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Support for Resettling Refugees: The Role of Fixed-Growth Mindsets

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Abstract

Six studies (*N*=2,340) identify one source of people's differential support for resettling refugees in their country—their beliefs about whether the kind of person someone is fixed (i.e., a *fixed mindset*) or can be changed (i.e., a *growth mindset*). US and UK citizens who believed that the kind of person someone is can be changed were more likely to support resettling refugees in their country (Studies 1-2). Study 3 identified a causal relationship between fixed-growth mindsets and people's support for resettling refugees. Importantly, people with a growth mindset were more likely to believe that refugees *can* assimilate in the host society, but not that they *should* assimilate; and the belief that refugees *can assimilate* mediated the relationship between people's mindsets and their support for resettling refugees (Studies 4-6). The findings identify an important antecedent of people's support for resettling refugees, and provide novel insights into the science of mindsets.

Keywords: refugees; lay theories; mindsets; fixed-growth; assimilation

Support for Resettling Refugees: The Role of Fixed-Growth Mindsets

Every day, over 28,000 people flee their homes because of war or persecution (United Nations Refugee Agency, 2017). Over 16 million people were displaced at the end of 2015 (Edwards, 2016), but only a small proportion of them were resettled (European Stability Initiative, 2017). In many nations, there is a heated debate among citizens about whether or not to accept and resettle refugees (Badea, Tavani, Rubin, & Meyer, 2017).

Although many factors might drive whether citizens are willing to open their nation to refugees (e.g., prejudice against refugees, sympathy for refugees, economic and security concerns), citizens' perceptions that refugees are culturally different from the host nation population may play a role. Refugees' cultural norms, social interaction styles, and languages are typically different from those prevalent in countries that would consider accepting refugees. In response, many host nationals believe that immigrants should shed background cultures and take on the host country's culture, known as the assimilationist ideology (Arends-Toth & Vijver, 2003). Indeed, host nationals who believe that immigrants should assimilate are less likely to support immigration (Bastian & Haslam, 2008; Verkuyten, 2011). Research has also examined host nationals' attitudes toward immigrants based on immigrants' desire to assimilate. This body of work has found that high social dominance orientation predisposes host nationals to prefer immigrants portrayed as wanting to assimilate (Guimond, De Oliveira, Kamiesjki, & Sidanius, 2010), whereas right wing authoritarianism (which is associated with a preference for distinctions between groups; Thomsen, Green, & Sidanius, 2008) predisposes host nationals to prefer immigrants portrayed as not wanting to assimilate.

We argue that past research has overlooked a critical question—do people believe that immigrants *can assimilate* or not? We propose that beliefs about whether immigrants *can assimilate*, which posits that immigrants have the ability to adapt to the host culture, is a distinct and critical factor that shapes host nationals' outlook on immigrants and refugees. Indeed, migrants to a new nation do need to adapt to at least some of the host country's norms, behaviors, and languages in order to thrive as full participants in the country's social and economic systems (Dovidio & Gaertner, 2000). Thus, we predicted that if host nationals believe that migrants have the ability to change, they would be more likely to welcome refugees in their country.

We argue that our novel construct–*can assimilate*—is conceptually distinct from the two previously studied dimensions of assimilation—*should* and *want to*. The distinction between *can assimilate* and *should assimilate* is the difference between an ability and an obligation, respectively, which are theoretically orthogonal. For example, host nationals might believe that immigrants possess the ability to assimilate but are not obligated to do so. Alternatively, people could think that immigrants have an obligation to assimilate but might not have the ability to do so. Similarly, the distinction between *can assimilate* and *want to assimilate* is the difference between an ability and a desire, respectively, which can also be theoretically orthogonal. For example, immigrants may want to assimilate whether or not they have the ability to do so, and immigrants can have the ability to assimilate but may or may not want to do so.

If people who believe that immigrants can assimilate are more likely to support resettling refugees in their country, a key question arises: What is the psychological basis of this *can assimilate* belief? We argue that people's beliefs

about whether or not immigrants can assimilate are driven by their broader lay theories about the kind of person someone is (*kind of person mindsets*). People can either believe that the kind of person someone is is fixed (*fixed mindset*) or can be changed (*growth mindset*; Chiu, Hong, & Dweck, 1997; Levy, Stroessner, & Dweck, 1998). Extensive research has identified people's mindsets about the kind of person someone is as powerful drivers of their attitudes and behaviors in intergroup contexts (Carr, Rattan, & Dweck, 2012). For example, people with growth mindsets are less likely to form stereotypes (Levy, Plaks, Hong, Chiu, & Dweck, 2001), are more likely to engage with members of outgroups (Neel & Shapiro, 2012; Rattan & Dweck, 2010), and are less likely to display prejudice toward negatively stereotyped groups (Hong et al., 2004).

