Are they for us or against us: How intergroup metaperceptions shape foreign policy attitudes

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<td>intergroup contact, metaperceptions, outgroup perceptions, intergroup attitudes, conflict resolution, political psychology, public opinion, foreign policy</td>
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Abstract

We identify public opinion polls from other countries as an important form of indirect exposure to outgroups, demonstrating a two-step process through which such indirect exposure to outgroups affects support for ingroup behaviors that facilitate peaceful or violent relations between groups. When indirectly exposed to an outgroup, people infer intergroup metaperceptions (Step 1), which, in turn, shape people’s outgroup perceptions (Step 2). This effect and its underlying process occurred for both fictitious (Study 2) and real groups (Studies 1 and 3), as well as both outgroups dissimilar and outgroups similar to the ingroup (Study 3), above and beyond ingroup perceptions (Studies 1-3), perceived intergroup threat (Studies 2-3) and intergroup similarity (Study 3). Contributions to the literatures on cross-group contact, outgroup perceptions, international image theory, and intergroup attitudes are discussed.

129 words.

Keywords: intergroup contact, metaperceptions, outgroup perceptions, intergroup attitudes, conflict resolution.
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Are they for us or against us? How intergroup metaperceptions shape foreign policy attitudes

Research has investigated how people think their own group is viewed by other groups, and how these intergroup metaperceptions affect people’s behavior in direct contact with members of other groups (Frey & Tropp, 2006; Plant & Devine, 2003; Vorauer, 2006). When metaperceptions are negative, they can lead to behavior that makes cross-group interactions a negative experience (Shelton, Richeson, & Salvatore, 2005; Shelton & Richeson, 2005; Stephan, 2014). Yet, in today’s globalized world cross-group contact most often occurs indirectly rather than directly, with the media creating ample opportunity for indirect contact between groups that might not come into direct contact with one another (e.g., Ortiz & Harwood, 2007). In these situations, people are exposed indirectly to a rather unspecific group of others, rather than exposed directly to one or a few concrete exemplars of others. Thus, when people are exposed to (members of) other groups indirectly, and therefore have less direct experience to inform their intergroup attitudes, intergroup metaperceptions should be even more important for deciding a course of action—not only for oneself but also for the ingroup as a whole. The crucial question then becomes how indirect exposure to other groups shapes people’s intergroup metaperceptions, and how intergroup metaperceptions so shaped influence people’s support for their group to behave in ways that exacerbate or diminish conflict between groups.

Indirect exposure to outgroups provides important information people use to form perceptions of the outgroup, especially when direct exposure is limited (Crisp & Turner, 2009; Christ et al., 2010; Turner, Hewstone, Voci, & Vonofakou, 2008; Wright et al., 1997). Likewise, we argue that indirect exposure to outgroups should provide important information people use to form intergroup meta-perceptions. In other words, rather than only answering the question “Do I like this outgroup?”, indirect outgroup exposure should help people answer the question “Does
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the outgroup like my group?”. Importantly, outgroup perceptions and intergroup metaperceptions may constitute distinct but related factors that inform people’s support for different ingroup behaviors towards the outgroup.

The media are recognized as one of the most important, frequent, and prevalent sources of information people use to form or shape intergroup attitudes (see Bandura, 2001; Schiappa, Gregg, & Hewes, 2005). Media pieces that directly display positive ingroup-outgroup relations, for instance, lead to greater positive affect and personal intentions to engage in positive contact with outgroup members (Mazziotta, Mummendey, & Wright, 2011; Ortiz & Harwood, 2007). While past research has shown such effects to depend on both outgroup perceptions and intergroup metaperceptions (Kamans, Gordjin, Oldenhuis, & Otten, 2009), it is unclear (a) how indirect exposure to outgroups affects both outgroup perceptions and intergroup metaperceptions, (b) how outgroup perceptions and intergroup metaperceptions affect behavioral intentions toward the outgroup, and (c) if, and, if so, how, they work in conjunction to affect these behavioral intentions. Decomposing the joint effect of outgroup perceptions and intergroup metaperceptions, thereby illuminating the process underlying this effect, we argue that indirect exposure to outgroups shapes intergroup metaperceptions, which then serve as a source from which outgroup perceptions originate. That is, we propose that the effect of indirect exposure to outgroups on support for ingroup behavior toward the outgroup is transmitted through a sequential two-step process via intergroup metaperceptions (step 1) and outgroup perceptions (step 2; see Figure 1).

Our argument that intergroup metaperceptions should precede outgroup perceptions is rooted in the social identity perspective (Tajfel & Turner, 1986; for a review see Hornsey, 2008). People are sensitive both to the ingroup’s image in their own eyes and to its reputation in the
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eyes of outgroup members (Gausel, Leach, Vignoles, & Brown, 2012; Hornsey, Oppes, & Svensson, 2002; Kardos, Leidner, Castano, & Lickel, 2015; Leach, Ellemers, & Barreto, 2007).

This sensitivity and the corresponding motivation to maintain a positive ingroup image and reputation should lead people to develop more positive views toward outgroups that they perceive to share a positive view of the ingroup, and to develop more negative views toward outgroups that they perceive to challenge ingroup members’ positive view of the ingroup. In line with this hypothesis, people reject criticism of the ingroup when it is delivered by an outgroup (rather than ingroup) member (Hornsey et al., 2002). Relatedly, negative metaperceptions may reduce trust toward outgroup members (Tropp, Stout, Boatswain, Wright, & Pettigrew, 2006), and expectations of rejection from outgroup members – likely reflecting negative metaperceptions – can increase negative views of the outgroup (Barlow, Louis, & Hewstone, 2010), whereas expectations of inclusion by outgroup members – likely reflecting positive metaperceptions – encourage more positive relations with members of that outgroup (Tropp & Bianchi, 2006).

While it is also possible that people project their own perceptions of an outgroup onto the outgroup members and their views of the ingroup (i.e. outgroup perceptions influencing intergroup metaperceptions), it is rather unlikely that this process would result in a change in support for the ingroup’s behavior toward the outgroup. In that case, outgroup perceptions should influence both intergroup metaperceptions and, independently from it, support for ingroup behavior. In other words, the relationship between intergroup metaperceptions and outgroup perceptions is likely bidirectional, but with respect to these perceptions’ effect on support for ingroup behavior toward an outgroup only one direction (intergroup metaperceptions -> outgroup perceptions) seems plausible, while the other (outgroup perceptions -> intergroup
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metaperceptions) does not. Similarly, a process where intergroup metaperceptions and outgroup perceptions operate in parallel is unlikely. While outgroup perceptions should directly translate into support for ingroup behavior toward the outgroup – in fact, this prediction is part of our hypothesized two-step process – intergroup metaperceptions should only do so indirectly, but not directly. A direct effect of intergroup metaperceptions is rather unlikely, because the information people infer from metaperceptions is less action-oriented than the information people infer from outgroup perceptions.

The action potential of intergroup metaperceptions is rooted in their underlying beliefs about the outgroup and its motives, while the action potential of outgroup perceptions is rooted in their underlying beliefs about the power differential and the structural relations between ingroup and outgroup (Boulding, 1959; Cottam, 1977). These latter beliefs aggregate to images of the outgroup as an “enemy” or “ally,” which define the functional relations between the ingroup and the outgroup (Alexander, Brewer, & Herrmann, 1999). As such, outgroup perceptions should have greater potential for action than intergroup metaperceptions. Further, the formation of the image of an outgroup as one’s ingroup’s enemy, for instance, should be preceded by the view that the outgroup harbors ill will toward the ingroup. Hence, intergroup metaperceptions should precede outgroup perceptions. In line with our hypothesis that outgroup perceptions should have more immediate impact on support for ingroup behavior toward the outgroup, outgroup images have been shown to predict outgroup-directed emotions and trust, as well as policy support (Bilali, 2010; Herrmann, 1986). When people perceive an outgroup to endorse policies that are threatening or aggressive to the ingroup, for instance, they are more supportive of the ingroup’s use of force against the outgroup (Herrmann, & Keller, 2004; Koopman, Snyder, & Jervis, 1990). As mentioned earlier, we argue that this effect is driven not
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only by outgroup perceptions, but also by intergroup metaperceptions that precede them, because metaperceptions directly scaffold the motives and intent attributed to outgroups in outgroup images. We thus hypothesized that indirect exposure to an outgroup (e.g. by learning about the outgroup’s public opinion on ingroup-relevant issues) will shape intergroup metaperceptions, which in turn will shape outgroup perceptions and ultimately affect support for friendly or hostile ingroup policies toward the outgroup.

