolic threat low, it was still included in the correlational analyses, which will not be discussed further.

## **Procedures**

Participants were greeted by a researcher as they came into the laboratory, which contained three computers. Each participant sat at their own computer and each experimental session contained between one and three participants. Participants completed the entire study at their own individual computer. First, all participants read an article describing the problem of harm to undocumented immigrant workers. Within that article, two statistics from within "the last year" were presented to participants: 1) 63% of injured undocumented workers had received little or no care for their injuries and 2) 40% of undocumented workers had reported experiencing wage theft.

Participants were then randomly assigned to either read a *lenient* or *stringent* ostensible policy proposal formed by a bi-partisan committee within congress. The *lenient*

proposal described a legalization policy with the option of citizenship, but had very few stipulations (e.g., a physical test; will not be deported if they commit small crimes), and included a 25% increase to border patrol funding to go toward making the detention centers more humane and increasing water supply centers in the deserts along the border. This was designed to be a liberal-friendly policy, but disliked by conservatives. The *stringent* condition also included a legalization policy with the option of citizenship, but had more strict stipulations (e.g., physical test; drug screening; background check; deportation with even the smallest crime) and included a 25% increase to border patrol funding to go toward increasing the security force at the border. This proposed policy was designed to be a conservative-friendly policy, but not necessarily a policy that goes against liberal beliefs.

Participants were then asked to think back to the passage about immigrant harm and report how much harm they thought was happening to immigrants. Specifically, they were asked to report the percent of injured undocumented workers that they thought did not receive proper care (with a reminder that the experts said 63%) and the percent of undocumented workers that have experienced wage theft (with a reminder that the experts said 40%). Participants then self-reported demographics, including political orientation, and were debriefed.

## Results

In order to assess whether perceptions of a societal problem are influenced by policy support for the proposed solution for that problem, a multiple regression analysis was conducted for each of the two “problem” dependent variables: 1) perceptions of personal injury to immigrant workers and 2) perceptions of immigrant worker wage theft. The predictor variables were solution condition (stringent vs. lenient), political orientation

(continuous), and the interaction between condition and political orientation. In order to accurately interpret main effects, condition was contrast coded (stringent = +1, lenient = -1) and political orientation was mean centered.

In these analyses, we used economic political orientation rather than general political orientation, because 1) we were using a student population whose mean was well below the midpoint on the general political orientation scale and 2) because the mean level of economic political orientation was approximately at the midpoint of the scale giving us the range necessary to be able to make comparisons between liberals and conservatives, rather than between liberals and moderates as would have been the case had we used general political orientation.

### **Perceptions of personal injury to undocumented workers**

There was no main effect of condition ( $B = 1.77, SE = 1.57, t(46) = 1.13, p = .265, CI[-1.39, 4.93]$ ). There was a marginal main effect of economic political orientation ( $B = -1.97, SE = 1.02, t(46) = -1.94, p = .059, CI[-4.02, .07]$ ), such that across conditions, greater economic conservatism was related to lower perceptions of immigrants workers as being harmed.

The predicted interaction between condition and political orientation was significant ( $B = -3.02, SE = 1.02, t(46) = 2.97, p = .005, CI[.97, 5.06]$ ). In order to interpret this interaction, simple slopes were examined (see Figure 1 for predicted means). First, main effects for political orientation within each condition were examined. Within the stringent condition, political orientation had no effect on the dependent variable ( $B = 1.05, SE = 1.35, t(46) = .78, p = .44, CI[-1.67, 3.77]$ ). However, within the lenient condition, economic conservatism predicted lower perceptions of immigrant workers as personally harmed ( $B = -$

4.99,  $SE = 1.52$ ,  $t(46) = -3.29$ ,  $p = .002$ ,  $CI[-8.04, -1.93]$ ). Finally, in order to compare the impact of the condition at various levels of political orientation, a simple slopes analysis for the main effect of condition was conducted at one standard deviation below (i.e., liberals) and one standard deviation above (i.e., conservatives) the mean on political orientation. For liberals (-1SD), the effect of the condition was not significant ( $B = -2.97$ ,  $SE = 2.26$ ,  $t(46) = -1.31$ ,  $p = .196$ ,  $CI[-7.53, 1.58]$ ). For conservatives, however, those who read the stringent policy had greater perceptions of personal injury to undocumented workers than did those who read the lenient policy ( $B = 6.51$ ,  $SE = 2.21$ ,  $t(46) = 2.94$ ,  $p = .005$ ,  $CI[2.06, 10.96]$ ). Together, these simple slopes analyses suggest that the marginal main effect of condition was driven by conservatives who read the lenient condition.

The same multiple regression model was then used to analyze a different dependent variable: perceptions of undocumented immigrant workers who have experienced wage theft in the last year.

### **Perceptions of undocumented worker wage theft**

There were no main effects of condition ( $B = .121$ ,  $SE = 2.11$ ,  $t(46) = .06$ ,  $p = .96$ ,  $CI[-4.13, 4.37]$ ) or political orientation ( $B = -2.13$ ,  $SE = 1.37$ ,  $t(46) = -1.56$ ,  $p = .13$ ,  $CI[-4.88, .622]$ ). Additionally, the predicted interaction between condition and political orientation was not significant ( $B = .331$ ,  $SE = 1.37$ ,  $t(46) = .24$ ,  $p = .81$ ,  $CI[-2.42, 3.08]$ ).