In the context of refugees, we propose that the more people believe that the kind of person someone is can be changed, the more they would believe that refugees can adapt, assimilate, and thrive in the host country. Given that host nationals have positive attitudes toward immigrants who can adapt, assimilate, and thrive in the host country (Oudenhoven, Prins, & Buunk, 1998), we reasoned that the more people believe that the kind of person someone is can be changed the more they would support resettling refugees in their country. We emphasize a key distinction: our prediction is that fixed-growth mindsets would drive the degree to which citizens perceive that refugees *can* assimilate, not the extent to which refugees *should* assimilate, the assimilationist ideology studied in past research (Berry & Kalin, 1995; Rosenthal & Levy, 2010)

Past work has distinguished between fixed-growth mindsets about the kind of person someone is and essentialist beliefs (Levy, Chiu, & Hong, 2006; Plaks, Levy, Dweck, & Stroessner, 2004). Conceptually, the two types of beliefs differ in their

dimensionality, generality, and target. Fixed-growth mindsets are unidimensional, domain-specific beliefs about the malleability of individuals' characteristics (e.g., whether individuals' intelligence is fixed or can be changed). In contrast, essentialist beliefs are multidimensional, domain-general beliefs about whether groups are defined by inherent essences (including the dimensions of naturalness, immutability, discreteness, informativeness, coherence, and exclusivity; Bastian & Haslam, 2008; Haslam, Rothschild, & Ernst, 2000; Prentice & Miller, 2007). Past research has found that the more people hold essentialist beliefs, the more they believe that immigrants should assimilate, and thus, the less they support immigration (Bastian & Haslam, 2008; Verkuyten, 2011). Importantly, we predict that the more people hold growth mindsets about the kind of person someone is, the more they believe that immigrants can assimilate but not that immigrants should assimilate. If supported, this prediction would underscore both the conceptual and empirical difference between fixed-growth mindsets and essentialism.

We conducted six studies to test our hypotheses.

Study 1

Study 1 tested whether the more people hold a growth mindset, the more likely they are to support resettling refugees in their country. Mindsets are conceptualized as domain-specific constructs (Dweck, 2000, 2006). We focused on *kind of person* mindsets because we theorize that these mindsets shape host nationals' views of whether refugees would be able to adapt culturally. However, it is important to ensure that this is the appropriate domain to focus on (Rattan & Georgeac, 2017). Therefore, we also measured people's mindsets about the malleability of intelligence because intelligence is a general ability that is often considered to be transferable across cultures (Lynn & Vanhanen, 2002), and thus

not as relevant to the question of refugees' ability to adapt culturally. We hypothesized that host nationals' kind of person mindsets but not their intelligence mindsets would predict their support for resettling refugees.

Method

The hypotheses, power analysis, sample size, participant inclusion criteria, and methods for this study were pre-registered on the Open Science Foundation (https://osf.io/eryy6/register/5730e99a9ad5a102c5745a8a). Across all studies, we report all participants, conditions, and measures. This study was conducted in early December 2016, about three months after President Obama had updated the US refugee policy to increase the number of refugees accepted in the US by 30%.

Power analysis. As we did not have any prior data to conduct a power analysis, we conducted a pilot study with 187 participants who were US residents from Amazon Mechanical Turk with the same measures included in the main study. We regressed participants' support for resettling refugees on their kind of person mindset, mindset about intelligence, and political orientation. Using G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007), we computed a power analysis for a *t*-test for a linear bivariate regression (one group, size of slope). We entered the following values: *Slope* H_1 = .57, α = .05 (two-tailed), *power* = 80%, *Slope* H_0 = 0, SD_x = .99, SD_y = 2.01. This analysis indicated that we would need to recruit 94 participants. However, as it takes a minimum sample size of 250 to obtain stable correlations (Schönbrodt & Perugini, 2013), we decided to recruit 400 participants.

Participants. A survey seeking 400 US residents was posted on Amazon Mechanical Turk. In response, 414 participants completed the survey. Of these, as per pre-registered selection criteria, we excluded 9 participants who were not US citizens, and 1 participant who was not residing in the US. All participants completed

the study from unique IP addresses. The final sample consisted of 404 participants (251 women, 150 men, 3 others; mean age 36.05 years; 324 European Americans, 30 African Americans, 13 Latin Americans, 11 Asian Americans, 1 Native Americans, 7 belonging to other races and 18 multi-racials).

Procedure. We presented participants with the following paragraph detailing the latest refugee resettlement policy of the United States, at that time, which was announced by the US President in September 2016:

> The United States will strive to take in 110,000 refugees from around the world in the coming year, the White House said recently. This would be a nearly 30% increase from the number of refugees allowed in over the previous year. The 110,000 goal covers a 12-month period that starts October 2016 to September 2017. In the previous 12 months, the U.S. goal was to take in 85,000 refugees, and in the three years before that, the target was 70,000 refugees per year.

We then administered four items to measure participants' support for resettling refugees, each measured on a 7-point scale: (1) "How much do you agree with that the US should take in 110,000 refugees in the next 12 months?" (*Strongly Disagree* to *Strongly Agree*); (2) "How much do you support the policy that the US should take in 110,000 refugees in the next 12 months?" (*Strongly Against* to *Strongly Support*); (3) "Do you think that the United States is taking in too many refugees?" (reverse coded; *Definitely Not* to *Definitely Yes*); and (4) "Do you think that the United States is taking in too few refugees?" (*Definitely Not* to *Definitely Yes*). These items were averaged to form a scale (α=.96). These items were adapted from unpublished research conducted by Au and Savani (2016).