Study 1

To test our hypothesis, Study 1 examined the effects of indirect exposure to an outgroup on intergroup metaperceptions, perceptions of the outgroup, and support for ingroup behaviors toward the outgroup. Since people vary in how positively or negatively they view their ingroup, and since such ingroup perceptions can influence both intergroup metaperceptions and outgroup perceptions, we controlled for participants’ ingroup perceptions.

In addition to our main hypothesis, we tested models for five alternative hypotheses for each DV in each of the three studies. Results are reported in the supplementary materials.

Method

Participants

We recruited 319 adults through Amazon’s Mechanical Turk (MTurk). Thirteen were deleted because they were not born in the U.S. or did not speak English as their first language, 15 because they did not spend sufficient time on the study, and 32 for failing a manipulation check. This left 259 American citizens for final analyses, including 116 males, 143 females, ages 18-74 ($M = 38.83, SD = 13.87$). The exclusion of 19% of the sample was within normal range (3-31%) for online studies and has been deemed crucial to ensure sufficient data quality (e.g., Chandler, Mueller, & Paolacci, 2013).
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Procedure

We randomly assigned participants to one of three conditions. In two experimental conditions, participants read a report on a fictitious but allegedly real Gallup poll showing that a majority of the Iranian public favored policies that were either positive or negative toward the U.S. (positive and negative indirect exposure conditions, respectively). Importantly, the report did not give direct information about Iranians’ opinions of Americans. It simply stated that Iranians support policies described as “peaceful” or “aggressive” towards the U.S., such as supporting (or opposing) their government in opening up Iranian waterways for American use, and allowing (or not) international inspections of Iranian nuclear facilities. Participants in the baseline condition did not read any report. Participants then responded to the following measures, all of which were unidimensional, as intended, and assessed on visual analog scales from 1 to 9, unless noted otherwise.

Metaperceptions (Cronbach’s α = .80, M = 5.94, SD = 1.41). Five items measured participants’ expectations for how Iranians view Americans, including items adapted from previous research on image theory (Alexander et al., 1999; Alexander et al., 2005; Bilali, 2010) and sentience (Leidner, Castano, & Ginges, 2013; e.g. Iranian people... think that Americans cannot be trusted, think that power in the hands of Americans is a dangerous thing, think that American leaders are weak, and think the typical American has compassion for the suffering of others [reverse-coded]). Responses ranged from Strongly disagree to Strongly agree; higher scores indicated more negative metaperceptions.

Outgroup perceptions (Cronbach’s α = .76, M = 5.15, SD = 1.50). The survey assessed participants’ perceptions of outgroup members (Iranians) with items paralleling the metaperception items (e.g. I think that Iranians ... cannot be trusted), and responses ranging from
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Strongly disagree to Strongly agree.

Ingroup perceptions (Cronbach’s α = .78, M = 4.07, SD = 1.56). The survey also assessed participants’ perceptions of Americans, with items paralleling the perceptions of Iranians (e.g. I think that Americans... cannot be trusted), and responses ranging from Strongly disagree to Strongly agree. This variable allowed us to control for the extent to which metaperceptions reflected participants’ own views of members of their national ingroup.

Support for aggressive U.S. policies toward Iran (Cronbach’s α = .71, M = 3.93, SD = 1.66). Participants indicated the extent to which they oppose or support statements that the U.S. should enter direct negotiations with Iran (reversed), impose further sanctions on Iran, and use military force against Iran on scales ranging from Strongly oppose to Strongly support.

Openness to diplomacy initiated by Iran (Cronbach’s α = .93, M = 7.50, SD = 1.71). Participants responded to an imaginary scenario in which the Iranian government invited the U.S. for direct negotiations, by indicating the extent to which they believe the U.S. should “accept the invitation and agree to enter the negotiations” or “decline the invitation and stay out of the negotiations” (reversed), with scores ranging from Strongly oppose to Strongly support.

The data points of three participants were deleted on this outcome based on univariate outlier analysis (Tabachnick & Fidell, 2007).1

Results

All dependent variables were subjected to a one-way analysis of variance (ANOVA) with condition as 3-level independent variable (baseline vs. negative indirect exposure vs. positive indirect exposure). Differences in the within-degrees of freedom reflect varying numbers of

1 We screened for univariate outliers at the .01 level of significance as a part of normal data screening procedures. Results were consistent when not excluding univariate outliers, but we stuck to our a priori decided data analytical approach.
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univariate outliers and/or missing values on different variables. Zero-order correlations are displayed in Table 1; while support for aggressive U.S. policies towards Iran and openness to diplomacy initiated by Iran were strongly correlated, confirmatory factor analyses modeling the items of these two variables as two separate factors or one common factor indicated that the two-factor model was significantly better than the one-factor model, $\chi^2(1) = 289.62, p < .001$.

Manipulation Check. Following the manipulation, participants in the negative and positive indirect exposure conditions responded to questions about facts mentioned in the report they read. Participants were asked if the report said that the majority of the Iranian people wanted their government to close off waterways that the U.S. depends on, prohibit international inspections of the Iranian nuclear facilities, adopt aggressive policies towards the U.S., and adopt peaceful policies towards the U.S.. Thirty-two participants whose scores on these manipulation checks were extreme univariate outliers (Tabachnick & Fidell, 2007) were excluded from subsequent data analysis.

Metaperceptions. Participants’ metaperceptions significantly differed between all conditions, $F(2, 256) = 22.42, p < .001, \eta_p^2 = .149$. Participants in the positive indirect exposure condition ($M = 5.22, SD = 1.30$) expressed the least negative metaperceptions, participants in the negative indirect exposure condition expressed the most negative metaperceptions ($M = 6.61, SD = 1.30$), with participants in the control condition falling in between ($M = 5.91, SD = 1.33$), $t(256) > 3.40, ps < .001$.

Outgroup perceptions. Participants’ perceptions of Iranians also differed significantly across conditions, $F(2, 256) = 4.72, p = .010, \eta_p^2 = .036$. Participants in the positive indirect exposure condition ($M = 4.72, SD = 1.48$) expressed significantly less negative perceptions than participants in the control condition ($M = 5.19, SD = 1.52$), $t(255) = 2.01, p = .045$, and
participants in the negative indirect exposure condition \((M = 5.45, SD = 1.46), t(255) = 3.05, p = .003\). Participants in the negative indirect exposure and control condition did not differ significantly, \(t(255) = 1.18, p = .238\).

**Ingroup perceptions.** Participants’ perceptions of Americans differed marginally across conditions, \(F(2, 256) = 2.80, p = .063, \eta_p^2 = .021\). Participants expressed significantly more negative perceptions of Americans in the negative indirect exposure condition \((M = 4.30, SD = 1.77)\) compared to the control condition \((M = 3.77, SD = 1.39), t(256) = 2.30, p = .022\). The other two contrasts were not significant, \(ts(256) < 1.60, ps > .130\).