### **Discussion**

Using a relatively small sample size, the current study replicated past work in a novel domain by showing that conservatives minimized the problem of immigrant harm (i.e., percent of injured undocumented workers who go with little or no care for their injuries) after reading a proposal that was incongruent with their ideology as opposed to when they read a

proposal that was congruent with their ideology. This suggests that solution aversion can occur in a domain that involves multiple groups that stand to gain or lose resources and power. Additionally, the results suggest that the differences in people's perception of societal problems may, partially, be a function of the proposed policies that are being openly discussed and not simply a matter of objectively agreeing or disagreeing with the extent of the problem.

The expected results were found on one of the two dependent variables. It may be that thinking about personal injury is simply more accessible than thinking about wage theft. That is, perceptions of personal injury, as opposed to wage theft, may evoke more polarization between groups based on the solution aversion effect, because it is more relevant to people's lives and it may be more easy to think about the consequences.

Another possible explanation for not finding solution aversion effects on the wage theft outcome is that the underlying assumption in the manipulation is that conservatives would support the stringent policy more than the lenient policy. In study 2, policy support will be examined directly to see the impact that it has on motivated disbelief in the problem of immigration. That is, policy support will be examined as a potential moderator of the solution aversion effect. It may be that it is not sufficient to assume that certain groups will support particular ideologically-congruent policies, but rather it may be that this is a factor that needs to be taken into consideration when trying to predict beliefs about societal problems.

## Study 2

Study 1 replicated the solution aversion effect in a novel domain, immigration policy, and showed that even complex societal issues with multiple parties involved can contain



motivated disbelief. In study 2, I will attempt to replicate this finding with a non-undergraduate sample and explore a possible moderator of this effect.

## Method

### Participants

Participants were 245 workers using Amazon's Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011). Two non-US participants were excluded from all analyses, leaving 243 participants in the sample. The sample was 47.7% female ( $n = 116$ ) and participant age ranged from 18 to 76 years old with a mean age of 34.5 years ( $SD = 11.31$ ). The ethnic makeup of the sample was 83.5% White, 6.2% Asian, 4.9% Hispanic/Latino, 4.1% African-American, 1.2% Other. The sample was slightly liberal, both in general political orientation ( $M = 3.57$ ,  $SD = 1.68$ ) and social political orientation ( $M = 3.32$ ,  $SD = 1.76$ ), and, similar to study 1, was approximately at the midpoint on economic political orientation ( $M = 3.95$ ,  $SD = 1.73$ ).

### Measures

*Perceived realistic threat toward undocumented immigrants* ( $\alpha = .912$ ; Stephan, Ybarra, & Bachman, 1999) was measured in the same manner as in study 1, as was *perceived symbolic threat toward undocumented immigrants* ( $\alpha = .819$ ; Stephan, Ybarra, & Bachman, 1999).

*Perceived vulnerability of undocumented immigrants* ( $\alpha = .915$ ) was measured using a 12-item self-report scale with responses ranging from 1 (strongly disagree) to 7 (strongly agree). Higher numbers on this scale represent greater levels of perceived vulnerability of undocumented immigrants and included items such as "Undocumented immigrants are victims" and "I worry about the abuse of undocumented immigrants." It is important to note

that while this scale has not been previously validated, the Cronbach Alpha level of .843 is reasonable enough to move forward in using it. See Appendix A for scale items.

*Policy Support* was measured using a single item immediately following the presentation of the proposed policy by the “congressional bi-partisan committee” (which of course differed in content as a function of condition). The measure asked “To what extent do you support the bi-partisan immigration policy that was just presented to you?” and responses ranged from 1 (do not support at all) to 7 (strongly support).

See Table 2 for correlational analyses.

### **Procedure**

Participants who chose to participate from Amazon’s Mechanical Turk clicked on a link which took them to the study. First, all participants read the same article as in study 1 where the two statistics on undocumented worker harm were presented. Then, participants were randomly assigned to read a proposal that was either *lenient* or *stringent*. These were the same proposals as in study 1. Immediately follow this, participants answered one question aimed at assessing their level of support for the policy that they read.

Participants then responded to the two dependent variables, which asked participants to give their opinion on the two statistics related to undocumented workers harm just as in study 1. Participants responded to the realistic and symbolic threat measures which were designed to assess their self-reported threat levels toward undocumented immigrants. Finally, they reported demographics including political orientation.

### **Results**

As in study 1, in order to assess whether perceptions of a societal problem are influenced by policy support for the proposed solution for that problem, a multiple regression

analysis was conducted for each of the two “problem” dependent variables. The predictor variables were once again, solution condition (stringent vs. lenient), political orientation (continuous), and the interaction between condition and political orientation. In order to accurately interpret main effects, condition was contrast coded (stringent = +1, lenient = -1) and political orientation was mean centered. Once again, economic political orientation was used rather than general political orientation, because of the mean for economic political orientation being approximately at the midpoint of the scale.