We measured participants' mindsets about the kind of person someone is using an established 8-item scale (Levy et al., 1998; sample item: "The kind of person someone is, is something basic about them, and it can't be changed very much"). We also measured participants' fixed-growth mindsets about intelligence

using the standard 8-item scale (Dweck, 2000; sample item: “People have a certain amount of intelligence, and they can’t really do much to change it”). For both scales, all items were scored such that higher numbers indicated stronger growth kind of person mindsets or mindsets about intelligence. Both scales had high reliability ($\alpha_{KindOfPerson}$=.94, $\alpha_{Intelligence}$=.96).

We randomly assigned half the participants to respond to the resettling refugees measure first and the other half of participants to complete the mindsets measures first.

Finally, as the question of accepting refugees is a highly politicized issue, we measured participants’ political orientation using three items, each measured on a seven-point scale ranging from (1) *Strongly Conservative* to *Strongly Liberal* (2) *Strongly Right* to *Strongly Left*, and (3) *Strongly Republican* to *Strongly Democrat*. The three items had high reliability (α=.96).

Results

The descriptive statistics for all variables included in this study are provided in Table S1 in the supplementary materials. As per preregistered analyses, we conducted a linear regression with participants’ support for resettling refugees as the dependent measure, and their kind of person mindsets, mindsets about intelligence, and political orientation as independent variables. This analysis revealed that participants’ mindsets about intelligence were not associated with their support for resettling refugees, B = -.0032, *95% CI* = [-.15,.14], SE = .074, β = -.0020, t(400) = -.043, p = .97. Consistent with prior research (Altemeyer, 1998), participants with a more liberal political orientation were more likely to support resettling refugees, B = .77, *95% CI* = [.68, .86], SE = .046, β = .63, t(400) = 16.75, p < .001. Most importantly for the current research and as predicted, the more people held a growth

mindset about the kind of person someone is, the more they supported resettling refugees in their country, B = .26, *95% CI* = [.10, .42], SE = .082, β = .14, $t(400)$ = 3.17, p = .0016. While this coefficient is relatively small, based on the standardized coefficients, the effect of kind of person mindsets was 22.22% that of political orientation, which one would expect to be the dominant predictor given the political nature of the issue (see Supplementary Materials for additional analyses). These results offer initial support for the hypothesis that people's fixed-growth mindsets about the kind of person someone is are related to their attitudes toward resettling refugees in their country.

Study 2

The goal of Study 2 was to provide a replication of Study 1's findings in another country facing an increase in refugees at the time of the study—the United Kingdom.

Method

The hypotheses, power analysis, sample size, participant inclusion criteria, and methods for this study were pre-registered on the Open Science Foundation (https://osf.io/4p2a6/register/5730e99a9ad5a102c5745a8a). This study was conducted in January 2017, soon after the UK Office for National Statistics reported that the number of asylum seekers claiming refugee status in the UK had gone up for the sixth consecutive year (Travis, 2016).

Power analysis. We conducted a pilot study with 273 participants born and residing in the UK. We administered the same independent variables and a similar dependent variable as in the main study. We regressed participants' support for providing aid to refugees rather than deporting them on their fixed-growth mindsets about the kind of person someone is and about intelligence. Using G*Power software

(Faul et al., 2007), we computed a power analysis for a *t*-test for a linear bivariate regression (one group, size of slope). We entered the following values: *Slope* H_1 = .30, α = .05 (two-tailed), *power* = 80%, *Slope* H_0 = 0, SD_x = 1.09, SD_y = 2.30. This analysis indicated that we would need to recruit 386 participants.

Participants. A survey seeking 386 participants who were born and residing in the UK was posted on Prolific Academic. Although 386 participants completed the survey, as per pre-registered criteria, we excluded 3 participants who were not born in the UK. The final sample consisted of 383 participants (231 women, 151 men, 1 other; mean age 37.25 years): 345 Europeans, 10 Africans, 13 Asians, 12 participants of other races, 2 multi-racials, and 1 undisclosed.

Procedure. We presented participants with the following paragraph detailing the ongoing refugee crisis in Europe:

> More than a million migrants and refugees crossed into Europe in 2015, sparking a crisis as countries struggled to cope with the influx, and creating division in the EU over how best to deal with resettling people. The conflict in Syria continues to be by far the biggest driver of migration. But the ongoing violence in Afghanistan and Iraq, abuses in Eritrea, as well as poverty in Kosovo, are also leading people to look for new lives elsewhere.

Next, we measured participants' support for resettling refugees using four items measured on 10-point bipolar scales: (1) "Do you think that migrants should be immediately deported back to the last country they were in?" (1=*Migrants should be immediately deported back to the last country they were in*, 10=*Migrants should NOT be immediately deported back to the last country they were in*) (2) "Do you think that migrants should be immediately confined in high security jail-like Immigrant Removal centres until their asylum applications have been processed" (1=*Migrants should be immediately confined in Immigrant Removal centres*, 10 =*Migrants should NOT be immediately confined in Immigrant Removal centres*) (3) "Do you think that UK

government should provide temporary shelter and accommodation for the migrants?" (reverse coded; 1=*The government should provide temporary shelter for the migrants*, 10=*The government should NOT provide temporary shelter for the migrants*), and (4) "Do you think that the UK government should provide financial assistance to migrants who have been granted asylum?" (reverse coded; 1=*The government should provide financial assistance to migrants who have been granted asylum*, 10=*The government should NOT provide financial assistance to migrants who have been granted asylum*). These items were averaged to form a scale (α=.86).