**Support for aggressive U.S. policies toward Iran.** Participants’ support for aggressive policies differed significantly across conditions, \(F(2, 256) = 4.28, p = .015, \eta_p^2 = .032\). Participants in the positive indirect exposure condition \((M = 3.43, SD = 1.51)\) expressed significantly less support for aggressive policies toward Iran than participants in the control condition, \((M = 4.08, SD = 1.72), t(256) = -2.55, p = .011\), and participants in the negative indirect exposure condition \((M = 4.11, SD = 1.64), t(256) = -2.62, p = .009\). Participants in the negative indirect exposure and control conditions did not differ significantly, \(t(256) = 0.15, p = .880\).

**Openness to diplomacy initiated by Iran.** Openness differed significantly across conditions, \(F(2, 252) = 6.80, p = .001, \eta_p^2 = .031\). Participants were significantly more open to diplomacy in the positive indirect exposure condition \((M = 8.14, SD = .97)\) compared to the control condition \((M = 7.28, SD = 1.92), t(252) = 3.66, p < .001\), and the negative indirect exposure condition \((M = 7.55, SD = 1.31) t(252) = -2.45, p = .015\). The negative indirect exposure and control conditions did not differ significantly, \(t(252) = 1.20, p = .231\).
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Mediational analyses. To test our core mediational hypothesis that outgroup public opinion affects support for foreign policy through a two-step process of metaperceptions (step 1) and outgroup perceptions (step 2), we conducted a sequential mediation analysis with metaperceptions and outgroup perceptions as step 1 and step 2 mediators, respectively, ingroup perceptions as covariate, and support for aggressive policies and openness to diplomacy initiated by Iran as the respective DVs, using 5,000 bootstrapping samples (Hayes, 2013, model 6). Two dummy variables represented the positive indirect exposure and negative indirect exposure conditions (values of 1 and 0 for participants in the positive indirect exposure condition, 0 and 1 for participants in the negative indirect exposure condition, and 0 and 0 for participants in the control condition). As the effects found by the ANOVAs above were mostly driven by the positive indirect exposure condition, the dummy representing the positive indirect exposure condition served as the independent variable in all analyses, with the dummy representing the negative indirect exposure condition as a covariate. As the covariate of ingroup perceptions was itself affected by condition, its interactions with the dummy variables that affected it (e.g., negative indirect exposure) had also to be entered as covariates in the model for statistical reasons (see Yzerbyt, Muller, & Judd, 2004). Unless otherwise mentioned, significant effects reported below were also significant when excluding the covariate (ingroup perceptions) from the models.

The sequential indirect effect via metaperceptions and outgroup perceptions was significant for both support for aggressive policies, $b = -.63, SE = .30, [-1.27, -.11]$, and openness to diplomacy initiated by Iran, $b = .56, SE = .27, [.10, 1.19]$.

Discussion
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Study 1 provided initial evidence that indirect exposure to an outgroup can affect people’s support for ingroup behavior toward the outgroup by changing their intergroup metaperceptions and outgroup perceptions. Importantly, this joint indirect effect of intergroup metaperceptions and outgroup perceptions occurred in sequential fashion, with intergroup metaperceptions affecting outgroup perceptions (rather than vice versa or in parallel). Further, Study 1 found that the effect of indirect exposure to an outgroup was driven by positive indirect exposure, whereas it did not find any difference between baseline and negative indirect exposure. Preconceived notions of Iran as antagonistic to the U.S. may have made the baseline indistinguishable from the negative indirect exposure condition.

A possible alternative explanation for our effect of indirect outgroup exposure on support for ingroup behavior is that, rather than being driven by metaperceptions and outgroup perception, it may actually have been driven by perceived intergroup threat. Learning that Iranians support policies that are peaceful towards the U.S. may have decreased perceived threat from Iran (Stephan, Ybarra, & Morrison, 2009), which could have led to less negative attributions in general (Kramer, 2004). In other words, our effect and its underlying mechanism may be reducible to decreased perceptions of outgroup threat.

Study 2

Study 2 used the fictional country of “Kionda” as an outgroup to test whether when using a fictional outgroup for which participants do not have preconceived notions, the negative indirect exposure condition would have an effect opposite to the positive indirect exposure condition, but via the same process of intergroup metaperceptions and outgroup perceptions (but in opposite directions). Further improving upon Study 1, Study 2 measured and controlled for perceived intergroup threat, so that we could rule out the alternative hypothesis that threat, rather
than intergroup metaperceptions and outgroup perceptions, explains effects of positive and negative indirect exposure on support for aggressive foreign policies and openness to diplomacy.

Method

Participants

We collected data from 307 MTurk participants. Nineteen participants were deleted because they were not born in the U.S. or English was not their first language. Based on univariate outlier analysis (Tabachnick & Fidell, 2007), an additional five participants were deleted for taking significantly more or less time to complete the study than average. An additional 34 participants were deleted for failing the manipulation check, leaving a total of 249 American citizens, including 93 males and 156 females, ages 18-78 ($M = 38.79$, $SD = 13.32$).

Procedure

The manipulation was adapted from Study 1, using the fictitious country Kionda instead of Iran. Participants were introduced to Kionda as a country with “tenuous” relations with the United States, the Kiondan government being accused of supporting groups involved with political violence against the United States. Kiondan public opinion was described as supporting either “peaceful” or “coercive” policies towards the U.S., strengthening or resisting diplomatic relations with the U.S., and either stopping or continuing support for groups accused of political violence against the United States.

Measures. The measures of metaperceptions (Cronbach’s $\alpha = .87$, $M = 5.72$, $SD = 1.77$), outgroup perceptions (Cronbach’s $\alpha = .77$, $M = 5.14$, $SD = 1.48$), ingroup perceptions (Cronbach’s $\alpha = .77$, $M = 3.94$, 1.51) support for aggressive policies (Cronbach’s $\alpha = .56$, $M = 3.68$, $SD = 1.37$), and openness to diplomacy ($r = .82$, $p < .001$, $M = 7.52$, $SD = 1.44$) were identical to those in Study 1, adapted from “Iranians” to “Kiondans.”
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Perceived intergroup threat was measured with four items adapted from prior research (e.g., Stephan et al., 2002): Kionda poses a threat to American culture, American norms and values are being threatened by Kionda, Kionda’s military development poses a threat to U.S. interests, and Kionda threatens the safety of Americans (Cronbach’s α = .82, M = 3.89, SD = 1.54).

Results

Manipulation check. Participants were asked whether the Gallup Poll found that the majority of Kiondans wanted their government to strengthen diplomatic relations with the U.S., resist diplomatic relations with the U.S., continue support for groups that engage in political violence against the U.S., and end support for groups that engage in political violence against the U.S.. Based on univariate outlier analyses, 34 participants in the positive and negative indirect exposure conditions were excluded. Zero-order correlations are displayed in Table 2; while again support for aggressive U.S. policies and openness to diplomacy were strongly correlated, confirmatory factor analyses modeling the items of these two variables as two separate factors or one common factor indicated that the two-factor model was significantly better than the one-factor model, $\chi^2(1) = 127.22, p < .001$.

Metaperceptions. Participants expressed significantly different metaperceptions of Kiondans across conditions, $F(2, 246) = 63.27, p < .001$, $\eta^2 = .340$. Participants in the positive indirect exposure condition ($M = 4.39, SD = 1.72$) expressed significantly less negative metaperceptions than participants in the control condition ($M = 5.81, SD = 1.46$), $t(246) = -6.46, p < .001$, and participants in the negative indirect exposure condition ($M = 6.99, SD = 1.05$), $t(246) = -11.22, p < .001$. Participants in the negative indirect exposure condition expressed
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significantly more negative metaperceptions than participants in the control condition, \( t(246) = 5.30, p < .001 \).