### **Perceptions of personal injury to undocumented workers**

There was a significant main effect of political orientation, such that greater levels of economic conservatism were associated with reduced perceptions of improper care for injured undocumented workers ( $B = -2.55$ ,  $SE = .66$ ,  $t(237) = -3.88$ ,  $p < .001$ ,  $CI[-3.85, -1.26]$ ). There was a marginal main effect of condition, such that those who read the stringent proposal had reduced injury perceptions relative to those who read the lenient proposal ( $B = -1.97$ ,  $SE = 1.13$ ,  $t(237) = -1.74$ ,  $p = .08$ ,  $CI[-4.19, .26]$ ).

Finally, the predicted interaction between political orientation and condition was not significant ( $B = -.13$ ,  $SE = .66$ ,  $t(237) = -.196$ ,  $p = .84$ ,  $CI[-1.42, 1.17]$ ). That is, the interaction on this dependent variable, which was significant in study 1, did not replicate.

The same multiple regression model was used to analyze perceptions of wage theft as occurring in the undocumented worker population.

### **Perceptions of undocumented worker wage theft**

There was significant main effect of political orientation, such that greater levels of economic conservatism were associated with reduced perceptions of wage theft among undocumented workers ( $B = -1.40$ ,  $SE = .58$ ,  $t(237) = -2.42$ ,  $p < .05$ ,  $CI[-2.54, -.26]$ ). There

was no significant main effect of condition ( $B = -.91, SE = 1.00, t(237) = -.92, p = .36, CI[-2.88, 1.05]$ ) and no significant interaction between condition and political orientation ( $B = .20, SE = .58, t(237) = .35, p = .73, CI[-.94, 1.34]$ ).

The predicted interaction did not replicate from study 1, so in order to more directly examine the potentially moderating impact of policy support on solution aversion, differences in policy support were examined, followed by policy support as a moderator. This was done to examine differences in policy support between liberals and conservatives to see if the assumption that conservatives supported the stringent condition more than the liberals was indeed existent.

### **Support for policies**

In order to assess the assumption that conservatives support the stringent policy more than liberals and more than the lenient policy, policy support was regressed onto condition (stringent vs. lenient), economic political orientation (continuous), and the interaction between condition and economic political orientation. Once again, condition was contrast coded (stringent = +1, lenient = -1) and economic political orientation was mean centered.

There was a significant main effect of political orientation, such that greater economic conservatism was associated with lower levels of policy support, across conditions ( $B = -.23, SE = .06, t(237) = -3.77, p < .001, CI[-.35, -.11]$ ). There was no main effect of condition ( $B = .01, SE = .11, t(237) = .05, p = .96, CI[-.20, .21]$ ).

There was a significant interaction between condition and political orientation ( $B = .29, SE = .06, t(237) = 4.64, p < .001, CI[.16, .41]$ ). In order to interpret this interaction, simple slope analyses were assessed (See Figure 2 for predicted means). Within the lenient condition there was a significant effect of political orientation where economic conservatism

was negatively associated with policy support ( $B = -.52, SE = .08, t(237) = 6.31, p < .001, CI[-.68, -.36]$ ), whereas in the stringent condition the predicted positive relationship between political orientation and policy support was not present ( $B = .05, SE = .09, t(237) = .58, p = .56, CI[-.13, .23]$ ). That is, there was no effect of political orientation on support for the stringent policy.

Because the assumption in the first set of analyses was that conservatives would support the stringent--and liberals the lenient--policy more than the other group and this was found not to be the case, I examined the predicted two-way interaction at various levels of support. That is, I regressed perceptions of the problem of immigration onto condition (stringent vs lenient), political orientation (continuous), and policy support (continuous) with all possible 2-way interactions and the 3-way interaction included in the model.

Because only the 3-way interaction between condition, political orientation, and policy support was all that was of interest, that is all that has been reported here. The predicted 3-way interaction was significant for both the “injury” outcome variable ( $B = .82, SE = .38, t(233) = 2.15, p < .05, CI[.07, 1.56]$ ) and for the “wage” outcome variable ( $B = .86, SE = .33, t(233) = 2.59, p < .05, CI[.21, 1.51]$ ). In order to interpret this 3-way interaction, simple slope analyses were conducted.

### **Simple slope analyses**

Within the lenient policy condition, the two-way interaction between economic political orientation and policy support was not significant for either the “injury” outcome variable ( $B = .01, SE = .46, t(233) = 0.02, p = .98, CI[-.90, .92]$ ) or the “wage” outcome variable ( $B = -.63, SE = .40, t(233) = -1.55, p = .12, CI[-1.42, .17]$ ). However, within the stringent policy condition, the same interaction was significant for both the “injury” outcome

variable ( $B = 1.64$ ,  $SE = .60$ ,  $t(233) = 2.73$ ,  $p < .01$ ,  $CI[.46, 2.83]$ ) and the “wage” outcome variable ( $B = 1.09$ ,  $SE = .53$ ,  $t(233) = 2.07$ ,  $p < .05$ ,  $CI[.05, 2.13]$ ). These results suggest that within the stringent policy condition, support had an impact on the outcome variables differently for liberals and conservatives. Indeed, the direction of the predicted means (see Figures 3a through 4b) is such that conservatives with low support for the stringent policy minimize the problem of immigrant harm relative to conservatives with high support. Liberals, on the other hand were relatively unaffected by stringent policy support in terms of the impact it has on their perceptions of immigrant harm.