We measured participants' fixed-growth mindsets about the kind of person someone is (α=.94) and about intelligence (α=.97) using the same scales as in Study 1.

As in Study 1, we randomly assigned half the participants to respond to the resettling refugees measure first and the other half of participants to complete the mindsets measures first.

Results

The descriptive statistics for all variables included in this study are provided in Table S2 in the supplementary materials. As per preregistered analyses, we conducted a regression with participants' support for resettling refugees as the dependent measure, and their kind of person mindsets, and mindsets about intelligence as the independent variables. As in Study 1, participants' mindsets about intelligence were unrelated to their support for resettling refugees, B = -.043, *95% CI* = [-.27, .18], SE = .11, β = -.021, $t(380)$ = -.38, p = .70. Importantly, providing converging support for our hypothesis, the more people had a growth mindset about the kind of person someone is, the more they supported resettling refugees in the

UK, B = .63, *95% CI* = [.36,.89], SE = .13, β = .26, $t(380) = 4.64$, $p < .001$ (see Supplementary Materials for additional analyses). Thus, the results provide converging support to our hypothesis in another country facing an increase in refugees.

Study 3

This study tested whether fixed-growth mindsets about the kind of person someone is exert a causal impact on people's support for resettling refugees.

Methods

The hypotheses, power analysis, method, sample size, and pre-selection rules for this study were pre-registered at the Open Science Foundation (https://osf.io/8hsbb/register/5730e99a9ad5a102c5745a8a). This study was conducted in February 2017, soon after US President Trump issued a new refugee policy reducing the number of refugees to be accepted in the US by over 50%, barring all refugees from entering in the US for the next 4 months, and barring all refugees originating from Syria from entering the US indefinitely.

Power analysis. To conduct the power analysis, we used the effect size from Chiu et al. (1997), Study 5, which used the same experimental manipulation as the current study. Using the G*Power software (Faul et al., 2007), we computed a power analysis for a *t*-test comparing two independent means with Cohen's d = .61, α = .05 (two-tailed), *power* = 80%, *allocation ratio across conditions* = 1, which indicated that we would need to recruit a minimum of 88 participants. However, to ensure that the study was highly powered, we decided to recruit 400 participants.

Participants. A survey seeking 400 US residents was posted on Amazon Mechanical Turk. In response, 410 participants completed the survey. As per pre-registered selection criteria, 4 participants who were not US citizens and 6

participants who were not US residents were excluded from the analyses. Further, since this experiment required the participants to read a long article, we also included an attention check question (Oppenheimer, Meyvis, & Davidenko, 2009) in our study. Specifically, participants responded to two questions wherein the answers were mentioned within the questions. As per pre-registered selection criteria, 75 participants who failed the attention check were excluded from the analyses. All participants completed the survey from unique IP addresses. The final sample consisted of 325 participants (181 women, 141 men, 1 other, 2 undisclosed; mean age 37.5 years; 251 European Americans, 16 African Americans, 10 Latin Americans, 16 Asian Americans, 4 Native Americans, 4 belonging to other races, and 24 multi-racials).

Procedure. We randomly assigned participants to either the fixed mindset or the growth mindset condition. Adapting an existing manipulation of people's kind of person mindsets (Chiu et al., 1997), we presented participants with an article that had purportedly appeared in a scientific journal. In the fixed mindset condition, the article cited research arguing that people's characteristics are mostly fixed over time, whereas in the growth mindset condition, the article cited research arguing that people's characteristics can change over time. Next, to strengthen the experimental manipulation, we asked all participants to complete two writing tasks: "Please summarize the main idea expressed in this article"; and "In the space below, please give one or two examples from your own experience that support the main theme of the article."

As a manipulation check, we administered a three-item measure of kind of person mindsets (Chiu et al., 1997), to which participants responded on a 6- point

response scale from *strongly disagree* to *strongly agree*. Higher numbers indicated greater agreement with the fixed belief.

Next, we presented participants with the following paragraph detailing the United States' most recent refugee policy issued by President Trump:

> The US recently revised its policy toward refugees. The US was supposed to take in 110,000 refugees this year. However, the President just signed an order that stopped all refugees from entering the US for the next 4 months. Further, the President indefinitely blocked Syrian refugees from entering the US. Further, when the US restarts taking in refugees, the total number of refugees settled in the US this year would be reduced from the current 110,000 to 50,000.

We then administered four items, each measured on a seven-point scale: (1) "How much do you agree with the policy that no refugees can enter the US for the next 4 months?" (*Strongly disagree* to *Strongly agree*). (2) "How much do you support the policy that Syrian refugees are indefinitely barred from entering the US?" (*Strongly against* to *Strongly support*) (3) "How much do you agree with the policy that the US should take in only 50,000 refugees rather than 110,000 refugees this year?" (*Strongly disagree* to *Strongly agree*), and (4) "How much do you agree with the policy that the US should not take in any refugees from predominantly Muslim countries?" (*Strongly disagree* to *Strongly agree*). These items were averaged to form a scale (α=.96), and reverse-scored such that higher numbers indicated more support for resettling refugees.