**Outgroup perceptions.** Participants also differed significantly across conditions in their perceptions of Kiondans, \( F(2, 246) = 36.47, p < .001, \eta_r^2 = .229 \). Participants in the positive indirect exposure condition (\( M = 4.36, SD = 1.31 \)) expressed significantly less negative perceptions of Kiondans than participants in the control condition (\( M = 5.00, SD = 1.23 \), \( t(246) = -3.16, p = .001 \), and participants in the negative indirect exposure condition (\( M = 6.14, SD = 1.40 \), \( t(240) = -8.43, p < .001 \). Participants in the negative indirect exposure condition expressed significantly more negative perceptions of Kiondans than participants in the control condition, \( t(240) = 5.65, p < .001 \).

**Ingroup perceptions.** Participants did not differ significantly across conditions in their perceptions of Americans, \( F(2, 246) = 1.15, p = .318, \eta_r^2 = .009 \).

**Perceived intergroup threat.** Participants significantly differed across conditions in intergroup threat they perceived from Kiondans, \( F(2, 246) = 11.60, p < .001, \eta_r^2 = .086 \). Participants in the positive indirect exposure condition (\( M = 3.24, SD = 1.53 \)) perceived significantly less threat than participants in the control condition (\( M = 4.06, SD = 1.47 \), \( t(246) = -3.68, p < .001 \), and participants in the negative indirect exposure condition (\( M = 4.32, SD = 1.42 \), \( t(246) = -4.56, p < .001 \). Participants in the negative indirect exposure condition did not differ from participants in the control condition, \( t(246) = -1.11, p = .267 \).

**Support for aggressive U.S. policies towards Kionda.** Participants differed significantly across conditions in support for aggressive policies, \( F(2, 246) = 24.96, p < .001, \eta_r^2 = .169 \). Participants in the positive indirect exposure condition (\( M = 2.95, SD = 1.16 \)) expressed significantly less support for aggressive policies than participants in the control condition (\( M = \)}
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3.74, \( SD = 1.14 \), \( t(246) = -4.12, p < .001 \), and participants in the negative indirect exposure condition (\( M = 4.37, SD = 1.47 \)), \( t(246) = -7.04, p < .001 \). Participants in the negative indirect exposure condition expressed significantly more support than participants in the control condition, \( t(246) = 3.26, p = .001 \).

Openness to diplomacy. Participants differed significantly across conditions in openness towards the Kiondan invitation to negotiate, \( F(2, 246) = 18.88, p < .001, \eta^2 = .133 \). Participants in the positive indirect exposure condition (\( M = 8.08, SD = 0.99 \)) expressed significantly higher levels of openness to the invitation to negotiate than participants in the control condition (\( M = 7.66, SD = 1.14 \)), \( t(246) = 2.05, p = .041 \), and participants in the negative indirect exposure condition (\( M = 6.78, SD = 1.83 \)), \( t(246) = 6.02, p < .001 \). Participants in the negative indirect exposure condition expressed significantly less openness to diplomacy than participants in the control condition, \( t(246) = 4.24, p < .001 \).

Mediational analyses. The same sequential mediation model and alternative models as in Study 1 were tested. Again, two dummy variables represented the positive indirect exposure and negative indirect exposure conditions (values of 1 and 0 for participants in the positive indirect exposure condition, 0 and 1 for participants in the negative indirect exposure condition, and 0 and 0 for participants in the control condition). As the effects found by the ANOVAs above were equally driven by both the positive and the negative indirect exposure condition, we tested the sequential indirect effect with the dummy representing the positive indirect exposure condition as the independent variable and with the dummy representing the negative indirect exposure condition as the independent variable separately, with the respective other dummy as a covariate. Ingroup perceptions and perceived intergroup threat served as additional covariates, along with interactions between the positive indirect exposure condition and perceived intergroup threat.
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(since the positive indirect exposure condition affected perceived intergroup threat). As such, we were able to test whether outgroup support for ingroup-favorable and ingroup-unfavorable policies each affect people’s support for ingroup policies toward the outgroup through the same pathways of intergroup metaperceptions and outgroup perceptions in opposite directions over and above perceived intergroup threat and their own perceptions of their ingroup. All significant indirect effects below were consistent with and without entering the covariates in the model.

The sequential indirect effect of the positive indirect exposure dummy via metaperceptions and outgroup perceptions in sequence was significant for support for aggressive policies, $b = -.14, SE = .06, [-.32, -.05]$, and so was the sequential indirect effect of the negative indirect exposure dummy, $b = .11, SE = .04, [.05, .21]$. The sequential indirect effect from the positive indirect exposure condition to openness to diplomacy via metaperceptions and outgroup perceptions was also significant, $b = .12, SE = .07, [.03, .32]$, and so was the sequential indirect effect of the negative indirect exposure condition, $b = -.09, SE = .04, [-.21, -.02]$.

Discussion

Study 2 conceptually replicated Study 1 and extended it in two important ways. First, it found a difference of both the positive indirect exposure and the negative indirect exposure conditions from the baseline, showing that the effect of indirect exposure to an outgroup on support for ingroup behavior toward the outgroup occurs via the same sequential process whether or not the exposure is positive or negative in nature. However, as predicted it occurs in opposite directions. Second, Study 2 showed that this process occurs over and above the effects of perceived intergroup threat. Again, the sequential indirect effect via metaperceptions and outgroup perceptions was the only robust explanation for the effect of indirect exposure to an outgroup on support for ingroup behavior toward the outgroup.
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Using a fictional outgroup was particularly important for demonstrating experimental effects independent of preconceived notions of the outgroup and the ingroup’s relationship with that outgroup. However, in the context of international relations, using a fictional outgroup may necessarily create other biases. First, imagining a country they have never heard of may have made it difficult for participants to form attitudes towards it, which may explain the low reliability of the *support for aggressive foreign policies* measure. Second, by virtue of not having heard of the country before, participants likely saw “Kionda” as neither overly negative nor overly positive vis-à-vis the ingroup. Thus, both Study 1 and Study 2 indirectly exposed participants to outgroups that were either seen as negative from the start, and/or less than positive. Neither study exposed participants to outgroups that were seen as positive from the start. Further, neither study exposed participants to outgroups seen as culturally or politically similar to the ingroup. Since Americans may support cooperative relations with other national (out-)groups perceived as culturally similar and in particular democracies more so than national (out-)groups perceived as dissimilar and particularly those that are not democracies (Herrmann & Keller, 2004; Roccas & Schwartz, 1993), it is possible that effects observed in Studies 1-2 were dependent upon perceiving the outgroup country as culturally or politically dissimilar. Thus, Study 3 tested whether the effects of indirect exposure to outgroups would generalize to outgroups that are seen as very similar to the ingroup.

**Study 3**

Consistent with Studies 1-2, Study 3 again manipulated positive and negative indirect exposure to compare each to a baseline condition. Expanding onto Studies 1-2, Study 3 also randomly varied whether participants received indirect exposure to an outgroup they would likely view as similar to their ingroup (Germany) or one they would likely view as dissimilar to
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their ingroup (Saudi Arabia). We tested whether the effects we observed in Studies 1-2 would generalize even to outgroups seen as similar to the ingroup, and occur over and above any effects of (measured) outgroup similarity.

Method

Participants

We collected data from 602 MTurk participants for Study 3. Of those 602, 25 were deleted because they were not born in the U.S. or English was not their first language. An additional eleven had to be deleted because they wished to withdraw their data after participation. Another 47 were deleted because according to outlier analyses (Tabachnick & Fidell, 2004), they took significantly less or more time to complete the study than average, indicating they likely did not pay sufficient attention or were interrupted during the study. An additional 35 participants were deleted for failing the manipulation check, leaving 484 participants for analyses (193 males; age M = 35.70, SD = 12.89, range = 18-79).