To further unpack this 3-way interaction, the simple effect of support was examined for liberals (-1SD on political conservatism) within the lenient condition and conservatives (+1SD on political conservatism) within the stringent condition. Doing this holds constant the holds constant the match between ideology and policy that was simply assumed in study 1. This will allow for the direct examination of the impact of policy support on perceptions of immigrant harm when participants read about the policy that matches with their larger ideological group (i.e., liberals or democrats).

In order to investigate the impact of policy support under these conditions, the same three way interaction model was run, except simple slopes for policy support were assessed in two different ways. For the first analysis, the effect of policy support was examined for liberals (-1SD on political conservatism) in the lenient condition. This effect was not significant for the “injury” outcome variable ( $B = 2.13$ ,  $SE = 1.50$ ,  $t(233) = 1.42$ ,  $p = .16$ ,  $CI[-.83, 5.07]$ ), but significant for the “wage theft” outcome variable ( $B = 3.81$ ,  $SE = 1.31$ ,  $t(233) = 2.91$ ,  $p < .01$ ,  $CI[1.23, 6.39]$ ). Although the simple slope for support was not significant for the “injury” it trended positively just as it did for the “wage theft” variable. This suggests that

for liberals reading about an ideologically consistent policy, higher policy support was related to perceptions of greater immigrant harm. That is, even within liberals who were expected to support the lenient policy, low policy support led to a minimization effect.

For the second analysis, the effect of policy support was examined for conservatives (+1SD on political conservatism) in the stringent condition. This effect was significant and positive for both the “injury” outcome variable ( $B = 5.14$ ,  $SE = 1.53$ ,  $t(233) = 3.36$ ,  $p < .01$ ,  $CI[2.18, 8.16]$ ), and the “wage theft” outcome variable ( $B = 4.27$ ,  $SE = 1.34$ ,  $t(233) = 3.18$ ,  $p < .01$ ,  $CI[1.63, 6.91]$ ). This suggests that for conservatives who read an ideologically consistent policy, higher policy support was related to greater perceptions of immigrant harm. This was consistent with the hypothesized direction and suggests that policy support is an important variable to consider when examining motivated disbelief. Minimization of immigrant harm after reading an ideologically opposed policy, in this case, only occurred for conservatives who actually had low support for the policy.

## Discussion

In two studies, I demonstrated that solution aversion, as a proxy for motivated reasoning, is a complex phenomenon that may not transfer easily into all domains. In study 1, I replicated the solution aversion effect in a new domain: undocumented immigration. Conservatives who were ideologically opposed to a lenient proposed policy minimized the problem of injured undocumented worker neglect relative to conservatives who read a more stringent proposed policy. Liberals’ perceptions of the problem were not impacted by solution condition.

In study 2, the solution aversion effect failed to replicate, but the results suggest that within a complex topic such as immigration policy, individual policy support may need to be

considered. As the complexity of the issue increases individuals may be more likely to be opposed to solutions for any number of reasons—not just due to ideological inconsistency. For example, conservatives may be opposed to a policy because it's too liberal (i.e., they are ideologically opposed to it) or because they feel that it lacks something important (i.e., they are opposed to it based on the content). Indeed, once policy support was taken into account, a variation of the solution aversion effect was found. That is, conservatives who had low levels of support for the stringent policy minimized the problem of injured undocumented worker neglect and undocumented worker wage theft. This effect was not found in the lenient policy, so it may be that congruency between ideology and policy is a necessary, but not sufficient component of the solution aversion effect. That is, only conservatives who were both ideologically opposed and had low policy support showed a pattern suggestive of solution aversion. Additionally, the effect may not have been found in the lenient condition, because the focus of that policy was on taking care of undocumented immigrants, as opposed to the stringent condition which may have primed worries about security.

The minimization or even denial of societal problems is not a new phenomenon, however, the understanding of why this phenomenon occurs is still yet to be fully understood. Motivated disbelief that occurs, in particular despite clear scientific opinion, presents an interesting motivational question: How far will people adjust their perceptions of the evidence to either confirm their prior held belief (i.e., motivated reasoning more generally) or avoid the implementation of an undesired outcome (i.e., motivated disbelief)? In these studies, I took steps to unpack motivated disbelief in a domain that involves multiple parties and multiple possible solutions and showed that in order to disentangle ideological support from general support it may be important to measure both in future studies.



Specifically, because immigration involves multiple parties and potential problems, it is not always clear what the “problem” is if it is brought up as a general discussion. For issues that require more cognitive work or have conflicting motives (such as caring for immigrants and caring for US citizens) it may require not just ideological incongruence with a policy, but also explicitly low policy support, in order to engage in the motivated disbelief that occurs as a function of solution aversion. More concisely, as the complexity of societal issues increases, the stronger the beliefs of the individual may need to be before they are motivated to engage in problem disbelief.

An alternative explanation is that for certain issues such as climate change (e.g., Campbell & Kay, 2014) people may rely almost exclusively on ideological congruency, while with other, possibly more complex domains, such as undocumented immigration, people may not be entirely clear what their ideological “group” (e.g., conservatives or liberals) would believe about the proposed solutions and enhance their possibly vague sense of ideological congruency with an explicit lack of support for a particular policy in order to be properly motivated to deny evidence. This explanation leaves open the possibility that explicit policy support is most important for societal issues that don’t have a clear political congruency and that political congruency is the most important factor predicting motivated disbelief when political congruency is unambiguous and known.