Finally, we measured participants' political orientation using the same items as in Study 1 (α=.94)

Results

Participants in the growth mindset condition indicated lower agreement with the manipulation check items, M=2.71, *95% CI* = [2.53, 2.89], SD=1.16, compared to those in the fixed mindset condition, M=4.46, *95% CI* = [4.26, 4.67], SD=1.31,

t(323)=12.74, *p*<.001, Cohen's *d*=1.41, *95% CI* = [1.17, 1.66], indicating that our manipulation was successful in nudging participants to agree with the presented beliefs.

As per preregistered analyses, we conducted a linear regression with participants' support for resettling refugees as the dependent measure, and their experimental condition (0=fixed mindset, 1=growth mindset) and political orientation as independent variables. As expected, participants with a more liberal orientation were more likely to support resettling refugees, *B* = .94, *95% CI* = [.85, 1.032], *SE* = .046, *β* = .75, *t*(322) = 20.24, *p* < .001. As hypothesized, a significant effect of the experimental condition indicated that participants in the growth mindset condition were more likely to support resettling refugees than those in the fixed mindset condition, *B* = .32, *95% CI* = [.017, .63], *SE* = .16, *β* = .077, *t*(322) = 2.078, *p* = .038, Cohen's *d* = .23, *95% CI* = [.012, .45], providing evidence for the causal influence of mindsets on people's support for resettling refugees.

In an additional regression, we added an interaction between condition and political orientation, which was non-significant, *B* = -.026, *95% CI* = [-.21, .16], *SE* = .094, *β* = .013, *t*(322) = .28, *p* = .78, indicating that the mindset manipulation had a similar effect on participants across the political orientation spectrum.

Study 4

Study 4 examined the mechanism underlying the relationship between people's fixed-growth mindsets about the kind of person someone is and their support for resettling refugees. We hypothesized that a growth mindset would lead to people to think that refugees can more easily assimilate into the host country's culture, which would increase their support for resettling refugees in their country[1].

Method

This study was conducted in January 2017, before any changes in the refugee resettlement policy were made under the new Presidential administration.

Power analysis. This study was conducted before Study 3. Thus, we conducted a power analysis based on the effect size from Chiu et al. (1997, Study 5), which had used the same experimental manipulation as the current study. This analysis indicated that we would need to recruit a minimum of 88 participants for 80% power. However, to ensure that the study is highly powered, we decided to recruit 500 US participants.

Participants. A survey seeking 500 US residents was posted on Amazon Mechanical Turk. In response, 506 participants completed the survey. As per pre-determined criteria, 12 participants who were not US citizens and one who was not a US resident were excluded. Further, as in Study 3, 69 participants who failed the attention check question were excluded. The final sample consisted of 424 participants (273 women, 149 men, 1 other, 1 undisclosed; mean age 37.40 years; 333 European Americans, 29 African Americans, 11 Latin Americans, 22 Asian Americans, 1 Native Americans, 10 belonging to other races and 18 multi-racials).

Procedure. We randomly assigned participants to either the fixed mindset or the growth mindset condition. We used the same procedure as in Study 3 to manipulate people's fixed-growth mindsets about the kind of person someone is. We also asked participants to respond to the manipulation check items used in Study 3.

Next, we measured the hypothesized mediator—participants' beliefs about how well refugees can assimilate in society—using five items: (1) "To what extent do you think refugees can assimilate in the society?" (2) "To what extent do you think refugees can blend in the society?" (3) "To what extent do you think refugees can fit in the society?" (4) "To what extent do you think refugees can become a part of

mainstream society?" (5) "To what extent do you think refugees will become more American in their attitudes and values over time?" Participants responded to these items on a 7-point scale from *not at all* to *extremely*. These items were averaged to form a scale (α=.93).

To measure the dependent variable (DV), we presented participants with the same paragraph as in Study 1 detailing the latest refugee resettlement policy of the United States at that time. This policy was announced by President Obama in September 2016 and was still in force in January 2017 under President Trump's administration when the study was conducted. We presented participants with the same four items as in Study 1 to measure their support for resettling refugees (α=.95).

Finally, we measured participants' political orientation using the same three items as in the previous studies (α=.96).

Results

Manipulation check. Participants in the growth mindset condition endorsed the fixed mindset manipulation check measures less than those in the fixed mindset condition, M_{Fixed} = 4.51, *95% CI* = [4.35, 4.66], *SD* = 1.13, M_{Growth} = 2.56, *95% CI* = [2.37, 2.76], *SD* = 1.44, $t(425) = 15.43$, $p < .001$, Cohen's d = 1.49, *95% CI* = [1.28, 1.71], indicating that our manipulation was successful.

IV-Mediator link. We first ran a regression with participants' belief that refugees can assimilate in society as the dependent variable, and experimental condition (0=fixed mindset, 1=growth mindset) and political orientation as the independent variables. Participants with a more liberal orientation were more likely to believe that refugees can assimilate, B = .40, *95% CI* = [.32, .47], SE = .040, β = .44, $t(421) = 10.32$, $p < .001$. As predicted, a significant effect of condition indicated that

participants in the growth mindset condition were more likely than those in the fixed mindset condition to believe that refugees can assimilate, *B* = .49, *95% CI* = [.24, .75], *SE* = .13, *β* = .16, *t*(421) = 3.77, *p* < .001, Cohen's *d* = .37, *95% CI* = [.17, .56].