Procedure

Study 3 used a similar design as Study 1 and 2, crossing the indirect exposure to an outgroup with type of outgroup as a second factor, resulting in a 3 (positive indirect exposure vs. baseline vs. negative indirect exposure) x 2 (similar vs. dissimilar) design. Participants either read information about public opinion in Germany as supporting policies to “strengthen” or “sever” ties to the U.S., including to increase or reduce military and intelligence cooperation with the U.S. (similar outgroup positive indirect exposure condition and similar outgroup negative indirect exposure condition, respectively), or information about public opinion in Saudi Arabia as supporting policy to “strengthen” or “sever” ties to the U.S. (dissimilar positive indirect exposure condition and dissimilar negative indirect exposure condition, respectively).
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Whereas Germany is a Western European and democratic country that participants were expected to view as rather similar to the U.S., Saudi Arabia is an Arab, Islamic monarchy that participants were expected to view as rather dissimilar from the United States.

**Measures**

Study 3 used similar measures to Studies 1-2, including *metaperceptions* (α = .94, $M = 5.70$, $SD = 1.38$), *outgroup perceptions* (α = .96, $M = 4.21$, $SD = 1.48$), *ingroup perceptions* (α = .93, $M = 4.65$, $SD = 1.46$), *perceived intergroup threat* (α = .86, $M = 3.73$, $SD = 1.71$), *support for aggressive foreign policies* (α = .71, $M = 2.99$, $SD = 1.46$), and *openness to diplomacy initiated by outgroup* ($r = .69$, $p < .001$, $M = 7.19$, $SD = 1.64$). However, Study 3 added items to the measures of *metaperceptions*, *outgroup perceptions*, and *ingroup perceptions* (see Appendix A). In addition, the order in which *metaperceptions* and *outgroup perceptions* were presented was randomized, so as to avoid order effects that could influence the results of sequential mediation analyses.

Also, one item assessed *perceived similarity* of the outgroup to the ingroup, on a scale from *Not similar at all* to *Very similar* ($M = 5.34$, $SD = 2.10$).

**Results**

Analyses were the same as in Studies 1-2, except that type of outgroup (Germany or Saudi Arabia) was added as a factor in the analyses, as was the interaction between indirect exposure and the type of outgroup. Zero-correlations are presented in Table 3; while again *support for aggressive U.S. policies* and *openness to diplomacy* were strongly correlated, confirmatory factor analyses modeling the items of these two variables as two separate factors or one common factor indicated that the two-factor model was significantly better than the one-factor model, $\chi^2(1) = 376.51$, $p < .001$. 

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**Manipulation check.** Participants in the positive and negative indirect exposure conditions were asked true/false questions regarding the public opinion reported in the Gallup polls. Participants in the positive indirect exposure conditions were excluded if they incorrectly marked as ‘false’ that the outgroup did want their ingroup to allow the U.S. to build more military bases on the outgroup’s (Germany or Saudi Arabia) territory, whereas participants in the negative indirect exposure conditions were excluded for marking this as ‘true’. Participants in the positive indirect exposure conditions were also excluded for marking as ‘true’ that members of the outgroup wanted to reduce intelligence cooperation with the ingroup, whereas participants in the negative indirect exposure conditions were excluded for marking this as ‘false’.

**Perceived similarity.** In addition to a check of participants’ comprehension of the manipulation materials, we also included a measure of their perceptions of similarity of the outgroup to test our hypothesis that participants would perceive Germany as more similar to the U.S. than Saudi Arabia. As expected, participants differed significantly across the indirect exposure conditions in terms of perceived outgroup similarity, $F(1, 478) = 34.72, p < .001, \eta_p^2 = .068$, perceiving Germans as more similar to the U.S. ($M = 5.93, SD = 1.81$) than Saudis ($M = 4.81, SD = 2.20$). The main effect of indirect exposure was also significant, $F(1, 478) = 4.20, p = .012, \eta_p^2 = .017$. Participants in the negative indirect exposure condition ($M = 4.96, SD = 2.14$) perceived the outgroup as less similar than participants in the control condition ($M = 5.45, SD = 2.12$), $t(478) = -2.12, p = .035$, and participants in the positive indirect exposure condition ($M = 5.62, SD = 1.99$), $t(478) = -2.79, p = .006$. Participants in the control and positive indirect exposure conditions did not differ significantly in their perceptions of the outgroup’s similarity, $t(478) = .82, p = .415$. The public opinion information and outgroup conditions did not interact significantly, $F(2, 478) = 1.15, p = .319, \eta_p^2 = .005$. 

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**Metaperceptions.** Regardless of type of outgroup, participants reported significantly different metaperceptions across the indirect exposure conditions, $F(2, 478) = 24.60, p < .001$, $\eta_p^2 = .093$. Participants in the positive indirect exposure condition ($M = 5.11, SD = 1.46$) expressed significantly less negative metaperceptions than participants in the control condition ($M = 5.81, SD = 1.23$), $t(478) = -4.89, p < .001$, and the negative indirect exposure condition ($M = 6.15, SD = 1.27$), $t(478) = 6.86, p < .001$. Participants in the negative indirect exposure condition expressed significantly more negative metaperceptions than participants in the control condition, $t(478) = 2.30, p = .022$. Participants also reported significantly more negative metaperceptions of Saudis ($M = 5.90, SD = 1.33$) than of Germans ($M = 5.50, SD = 1.40$), $F(1, 478) = 9.90, p = .002$, $\eta_p^2 = .020$, regardless of indirect exposure. The interaction was not significant, $F(2, 478) = 1.02, p = .363$, $\eta_p^2 = .004$.

**Outgroup perceptions.** Participants expressed significantly different perceptions of outgroup members across the indirect exposure conditions, $F(2, 478) = 11.98, p < .001$, $\eta_p^2 = .048$. Participants in the positive indirect exposure conditions ($M = 3.78, SD = 1.36$) expressed significantly less negative perceptions of outgroup members than participants in the control conditions ($M = 4.26, SD = 1.44$), $t(478) = -3.34, p = .001$, and participants in the negative indirect exposure conditions ($M = 4.55, SD = 1.54$), $t(478) = 4.81, p < .001$. Participants in the negative indirect exposure conditions expressed marginally more negative outgroup perceptions than participants in the control condition, $t(478) = 1.70, p = .090$. Participants also expressed more negative perceptions of Saudis than of Germans, $F(2, 478) = 82.43, p < .001$, $\eta_p^2 = .147$. The two factors did not interact significantly, $F(2, 478) = 0.33, p = .718$.

**Ingroup perceptions.** There was a trend for participants to express significantly different perceptions of the U.S. across indirect exposure conditions, $F(2, 478) = 2.31, p = .101$, $\eta_p^2 =$.
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.009. Participants expressed marginally less negative perceptions of Americans in the positive indirect exposure condition \((M = 4.54, SD = 1.42)\) compared to the control condition \((M = 4.83, SD = 1.41)\), \(t(478) = -1.73, p = .084\). Participants also expressed marginally less negative perceptions of Americans in the negative indirect exposure condition \((M = 4.53, SD = 1.53)\) than in the control condition, \(t(478) = -1.91, p = .057\). Participants in the negative and positive indirect exposure conditions did not differ in how negative the perceptions they expressed toward Americans were, \(t(478) = -0.15, p = .880\). There was a trend for participants to express less negative ingroup perceptions when asked questions about Saudis \((M = 4.54, SD = 1.46)\) than when they were asked questions about Germans \((M = 4.76, SD = 1.44)\), \(F(1, 478) = 2.58, p = .109, \eta^2_p = .005\). There was no significant interaction, \(F(2, 478) = 1.82, p = .163, \eta^2_p = .008\).