The current set of studies had its limitations. The policy proposals may have not only manipulated stringency, as was intended, but may have also had differential priming effects in each condition. That is, the stringent condition may have primed the idea of security and safety, based on the content of that passage, while the lenient proposal was focused more on

immigrant care and human rights. Future studies should disentangle or at least control for these effects.

While study 2 benefitted from the inclusion of a policy support measure, the measure was not specific about *why* individuals did or did not support the policy they read. Parsing out various types of support (ideologically vs. content-based) may be an important factor in understand the motivation underlying these effects of motivated disbelief, but also in order to understand ways to combat these psychological biases. Being able to find a way to interrupt these biased processes may shed light on the motivational reason for their presence.

Future work will investigate the mechanisms by which solution aversion occurs. For example, it may be the case that individuals feel a threat to their self concept when their beliefs are called into question via a proposed policy that they disagree with. Once there is a threat to the self-concept present the classic defensive threat responses would be expected to occur, including the dismissal or denial of evidence that suggest one is wrong in their beliefs. If this was the case then giving a boost to individuals' self-concept prior to reading about the proposed policies may reduce the extent to which they engage in these biases. Finally, future work will use the understanding of those mechanisms to build a case for an intervention that interrupts the process of solution aversion and allows individuals to reason more objectively rather than be selectively guided by prior held beliefs.

## References

- Buzan, B., & Waever, O. (2003). *Regions and powers: the structure of international security* (Vol. 91). Cambridge University Press.
- Bar-Tal, D. (2000). From intractable conflict through conflict resolution to reconciliation: Psychological analysis. *Political Psychology, 21*, 351-365.
- Bar-Tal, D., & Halperin, E. (2011). Socio-psychological barriers to conflict resolution. *Intergroup conflicts and their resolution: Social psychological perspective, 217-240*.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk a new source of inexpensive, yet high-quality, data?. *Perspectives on psychological science, 6*, 3-5.
- Campbell, T. H., & Kay, A. C. (2014). Solution aversion: On the relation between ideology and motivated disbelief. *Journal of Personality and Social Psychology, 107*, 809.
- Diehl, P. F., Reifschneider, J., & Hensel, P. R. (1996). United Nations intervention and recurring conflict. *International Organization, 50*, 683-700.
- Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology, 63*, 568-584.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological bulletin, 108*, 480-498.
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37*, 2098-2109.
- Maoz, I., Ward, A., Katz, M., & Ross, L. (2002). Reactive devaluation of an "Israeli" vs. "Palestinian" peace proposal. *Journal of Conflict Resolution, 46*, 515-546.

Munro, G. D., & Ditto, P. H. (1997). Biased assimilation, attitude polarization, and affect in reactions to stereotype-relevant scientific information. *Personality and Social Psychology Bulletin*, 23, 636-653.

*Psychology Bulletin*, 23, 636-653.

Ross, L. (1995). Reactive devaluation in negotiation and conflict resolution. Barriers to conflict resolution, 26-42.

Ross, L., & Stillinger, C. (1991). Barriers to conflict resolution. *Negotiation Journal*. 389-404.

Ross, L., & Ward, A. (1995). Naive Realism in Everyday Life: Implications for Social Conflict and Misunderstanding.

Stephan, W. G., Ybarra, O., & Bachman, G. (1999). Prejudice toward immigrants. *Journal of Applied Social Psychology*, 29, 2221-2237.

Table 1

*Study 1 correlations*

	Economic PO	Social PO	Wage theft	Personal injury	Vulnerability	Realistic Threat	Symbolic Threat
Political Orient. (PO)	.666**	.630**	-.115	-.257†	-.479**	.445**	.284*
Economic PO		.170	-.227	-.242†	-.367**	.275†	.231
Social PO			-.274†	-.325*	-.352*	.297*	-.085
Wage theft				.525**	.352*	-.267†	.002
Personal injury					.482**	-.314*	.105
Vulnerability						-.768**	-.350*
Realistic Threat							.436**

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

† Correlation is marginally significant at 0.10 level

Table 2

*Study 2 correlations*

	Economic PO	Social PO	Wage theft	Personal injury	Vulnerability	Realistic Threat	Symbolic Threat	Policy Support
Political Orient. (PO)	.796**	.850**	-.202**	-.269**	-.568**	.535**	.515**	-.313**
Economic PO		.680**	-.155*	-.236**	-.507**	.503**	.455**	-.261**
Social PO			-.250**	-.310**	-.576**	.520**	.559**	-.291**
Wage theft				.510**	.345**	-.161*	-.208**	.257**
Personal injury					.393**	-.203**	-.263**	.235**
Vulnerability						-.740**	-.697**	.577**
Realistic Threat							.778**	-.494**
Symbolic Threat								-.430**