IV-DV link. A regression with participants' support for resettling refugees as the dependent measure, and experimental condition (0=fixed mindset, 1=growth mindset) and political orientation as the independent variables found no direct effect of experimental condition on participants' support for resettling refugees, *B* = .17, *95% CI* = [-.09, .44], *SE* = .14, *β* = .045, *t*(421) = 1.28, *p* = .20, Cohen's *d* = .12, *95% CI* = [-.066, .31]. As in the previous studies, participants with a more liberal orientation were more likely to support resettling refugees, *B* = .76, *95% CI* = [.68, .84], *SE* = .040, *β* = .68, *t*(421) = 18.87, *p* < .001. While the direct effect of the same experimental manipulation on participants' support for resettling refugees emerged in Study 3, it did not emerge in the present study. At the same time, the direct effect does not have to be observed for an indirect effect to be supported (e.g., Hayes, 2009; Mackinnon, Krull, & Lockwood, 2000; Shrout & Bolger, 2002).

Mediator-DV link. Next, we ran a regression with participants' support for resettling refugees as the dependent variable, and their belief that refugees can assimilate and their political orientation as independent variables. Participants with a more liberal orientation were more likely to support resettling refugees, *B* = .56, *95% CI* = [.48, .63], *SE* = .040, *β* = .49, *t*(421) = 14.27, *p* < .001. As predicted, the more participants believed that refugees can assimilate, the more they supported resettling refugees, *B* = .51, *95% CI* = [.43, .60], *SE* = .043, *β* = .41, *t*(421) = 11.85, *p* < .001.

Test for mediation. Next, we tested whether there is an indirect effect of fixed-growth mindsets (X) on support for resettling refugees (Y) through the belief that refugees can assimilate (M), with political orientation as the covariate. A

bootstrapped analysis with 5000 samples using Model 4 of Hayes' PROCESS macro (Hayes, 2012) indicated a positive indirect effect of the growth mindset vs. the fixed mindset condition on increased support for resettling refugees, mediated through a stronger belief that refugees can assimilate in society, *B* = .26, *SE* = .073, *95% CI* = [.12, .41]. These results provide evidence for the hypothesized mechanism—compared to those exposed to the idea that the kind of person someone is is fixed, participants exposed to the idea that the kind of person someone is can be changed were more likely to believe that refugees can assimilate in the new society, which predicted their greater support for resettling refugees in their country.

Study 5

Study 5 tested whether people's fixed-growth mindsets would be associated with their beliefs about whether refugees can assimilate to the host country's culture but not their beliefs about whether refugees should assimilate. We further tested whether the belief that immigrants can assimilate and the belief that they should assimilate are independent constructs.

Method

Participants. As this study included new measures, we did not have a basis for conducting power analysis. Therefore, we pre-decided on a sample size of 400. A survey seeking 400 US residents was posted on Amazon Mechanical Turk. In response, 453 participants completed the survey. All responses were from unique IP addresses. As per pre-determined criteria, we excluded 31 participants who were not US citizens, and one participant who was not a US resident. The final sample consisted of 421 participants (248 females, 171 males, and 2 others, mean age 37.56 years; 304 European Americans, 27 African Americans, 26 Latin Americans, 2

Native Americans, 25 Asian Americans, 10 belonging to other races, 17 multi-racials, and 4 non-disclosed).

Procedure. First, participants responded to three items measuring their kind of person mindsets (Chiu et al., 1997, α=.90). Next, participants responded to five items assessing the extent to which they believed that refugees *can* assimilate in the American society: (1) "To what extent do you think refugees can assimilate in American society?" (2) "To what extent do you think refugees can blend in American society?" (3) "To what extent do you think refugees can fit in American society?" (4) "To what extent do you think refugees can become a part of mainstream American society?" (5) "To what extent do you think refugees can become more American in their attitudes and values over time?" Participants responded to these items on a 7-point scale from *not at all* to *extremely* (α=.95). Participants also responded to five items assessing the extent to which they believed that refugees *should* assimilate in the American society. These were the exact same items as the previous measure except that the word *can* was replaced with *should* (α=.95). Finally, we measured participants' political orientation as in the previous studies (α=.93).

Results

We first conducted confirmatory factor analyses to test whether the two constructs—belief about whether refugees *can* assimilate in American society and the belief about whether refugees *should* assimilate in American society—represent two distinct constructs. A two-factor model fit the data (*RMSEA* = .10, *CFI* = .97, χ^2(*df* = 34) = 170.01) better than a one-factor model (*RMSEA* = .39, *CFI* = .51, χ^2(*df* = 35) = 2315.28, as evidenced by a significant decrease in the chi-square value, $\Delta\chi^2$(*df* = 1) = 2145.26, $p < .001$), indicating that these two constructs are distinct from each other.

Next, we regressed participants' beliefs about whether refugees *can* assimilate in American society on their kind of person mindsets and political orientation. Consistent with our predictions, participants' kind of person mindsets significantly predicted their belief about whether refugees *can* assimilate in American society $B = .30$, *95% CI* = [.20,.41], $SE = .053$, $\beta = .24$, $t(418) = 5.74$, $p < .001$. Participants' political orientation was also a significant predictor $B = .40$, *95% CI* = [.32, .48], $SE = .041$, $\beta = .41$, $t(418) = 9.71$, $p < .001$.