*Perceived intergroup threat.* Participants expressed significantly different levels of threat across the indirect exposure conditions, \(F(2, 478) = 6.59, p = .002, \eta^2_p = .027\). Participants expressed significantly less threat in the positive indirect exposure conditions \((M = 3.37, SD = 1.62)\) than in the control conditions \((M = 3.75, SD = 1.64)\), \(t(478) = -2.27, p = .024\), and in the negative indirect exposure conditions \((M = 4.05, SD = 1.82)\), \(t(478) = -3.61, p < .001\). There was a trend for participants to express more threat in the negative indirect exposure condition compared to the control condition, \(t(478) = 1.52, p = .130\). Participants also perceived more threat when questions were in reference to Saudis \((M = 3.06, SD = 1.58)\) than when they were in reference to Germans \((M = 4.35, SD = 1.59)\), \(F(1, 478) = 78.77, p < .001, \eta^2_p = .142\). There was no interaction between the two factors, \(F(2, 478) = 0.20, p = .815, \eta^2_p = .001\).

*Support for aggressive foreign policies.* Participants expressed significantly different levels of support across the indirect exposure conditions, \(F(2, 478) = 14.82, p < .001, \eta^2_p = .058\). Participants expressed significantly less support in the positive indirect exposure conditions \((M =
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2.50, SD = 1.23) compared to the control conditions (M = 3.28, SD = 1.46), t(478) = -5.31, p < .001, and participants in the negative indirect exposure conditions (M = 3.11, SD = 1.55), t(478) = 3.83, p < .001. Participants in the negative indirect exposure conditions did not differ significantly from participants in the control conditions, t(478) = -1.32, p = .186. Participants also expressed significantly more support for aggressive policies toward Saudi Arabia (M = 3.44, SD = 1.29) than toward Germany (M = 2.50, SD = 1.48), F(1, 478) = 57.11, p < .001, η² = .107. The two factors did not interact significantly, F(2, 478) = 1.22, p = .295, η² = .005.

Openness to diplomacy. Participants expressed significantly different levels of openness across conditions of the indirect exposure conditions, F(2, 478) = 4.41, p = .013, η² = .018. Participants in the positive indirect exposure conditions (M = 7.50, SD = 1.41) were significantly more open to diplomacy with the outgroup than participants in the control conditions (M = 6.99, SD = 1.74), t(478) = 2.94, p = .003, and marginally more so than participants in the negative indirect exposure conditions (M = 7.14, SD = 1.69), t(476) = -1.90, p = .058. Participants in the negative indirect exposure conditions did not differ significantly from participants in the control conditions, t(478) = 1.42, p = .157. Participants were also more open to diplomacy when an invitation for negotiations was extended by Germany (M = 7.48, SD = 1.56) rather than Saudi Arabia (M = 6.93, SD = 1.68), F(1, 476) = 11.93, p < .001, η² = .028. There was no significant interaction, F(2, 478) = -.21, p = .810, η² = .001.

Mediation analyses. The negative and positive indirect exposure dummies were constructed as in Study 2. The type of outgroup IV was recoded into a dummy variable so that participants in the Germany conditions were given a value of ‘-0.5’ and participants in the Saudi Arabia conditions were given a value of ‘0.5’. As in Study 2, ingroup perceptions and threat were used as covariates. In addition, perceived similarity was entered as an additional covariate.
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to show that the effects of *metaperceptions* and *outgroup perceptions* were independent from *perceived similarity*. Again, for any covariates significantly affected by the manipulated IVs, their interactions with the appropriate dummies were entered as additional covariates into the model (e.g., *threat* by positive indirect exposure condition, *perceived similarity* by positive and negative indirect exposure conditions). Unless noted otherwise, all significant indirect effects below were consistent when not including the covariates in the model. As in Study 1, negative indirect exposure did not differ from baseline in terms of the two DVs (aggression and openness to diplomacy), and therefore the mediation analyses focused on positive but not negative indirect exposure.

The indirect path via metaperceptions and outgroup perceptions in sequence was significant for both support for aggressive foreign policies, $b = -0.02, SE = 0.02, [-0.07, -0.001]$, and openness to diplomacy initiated by the outgroup, $b = 0.03, SE = 0.02, [0.001, 0.09]$.

**Discussion**

Study 3 replicated findings from Studies 1-2 in regards to positive indirect exposure, showing that positive indirect exposure to an outgroup affected intergroup metaperceptions, which affected negative perceptions towards that outgroup, ultimately affecting support for ingroup behavior toward the outgroup. As in Study 2, this sequential process was consistent while controlling for perceived intergroup threat and participants’ views toward their ingroup. Participants were generally more negative towards the dissimilar outgroup (Saudi Arabia) than the similar outgroup (Germany). However, the effects of indirect exposure were not dependent upon the similarity of the outgroup; they remained significant when controlling for perceived similarity, and the presence of a significant main effect of indirect exposure with a simultaneous absence of a significant interaction with type of outgroup indicates that the effects of indirect
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exposure found for outgroups generally seen as dissimilar from the ingroup in Study 1-2

generalized to outgroups generally seen as similar to the ingroup in Study 3. As in Studies 1-2,
our hypothesized sequential model was the most reliable. Across all three studies, the
hypothesized sequential indirect effect from indirect exposure to support for ingroup behaviors
via metaperceptions and outgroup perceptions was the only one supported by the data (see
Supplemental Materials for inferior alternative models).

General Discussion

In three experiments, we investigated the effects of indirect exposure to an outgroup on
people’s support for their ingroup to behave in conflict-diminishing or –escalating ways toward
the outgroup. Based on past research on cross-group contact and metaperceptions, we had
predicted that people will use indirect exposure to an outgroup to inform their views of how
outgroup members see the ingroup (intergroup metaperceptions) and their own views of the
outgroup (outgroup perceptions). Both sources of perception should ultimately determine
people’s support for ingroup behavior toward the outgroup. Importantly, we hypothesized that
this process will occur in two distinct steps (from metaperceptions to outgroup perceptions).
Study 1 demonstrated initial support for this hypothesis, finding that Americans with positive
indirect exposure to Iranians increase their support for the U.S. to engage in more
friendly/cooperative relations with Iran because the positive indirect exposure first renders
Americans’ metaperceptions of Iranians more positive, and subsequently Americans’ perceptions
of Iranians. Importantly, this process occurred while holding ingroup perceptions constant,
indicating that the change in intergroup metaperceptions and outgroup perceptions due to indirect
outgroup exposure cannot simply traced back to any changes in ingroup perceptions due to
indirect outgroup exposure. Study 2 conceptually replicated this finding with a fictitious
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outgroup, and extended it to negative indirect exposure having opposite effects through the same two-step process. Further, Study 2 demonstrated support for these effects of indirect outgroup exposure over and above perceived intergroup threat, indicating that the process through intergroup metaperceptions and outgroup perceptions cannot be reduced to perceived intergroup threat. Study 3 again replicated the effect and its underlying two-step process while also controlling for perceived outgroup similarity, showing that the process is independent from perceived similarity. Study 3 did not only measure but also manipulated outgroup similarity directly, demonstrating that the effect and process is a general one that occurs for both dissimilar (Saudis) and similar outgroups (Germans). Further, Study 3 counterbalanced the order of presentation of metaperceptions and outgroup perceptions to rule out survey order as a confound. Importantly, in all studies, alternative models were ruled out, lending even stronger support for our specific two-step sequential model.