\*\* Correlation is significant at the 0.01 level

\* Correlation is significant at the 0.05 level

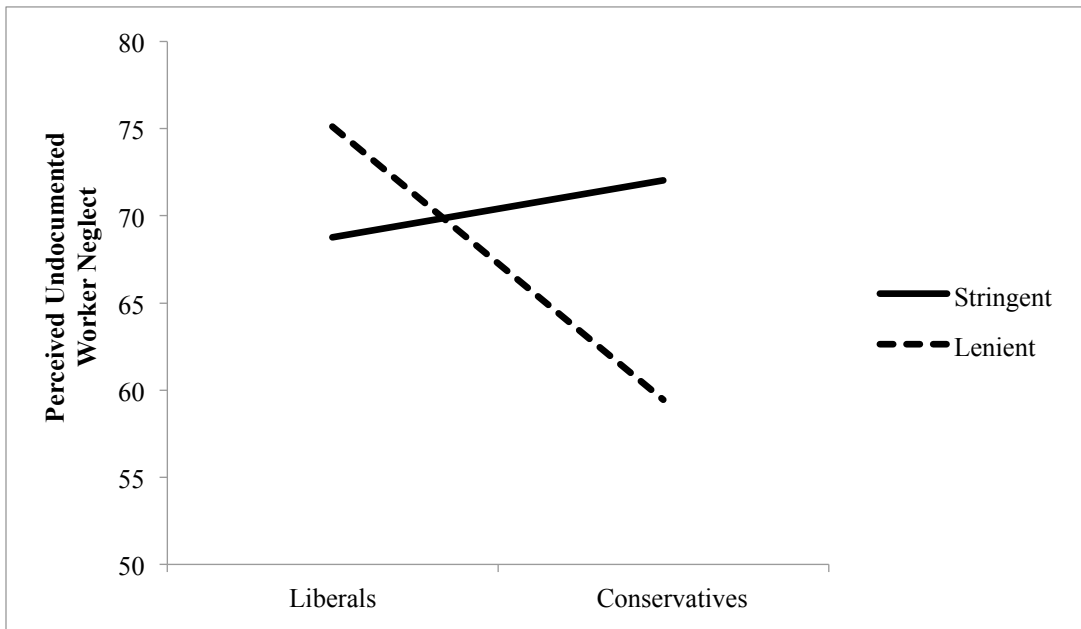
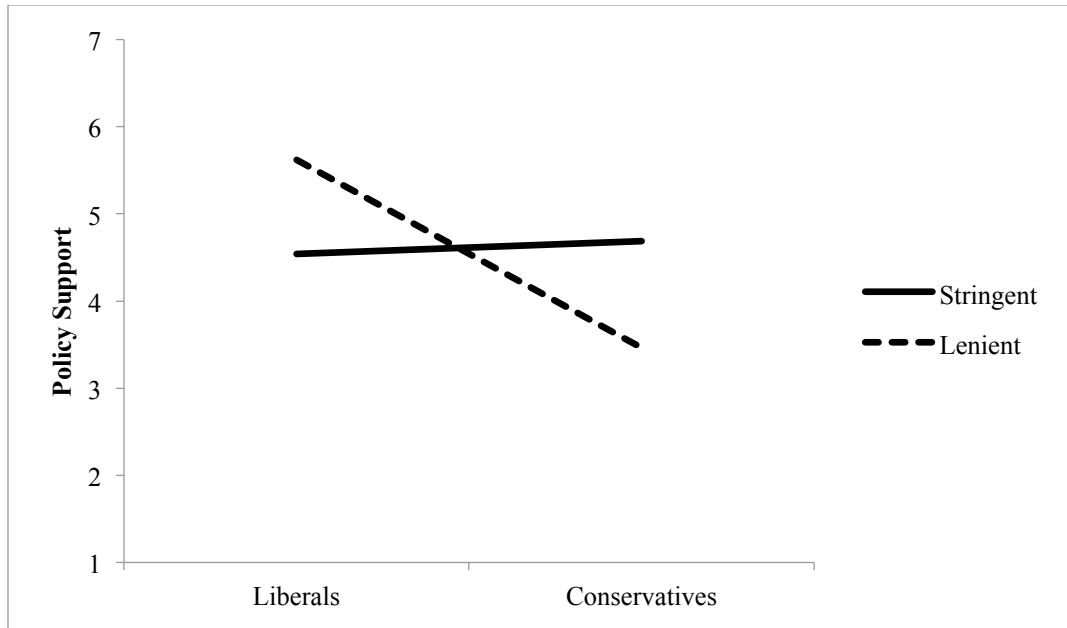


Figure 1. Perceived percent of injured undocumented workers who receive little or no care (study 1)



*Figure 2.* Policy support (study 2)