Finally, we regressed participants' beliefs about whether refugees *should* assimilate in the American society on their kind of person mindsets and political orientation. Consistent with our predictions, whereas political orientation was a significant predictor, $B = -.15$, *95% CI* = [-.24, -.060], $SE = .046$, $\beta = -.16$, $t(418) = -3.27$, $p = .0012$, participants' kind of person mindsets did not predict their beliefs that refugees *should* assimilate in the American society, $B = -.015$, *95% CI* = [-.13,.103], $SE = .060$, $\beta = -.012$, $t(418) = -.25$, $p = .80$. These results suggest that while people's kind of person mindsets are related to their beliefs about whether refugees *can* assimilate, they are unrelated to their beliefs about whether refugees *should* assimilate in the host culture.

Study 6

Study 6 sought to integrate the findings of Study 4, which found that people who believe that refugees *can* assimilate have more *positive* attitudes toward refugees, with the findings of past research, which found that people who believe that immigrants *should* assimilate have more *negative* attitudes toward immigrants (Bastian & Haslam, 2008). We predicted that people's beliefs about whether refugees *can* assimilate (i.e., their ability to assimilate), but not their beliefs about whether refugees *should* assimilate (i.e., their obligation to assimilate), would

underlie the relationship between people's fixed-growth mindsets and their support for refugees.

Method

The study was conducted in June 2017, immediately after the US Supreme Court's interim ruling on President Trump's executive order on refugees.

Participants. As this study included a new between-participants manipulation (*can assimilate* vs. *should assimilate*), we did not have a basis for conducting a power analysis. Therefore, we pre-decided on a sample size of 400. A survey seeking 400 US residents was posted on Amazon Mechanical Turk. In response, 403 participants completed the survey. As per pre-determined criteria, we excluded multiple responses from the same IP address (6 in total), six participants who were not US citizens, and eight participants who were not US residents. The final sample consisted of 383 participants, participants' gender was not recorded due to a technical issue; mean age 34.5 years; 293 European Americans, 23 African Americans, 13 Latin Americans, 24 Asian Americans, 8 belonging to other races, and 22 multi-racials). Participants were randomly assigned to either the *can assimilate* or the *should assimilate* condition.

Procedure. We first measured participants' fixed-growth mindsets about the kind of person someone is using the same scale as in Study 1 (α=.95).

Participants in the *can assimilate* condition responded to the five items mentioned in the previous study assessing the extent to which they believed that refugees *can* assimilate in the American society (α=.96). Those in the *should assimilate* condition responded to the five items mentioned in the previous study assessing the extent to which they believed that refugees *should* assimilate in the American society (α=.93).

Thereafter, we presented participants with the refugee policy issued by President Trump, along with the Supreme Court's ruling upholding the President's ban on refugees with some qualifications. Specifically, participants read the following paragraph:

> The US recently revised its policy toward refugees. The US was supposed to take in 110,000 refugees this year. However, the President signed a revised executive order in March that stopped all refugees from entering the US for the next 120 days. The Supreme Court recently upheld the President's ban on refugees who do not have a "bona fide" (legitimate) relationship with US citizens or organizations. Further, when the US starts taking in refugees, the total number of refugees settled in the US this year would be reduced from the current 110,000 to 50,000.

We then measured participants' support for resettling refugees in their country using four items measured on 7-point scales: (1) "How much do you agree with the policy that the US should take in only 50,000 refugees rather than 110,000 refugees this year?" (reverse coded; *Strongly disagree* to *Strongly agree*), and (2) "How much do you agree with the policy that the US should not take in any refugees?" (reverse coded; *Strongly disagree* to *Strongly agree*), (3) "Do you think that the United States is taking in too many refugees?" (reverse coded; *Definitely Not* to *Definitely Yes*); and (4) "Do you think that the United States is taking in too few refugees?" (*Definitely Not* to *Definitely Yes*). These items were averaged to form a scale (α=.94).

Further, to ensure that our dependent measure is distinct from participants' general support for multiculturalism, which has been extensively examined in past research (Arends-Tóth & can de Vijver, 2003; Verkuyten & Brug, 2004), we also measured participants' belief in multiculturalism using the multiculturalism ideology scale (α=.91, Arends-Tóth & can de Vijver, 2003).

Finally, we measured participants' political orientation as in the previous studies (α=.94).

Results

The descriptive statistics for all variables included in this study are provided in Tables S3 and S4 in the supplementary materials.

To test which of the two assimilation beliefs—*can assimilate* or *should assimilate*—mediated the relationship between participants' kind of person mindsets and their support for resettling refugees, we conducted separate analyses within the *can assimilate* and *should assimilate* conditions.

In the *can assimilate* condition, the more the participants had growth mindsets, the more they believed that refugees can assimilate, r=.28, 95% *CI* [.11, .43], p<.001, and the more they supported resettling refugees, r=.26, 95% *CI* [.14, .40], p<.001. Further, the more participants believed that refugees can assimilate, the more they supported resettling refugees, r=.70, *95% CI* [.61, .77], p<.001. See supplementary materials for analyses controlling for political orientation, which do not render any significant results nonsignificant. Next, we conducted a mediation analysis using PROCESS Model 4 (Hayes, 2012) with participants' support for resettling refugees as the dependent variable (Y), their kind of person mindsets as the independent measure (X), their beliefs that refugees *can assimilate* in the society as the mediator (M), and their political orientation as a covariate. A bootstrap analysis with 5,000 samples found that the direct effect of kind of person mindsets on the support for resettling refugees was mediated by participants' beliefs that refugees can assimilate in the society, B = .22, SE = .064, *95% CI* [.099, .35].