In doing so, our research illuminates the exact process of the joint effect of intergroup metaperceptions and outgroup perceptions on support for ingroup behaviors that past research has found (Kamins et al., 2007). Further, the present research contributes to and links the literatures on intergroup metaperception and outgroup perceptions, demonstrating how one relates to and influences the other. Similarly, with respect to international image theory, by borrowing measures from this literature we have also shown that people form not only images of outgroups, but also what could be called meta-images. Last but not least, our effect itself also adds to the emerging literature on indirect forms of intergroup contact (e.g. Mazziotta et al., 2011), showing that indirect exposure to outgroups can change perceptions of those outgroups by first changing intergroup metaperceptions, and that by changing these two sets of perceptions in sequence, indirect exposure can affect support for ingroup behaviors towards the outgroup.
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In addition to the theoretical implications, our findings also have important implications for understanding how to improve intergroup relations and processes. Due to its ecological validity, the manipulation of indirect exposure to outgroups used in our studies (i.e. indirect exposure to public opinion polls from respondents in other countries) points to the viability of public opinion in foreign countries to positively influence one’s own country’s foreign policy and ultimately international relations. Exposing Americans to public opinion in other countries, where the people often are more favorable to the U.S. than their own government (e.g., Tessler, 2003), may decrease public support for U.S. foreign policy that may hurt the people (rather than governments) in other countries (e.g. certain economic boycotts), and increase support for U.S. foreign policy that makes nonviolent resolution of international tensions more likely. Although it would be unrealistic to expect people in some countries to have a favorable view of the U.S. government, the current research suggests that countering false metaperceptions about negative attitudes towards the American people (rather than government) could promote more support for peaceful foreign policies among American citizens.
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References


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Figure 1.

Theoretical model of two-step process of effect of indirect exposure to outgroups on support for ingroup behavior towards the outgroup.
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Appendix A.

Metaperceptions for Study 3:

Following the sentence, (German/Saudi) people... metaperceptions were assessed with items including,

- think that Americans have peaceful intentions
- think that Americans don’t consider the needs of others
- think most Americans are working for peaceful international relations
- think the U.S. will work with other countries to achieve mutual goals
- think Americans are arrogant and conceive of themselves as better than others
- think the United States tries to exploit other countries for their resources
- think the United States uses its power to prevent others from getting ahead
- think that Americans cannot be trusted because they know how to trick others
- think that Americans have no hostile intentions toward other countries
- think that Americans' objectives are self-centered and harmful to others
- think that power in the hands of Americans is a dangerous thing
- think that America takes whatever it wants from other nations
- think Americans enjoy getting their way even if it spoils things for others
- think that Americans are quite naïve
- think that most Americans want to have things better for the group
  but that Americans lack discipline and are not likely to work very hard
- think that American leaders are weak
- think Americans don't care when others suffer
- think the typical American has compassion for the suffering of others.
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### Table 1.

Correlations among covariates, mediators, and dependent variables in Study 1.

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**Table 2.**

Correlations among covariates, mediators, and dependent variables in Study 2.

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<td></td>
<td>p = .341</td>
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<td>3.</td>
<td>Metaperceptions</td>
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<td></td>
<td>p = .995</td>
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<td>5.</td>
<td>Support for aggressive U.S. policies towards Kionda</td>
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<td></td>
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<td>6.</td>
<td>Openness to diplomacy initiated by Kionda</td>
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Table 3.
Correlations among covariates, mediators, and dependent variables in Study 3.

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<td>Outgroup Perceptions</td>
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<td>Openness to diplomacy initiated by outgroup</td>
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<td>.280</td>
<td>-.099</td>
<td>-.483</td>
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</table>
Alternative models for Study 1

Support for aggressive foreign policies. In an alternative model with both mediators operating in parallel, both indirect effects were not significant, \( b = .14, SE = .18, [-.10, .66] \) for the indirect effect via metaperceptions; \( b = -.46, SE = .49, [-1.56, .42] \) for the indirect effect via outgroup perceptions. An alternative model with outgroup perceptions as step 1 and metaperceptions as step 2 mediator – reflecting the rival hypothesis that people may project their own perceptions of an outgroup onto the outgroup members and their view of the ingroup – was also not significant, \( b = .03, SE = .06, [-.03, .27] \). A model with support for aggressive policies as step 2 mediator and outgroup perceptions as DV – reflecting the rival hypothesis that outgroup perceptions may be rationalized after support of certain ingroup policies – was significant, but less strong than the hypothesized sequence above, \( b = -.08, SE = .03, [-.16, -.03] \). In another model that had to be tested via path analysis due to having more than one DV – testing the rival hypothesis that positive indirect exposure would decrease support for aggressive policies and outgroup perceptions simultaneously via metaperceptions – metaperceptions significantly predicted both outgroup perceptions \( t(256) = 12.81, \beta = .58 \), and support for aggressive policies, \( t(256) = 3.61, \beta = .22 \). However, this model did not fit the data well, \( RMSEA = .1031 \). In another path model – testing the rival hypothesis that positive indirect exposure would decrease support for aggressive policies and metaperceptions simultaneously via outgroup perceptions – outgroup perceptions significantly predicted both metaperceptions, \( t(256) = 12.41, \beta = .53 \), and support for aggressive policies, \( t(256) = 11.40, \beta = .52 \). However, this model also did not fit the data well, \( RMSEA = .1031 \).

Openness to diplomacy initiated by Iran. In the alternative model with parallel mediation, the indirect effect through metaperceptions was significant, \( b = -.28, SE = .20, [-.87, -.02] \),
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whereas the indirect effect through outgroup perceptions was not, $b = .41, SE = .44, [-.38, 1.40]$. The total indirect effect in this model was not significant, $b = .12, SE = .39, [-.57, .99]$. The alternative model with outgroup perceptions first and metaperceptions second was not significant, $b = -.06, SE = .08, [-.32, .04]$. The model with openness to diplomacy initiated by Iran as step 2 mediator and outgroup perceptions as DV was significant, $b = -.04, SE = .02, [-.10, -.002]$, but less strong and reliable than the hypothesized sequence above. In a path model testing the alternative hypothesis that positive indirect exposure affects openness to diplomacy initiated by Iran and outgroup perceptions simultaneously via metaperceptions, metaperceptions significantly predicted both outgroup perceptions, $t(252) = 12.81, \beta = .58$, and openness to diplomacy initiated by Iran, $t(252) = -2.15, \beta = -.14$. The model fit was mediocre, $CFI = .979, RMSEA = .0867$. In another path model testing the alternative hypothesis that the positive indirect exposure condition would increase openness to diplomacy initiated by Iran and metaperceptions simultaneously via outgroup perceptions, outgroup perceptions significantly predicted both metaperceptions $t(252) = 12.41, \beta = .53$, and openness to diplomacy initiated by Iran, $t(252) = -7.56, \beta = -.40$. The model fit was mediocre, $CFI = .979, RMSEA = .0867$.