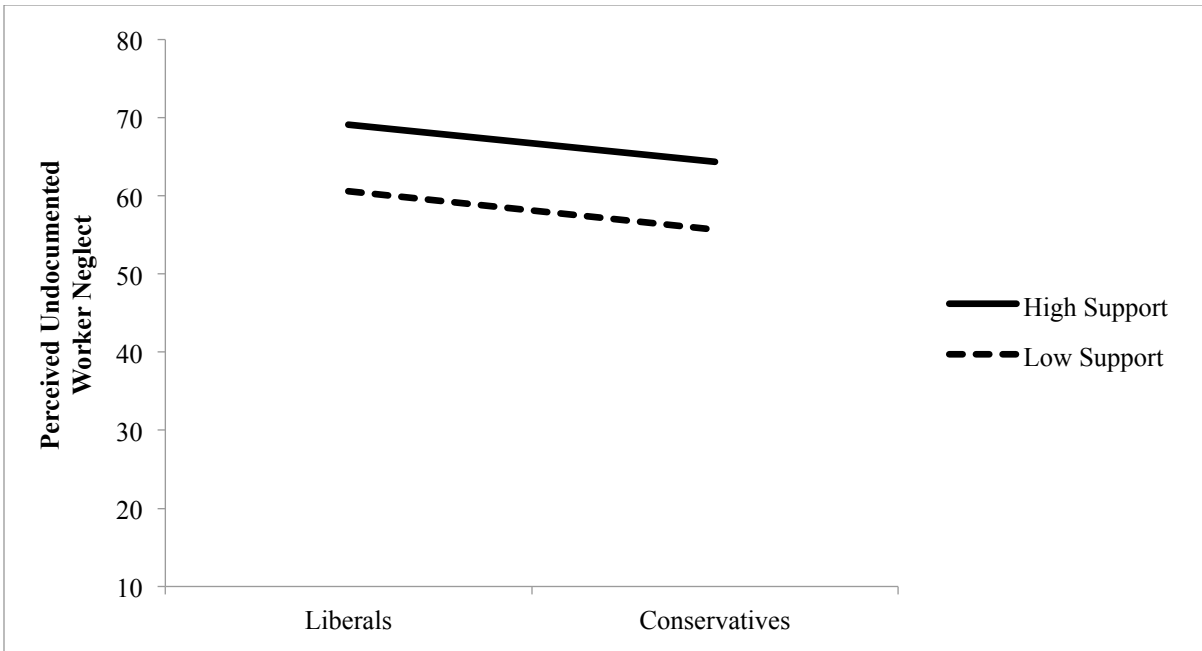


Figure 3a. Perceived percent of injured undocumented workers who receive little or no care (within “lenient” condition; study 2)

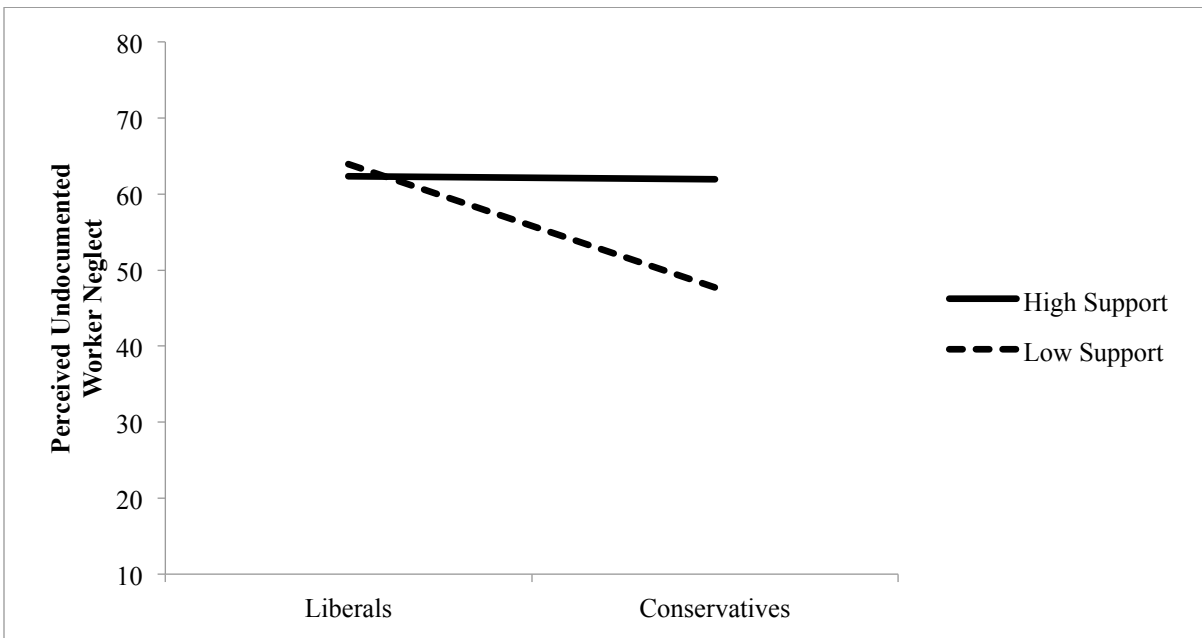


Figure 3b. Perceived percent of injured undocumented workers who receive little or no care (within “stringent” condition; study 2)