In the *should assimilate* condition, participants' fixed-growth mindsets were unrelated to their beliefs about whether refugees should assimilate, r=-.054, *95% CI* [-.20, .085], p=.45. People with growth mindsets were more likely to support resettling refugees, r=.19, 95% *CI* [.055, .33], p=.007. The more participants believed

that refugees should assimilate, the less they supported resettling refugees, r=-.32, *95% CI* [-.47, -.16], p<.001, consistent with prior research (Bastian & Haslam, 2008; Verkuyten, 2011). Again, see supplementary materials for additional analyses controlling for political orientation. Next, we conducted a parallel mediation analysis using PROCESS Model 4 (Hayes, 2012), but using *should assimilate* as the mediator. As predicted, a bootstrapping analysis with 5,000 samples found that the belief that refugees *should assimilate* in the society did not mediate the direct effect of kind of person mindsets on the support for resettling refugees, B=.0074, SE=.020, *95% CI* [-.031, .050].

Additional analyses found that participants' support for resettling refugees and their support for multiculturalism were distinct constructs, and the pattern and significance of the results reported above does not change when controlling for the effect of multiculturalism on support for resettling refugees (see Supplementary Materials for details). These results suggest that people with a growth mindset are more likely to believe that refugees can assimilate, and thus are more likely to support resettling refugees. However, people's mindsets are not related to their beliefs about whether refugees should assimilate, the classic assimilationist ideology that is associated with lower support for resettling refugees.

General Discussion

Six studies provide converging evidence for the idea that the more people believe that the kind of person someone is can be changed, the more likely they are to believe refugees *can* assimilate, and thus express greater support for resettling refugees in their country. These findings held across diverse methods, correlational and experimental studies, in two countries, the US and the UK, and with reference to different refugee policies, including those proposed by President Obama to increase

the number of refugees to be resettled in the US, and those proposed by President Trump to decrease the number of refugees to be resettled in the US.

Past research has extensively studied the assimilationist diversity ideology, the idea that immigrants are obligated to assimilate, and found that it predicts a variety of negative attitudes toward immigrants (Verkuyten & Brug, 2004). This ideology is problematic because it demands that immigrants must adopt the new host culture at the expense of their home nation's culture, despite the finding that it is possible for immigrants to successfully adapt to new cultures without giving up their home culture (Berry, 1992). The present research thus advances theoretical understandings in intergroup relations by identifying a lay belief—kind of person growth mindsets—that shapes a distinct response to refugees: acknowledging refugees' ability to assimilate without obligating them to assimilate, and thus increasing people's willingness to resettle refugees. The current work also contributes to distinguishing fixed-growth mindsets and essentialist beliefs by showing that they are associated with distinct beliefs about assimilation.

In this work, we study attitudes toward refugees as a broad identity group. Future research can investigate whether people's support for resettling refugees is contingent on the specific type of refugees being considered. For example, people's support for refugees from different groups might vary based on the stereotypes (Fiske, Cuddy, Glick, & Xu, 2002), or degree of inferiority or foreignness (Cheryan & Zou, 2017), associated with that group. Future research can also investigate whether minority groups within a host nation differ in how their mindsets shape their support for refugee resettlement (see Supplementary Materials for exploratory analyses with the current samples). Finally, Study 3 found that people's support for resettling refugees increased immediately after they read an article communicating a growth

mindset, but the effect of this experimental manipulation is likely short-lived. This study might also suffer from an experimenter demand effect if participants guessed our hypothesis about the relationship between the fixed vs. growth mindset articles and the subsequent questions about resettling refugees. Future research can investigate ways to produce a more durable change in people's mindset using a more demand-free methodology, and assess whether this has a lasting impact on people's attitudes.

Citizens' attitudes toward resettling refugees shape the life outcomes of over 3 million people annually (United Nations Refugee Agency, 2015). Thus, it is critical for psychological science to better understand what shapes people's outlook on resettling refugees. The current research answers this call by linking people's kind of person mindsets to their outlook on refugees' ability to adapt and thus their attitudes toward resettling refugees. The findings suggest that people's kind of person mindsets might be relevant not just for interpersonal judgments in intergroup contexts (Carr et al., 2012; Hong et al., 2004) but also to a set of policy attitudes that have the potential to shape millions of lives.

Author contributions: K. Savani conceptualized the research idea. All authors contributed to the study designs. S. Madan and K. Savani collected the data. S. Madan and S. Basu performed the data analysis with inputs from K. Savani and A. Rattan. All authors wrote the paper and approved the final version of manuscript for submission.

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Footnotes

[1]In another study, we found that the relationship between fixed-growth mindsets and support for a disadvantaged group was stronger when the disadvantaged group was refugees, who are perceived as culturally different from the general populace, rather than homeless people, who are culturally more similar to the host population and for whom cultural assimilation may not be as relevant. More details about this study can be requested from the authors.

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