Alternative models for Study 2

Support for aggressive foreign policies. The alternative model of indirect effects from the positive and negative indirect exposure condition, respectively, on support for aggressive foreign policies with outgroup perceptions preceding metaperceptions were not significant, $b = .01, SE = .02, [-.02, .08]$ with the positive indirect exposure condition as IV, and $b = -.01, SE = .03, [-.08, .05]$ with the negative indirect exposure condition as IV. In a model with metaperceptions and outgroup perceptions as mediators operating in parallel, the indirect effect via outgroup perceptions was only significant with the negative indirect exposure dummy as the IV, $b = .27,$
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SE = .10, [.11, .52], but not with the positive indirect exposure dummy as the IV, \(b = -.16, SE = .14, [-.50, .06]\); the indirect effect via metaperceptions was not significant either way; \(b = .03, SE = .11, [-.17, .30]\) with the positive indirect exposure condition as the IV, and \(b = -.03, SE = .08, [-.20, .13]\) with the negative indirect exposure condition as IV. The alternative model with outgroup perceptions following support for aggressive foreign policies, with positive indirect exposure as the IV and metaperceptions as step 1 mediator, was not significant, \(b = -.03, SE = .03, [-.12, .01]\); nor was it significant with negative indirect exposure as IV, \(b = .02, SE = .03, [-.01, .12]\). A path model testing the alternative hypothesis that indirect exposure would affect support for aggressive policies and outgroup perceptions simultaneously via metaperceptions did not fit the data well, whether using positive or negative indirect exposure; with positive indirect exposure condition as IV, metaperceptions significantly predicted outgroup perceptions, \(t(246) = 7.58, \beta = .44\), but metaperceptions did not significantly predict support for aggressive policies, \(t(246) = 1.36, \beta = .09\), and model fit indices showed poor fit, \(CFI = .895, RMSEA = .199\). With negative indirect exposure as IV, metaperceptions predicted both outgroup perceptions, \(t(246) = 6.82, \beta = .39, SE = .06\), and support for aggressive policies, \(t(246) = 1.86, \beta = .13\), but the model fit was poor, \(CFI = .894, RMSEA = .201\). A path model testing the alternative hypothesis that indirect exposure would affect support for aggressive policies and metaperceptions simultaneously via outgroup perceptions did not fit the data well, whether using positive or negative indirect exposure; with positive indirect exposure as IV, outgroup perceptions significantly predicted metaperceptions, \(t(246) = 7.39, \beta = .37\), and outgroup perceptions significantly predicted support for aggressive policies, \(t(246) = 6.54, \beta = .36, SE = .06\). Model fit indices showed poor fit, however, \(CFI = .918, RMSEA = .177\). With negative indirect exposure as IV, outgroup perceptions predicted both metaperceptions, \(t(246) = 6.79, \beta = .37\), and support
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for aggressive policies, \( t(246) = 6.33, \beta = .37 \), but the model fit was poor, \( CFI = .914, RMSEA = .181 \).

*Openness to diplomacy.* The alternative sequential models with outgroup perceptions preceding metaperceptions were not significant, whether with the positive or negative indirect exposure condition as IV; \( b = -.02, SE = .03, [-.14, .01] \) with the positive indirect exposure condition as the IV, and \( b = .04, SE = .03, [-.02, .12] \) with the negative indirect exposure condition as the IV. In a model with metaperceptions and outgroup perceptions as mediators operating in parallel, the indirect effect via outgroup perceptions was significant with the negative indirect exposure condition as the IV, \( b = -.22, SE = .11, [-.49, -.04] \), but not with the positive indirect exposure condition as the IV, \( b = .14, SE = .13, [-.03, .53] \). The indirect effect via metaperceptions was not significant either way: \( b = -.14, SE = .14, [-.50, .06] \) with the positive indirect exposure condition as IV, and \( b = .11, SE = .09, [-.06, .30] \) with the negative indirect exposure condition as IV. The alternative model with outgroup perceptions following openness to diplomacy, with positive indirect exposure as IV and metaperceptions as first mediator, was not significant, \( b = .004, SE = .02, [-.03, .05] \); nor was it significant with negative indirect exposure as IV, \( b = -.003, SE = .01, [-.04, .02] \). A path model testing the alternative hypothesis that indirect exposure would affect openness to diplomacy and outgroup perceptions simultaneously via metaperceptions did not fit the data well, whether with positive or negative indirect exposure as IV. With positive indirect exposure as IV, metaperceptions significantly predicted outgroup perceptions, \( t(248) = 7.58, \beta = .44 \), but metaperceptions did not significantly predict openness to diplomacy, \( t(248) = -1.38, \beta = -.10 \), and model fit indices indicated poor fit, \( CFI = .911, RMSEA = .182 \). Likewise, with negative indirect exposure as IV, metaperceptions predicted outgroup perceptions, \( t(248) = 6.82, \beta = .39 \), but not openness to diplomacy, \( t(248) = -
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.83, $\beta = -.06$, and the model fit was poor, $CFI = .920, RMSEA = .172$. A path model testing the alternative hypothesis that indirect exposure would affect openness to diplomacy and metaperceptions simultaneously via outgroup perceptions did not fit the data well, whether with positive or negative indirect exposure as IV. With positive indirect exposure as IV, outgroup perceptions significantly predicted metaperceptions, $t(248) = 7.39, \beta = .37, SE = .05$, and outgroup perceptions significantly predicted openness to diplomacy, $t(248) = -4.19, \beta = -.26$, and model fit indices indicated poor fit, $CFI = .920, RMSEA = .171$. Likewise, with negative indirect exposure as IV, outgroup perceptions predicted metaperceptions, $t(248) = 6.79, \beta = .37, SE = .05$, and openness to diplomacy, $t(248) = -3.24, \beta = -.21$. However, the model fit was poor, $CFI = .927, RMSEA = .165$.

**Alternative models for Study 3**

*Support for aggressive foreign policies.* The alternative sequential indirect effect of positive indirect exposure via outgroup perception metaperceptions was not significant, $b = .002, SE = .004, [-.002, .018]$. In a parallel mediation model neither indirect effect was significant, $b = .03, SE = .04, [-.01, .15]$ for the indirect effect via metaperceptions, $b = -.05, SE = .07, [-.19, .08]$ for the indirect effect via outgroup perceptions. The alternative model with outgroup perceptions following support for aggressive foreign policies, with positive indirect exposure as IV and metaperceptions as step 1 mediator, was not significant, $b = .001, SE = .01, [-.01, .02]$. A path model testing the alternative hypothesis that positive indirect exposure would affect support for aggressive foreign policies and outgroup perceptions simultaneously via metaperceptions did not fit the data well. Although metaperceptions significantly predicted both outgroup perceptions and support for aggressive foreign policies, $t(478) = 7.96, \beta = .33$, and $t(478) = 3.23, \beta = .15$, model fit indices indicated poor fit, $CFI = .873, RMSEA = .230$. A path
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model testing the alternative hypothesis that positive indirect exposure would affect support for
aggressive foreign policies and metaperceptions simultaneously via outgroup perceptions also
did not fit the data well. Although outgroup perceptions significantly predicted both outgroup
perceptions and *support for aggressive foreign policies*, $t(478) = 7.92$, $\beta = .32$, $SE = .04$, and
$t(478) = 19.01$, $\beta = .58$, $SE = .03$, model fit indices indicated poor fit, $CFI = .904$, $RMSEA = .201$.

*Openness to diplomacy initiated by outgroup.* The alternative model with the reverse
sequential indirect effect was not significant, $b = -.01$, $SE = .01$, [-.03, .01]. In a model with
metaperceptions and outgroup perceptions as mediators operating in parallel, neither the indirect
effect via metaperceptions nor the indirect effect via outgroup perceptions was significant, $b = -.07$, $SE = .06$, [-.24, .001] for the indirect effect via metaperceptions, $b = .06$, $SE = .10$, [-.11, .27] for the indirect effect via outgroup perceptions. The alternative model with outgroup perceptions
following *openness to diplomacy*, with positive indirect exposure as IV and metaperceptions as
step 1 mediator, was not significant, $b = .01$, $SE = .01$, [-.002, .03]. A path model testing the
alternative hypothesis that positive indirect exposure would affect *openness to diplomacy* and
outgroup perceptions simultaneously via metaperceptions did not fit the data well. Although
metaperceptions significantly predicted outgroup perceptions, $t(478) = 7.96$, $\beta = .33$, $SE = .04$,
metaperceptions failed to significantly predict openness to diplomacy, $t(478) = -1.47$, $\beta = -.07$,
and model fit indices indicated poor fit, $CFI = .892$, $RMSEA = .210$. A path model testing the
alternative hypothesis that positive indirect exposure would affect openness to diplomacy and
metaperceptions simultaneously via outgroup perceptions also did not fit the data well. Outgroup
perceptions significantly predicted metaperceptions, $t(478) = 7.92$, $\beta = .32$, and outgroup
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perceptions significantly predicted openness to diplomacy, $t(478) = -13.28, \beta = -.48$. However, model fit indices indicated poor fit, $CFI = .912, RMSEA = .190$. 