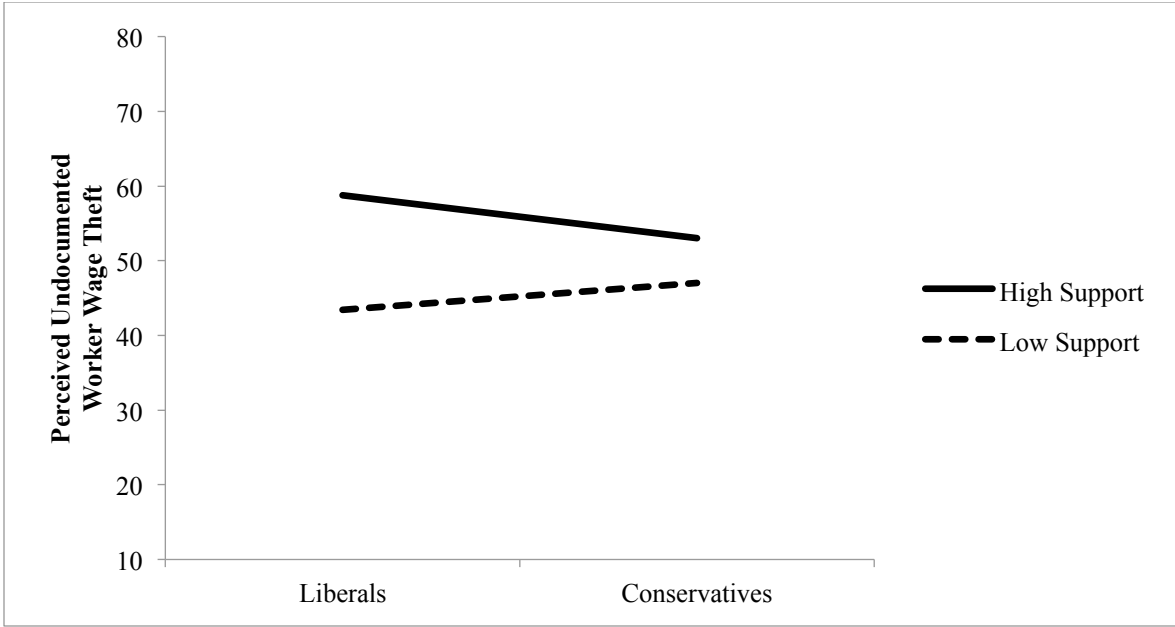


Figure 4a. Perceived percent of undocumented workers who have experienced wage theft (within “lenient” condition; study 2)

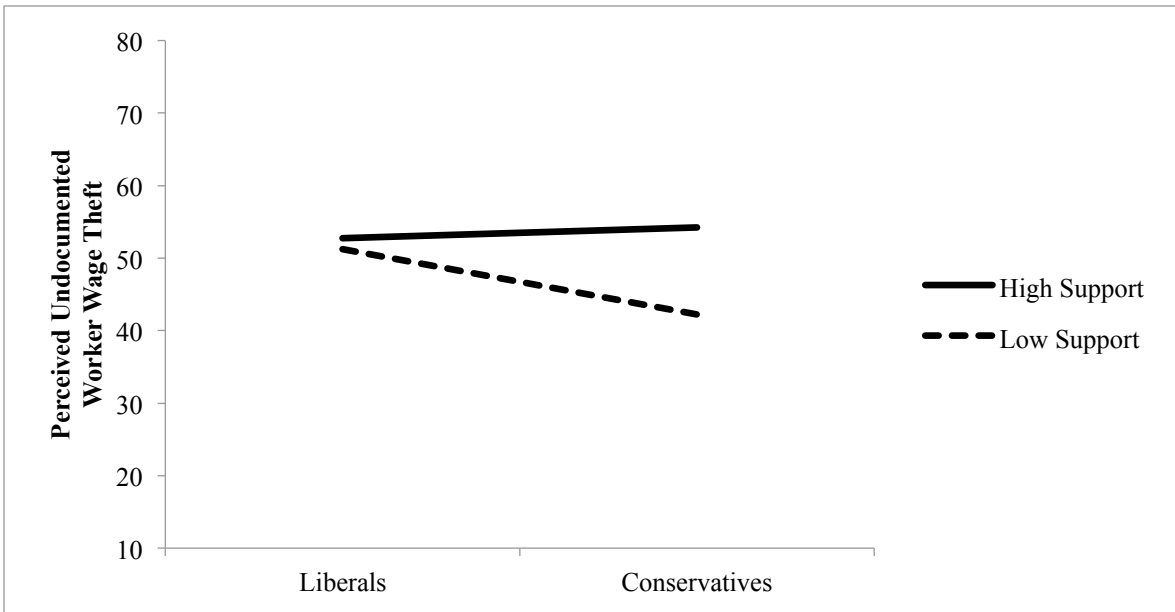


Figure 4b. Perceived percent of undocumented workers who have experienced wage theft (within “stringent” condition; study 2)

## Appendix A

### Perceived vulnerability of undocumented immigrants

*Instructions:* “We will now ask for your opinion on a few topics related to undocumented immigration. Please respond honestly. Remember, there are no right or wrong answers. We are simply interested in how you feel about the subject.”

*Response range:* 1 (Strongly Disagree) – 7 (Strongly Agree)

1. Undocumented immigrants have no one to go to for help in a dangerous situation.
2. Undocumented immigrants experience more dangerous situations than the average American.
3. Undocumented immigrants are more vulnerable to domestic violence than the average American.
4. Undocumented immigrants are more vulnerable to employer abuse than the average American.
5. In the United States, undocumented immigrants have a high risk of being exploited.
6. In general, undocumented immigrant abuse is rare, so we should not be very worried about it.\*
7. Negative things that happen to undocumented immigrants are probably their own fault.\*
8. I am worried about the abuse of undocumented immigrants.
9. I am concerned that undocumented immigrants may not be treated as fairly as Americans.
10. Undocumented immigrants are victims.
11. Undocumented immigrants do not deserve the same rights as U.S. citizens.\*
12. Undocumented immigrants should not have come into the U.S. if they wanted to be treated well.\*

Note: Asterisks (\*) signify reverse-scored items