BRIEF REPORT

Active Perspective Taking Induces Flexible Use of Self-Knowledge During Social Inference

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Social life hinges on the ability to infer others' mental states. By default, people often recruit self-knowledge during social inference, particularly for others who are similar to oneself. How do people's *active* perspective-taking efforts—deliberately imagining another's perspective—affect self-knowledge use? In 2 experiments, we test the *flexible self-application* hypothesis: that the application of self-knowledge to a perspective-taking target differs based on that person's similarity to oneself. We found consistent evidence that, when making inferences about dissimilar others, perspective taking increased the projection of one's own traits and preferences to those targets, relative to a control condition. When making inferences about similar others, however, perspective taking decreased projection. These findings suggest that self-target similarity critically shapes the inferential processes triggered by active perspective-taking efforts.

Keywords: perspective taking, projection, similarity, social cognition, theory of mind

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Much of social life hinges on the ability to infer others' mental states. Despite the inherent opacity of others' minds, people are quite skilled at inferring their contents. What do people do when actively trying to imagine another's viewpoint? This question has mystified philosophers for millennia and has received considerable attention from contemporary scholars throughout psychology and cognitive science (Apperly, 2010; Epley & Waytz, 2010). Here, we investigated the inferential processes initiated by explicitly imagining another's perspective.

Although people never have direct access to others' minds, they do have immediate access to a useful proxy: their own minds. Indeed, people regularly use self-knowledge as a starting point for inferring others' mental states (Epley et al., 2004; Nickerson, 1999). For example, to infer how another person feels in a particular situation, one might first think about how they themselves would feel in that situation, and then assume the other person feels similarly. Importantly, people do not always default to using self-knowledge. Self-knowledge is useful for inferring another's feelings only insofar as

that person *actually* feels similarly. One factor known to affect the recruitment of self-knowledge is the degree of similarity between a target and oneself: By default, people commonly recruit self-knowledge when thinking about similar, but not dissimilar, others (Ames, 2004a, 2004b; O'Brien & Ellsworth, 2012; Tamir & Mitchell, 2013; Todd et al., 2011). When thinking about dissimilar others, people instead often recruit stereotypes as a primary source of information (Ames, 2004a, 2004b).

Notably, this research characterizes self-knowledge use under default circumstances, absent any active efforts to take the target's perspective. This qualification is important because *actively* imagining another's perspective leads people to process information differently from how they do by default (Todd et al., 2012; Vescio et al., 2003). One of the most emblematic consequences of active perspective-taking efforts is a tendency to process information in a more "self-like" manner (Galinsky et al., 2005, 2008). Put differently, perspective taking has been found to strengthen the overlap in representations of self and other by prompting people to imagine another's viewpoint from that person's first-person perspective, rather than one's original outsider, third-person perspective. For example, in one study, people instructed to imagine another's perspective evinced greater neural activity implicated in self-referential processing while making inferences about the person's preferences and opinions (Ames et al., 2008). Similarly, imagining a woman's feelings as she discussed personal health problems increased self-related thought accessibility (Davis et al., 2004). Typically, this heightened *activation* of self-knowledge is accompanied by greater *application* of this information to perspective-taking targets. For instance, actively imagining another's perspective increases the likelihood of ascribing self-descriptive traits and

other personal characteristics to that person (Davis et al., 1996; Galinsky & Moskowitz, 2000a; Todd & Burgmer, 2013).

Based on this research, one might conclude that active perspective-taking efforts *uniformly* increase self-knowledge use during social judgment. However, this prior work has asked people to take the perspective of targets who differ from oneself in some salient way. Many everyday perspective-taking activities involve targets known to be *similar* to oneself. Thus, an important underexplored question is whether active perspective-taking efforts have comparable or divergent effects on social-inference processes involving similar others.

The findings described above are frequently interpreted as reflecting an unmitigated application of self-knowledge to perspective-taking targets; however, they may instead reflect a specific instance of a more flexible inferential approach. According to the *flexible self-application* hypothesis, the inferential processes initiated by perspective taking will differ based on characteristics of the specific target. We suggest that perspective taking, along with activating self-knowledge, triggers a comparative process wherein targets are compared with oneself (see Mussweiler, 2003). This comparative process prompts a consideration of how a target is both similar to *and* different from oneself (cf. Tetlock et al., 1989). If similarity is initially assumed to be strong by default, this comparative process might bring to light previously overlooked self-other differences. Preliminary support for this process comes from research on hypothesis-testing, where perspective taking has been found to reduce confirmatory thinking by prompting a balanced consideration of both confirming and disconfirming information (Todd et al., 2012).

When applied to social inference, perspective taking might similarly prompt a balanced consideration of self-other similarities and differences. On this account, perspective taking should lead people to view initially dissimilar others (e.g., outgroup members) as more similar to them, and to view initially similar others (e.g., ingroup members) as less similar to them, than they do by default. These shifts in perceived self-other similarity and difference, in turn, should produce corresponding changes in the projection of self-referential information. Importantly, the flexible self-application account predicts that perspective taking increases self-knowledge *activation* for similar and dissimilar targets; the two targets should only differ in how this activated knowledge is *applied* to them (for more on distinguishing knowledge activation and application, see Schwarz & Bless, 1992).

We tested these predictions in two experiments wherein participants read about an unknown person who either shared or did not share their political orientation. Some participants actively imagined the person's perspective; others did not. We assessed projection by having participants rate how well a list of traits (Experiment 1) or a list of preferences (Experiment 2) characterize themselves and the target. The outcome of interest was the discrepancy between self-ratings and target ratings, with lower self-other discrepancies reflecting greater projection.

Experiment 1

Method

Participants. Sample size in Experiment 1 was based on a heuristic of at least 20 participants per cell; data were collected until this number was surpassed. Native English-speaking under-

graduates ($N = 84$, 51 women, 33 men; $M_{age} = 19.52$, $SD = 2.21$) participated for course credit. This sample afforded >80% power to detect a large effect (Faul et al., 2007).

Procedure. Participants first reported demographic information (e.g., age, gender) and answered three items assessing political orientation (Carney et al., 2008): [Overall/In terms of social and cultural issues/In terms of economic issues], where would you place yourself on the following scale? (1 = *very conservative*, 7 = *very liberal*). Responses were averaged ($\alpha = .85$, $M = 4.26$, $SD = 1.23$); higher scores reflect a more liberal political orientation.

Participants then viewed (in randomized order) a list of 90 traits from prior research on self-other merging (Smith & Henry, 1996). They rated how well each trait characterized them personally (1 = *not at all*, 7 = *extremely*).

Next, participants read a vignette about an unknown, gender-matched target who appeared in a photo.[1] Depending on condition, the person was depicted as either liberal or conservative. The vignettes, which were adapted from prior work (Tamir & Mitchell, 2013) and appear in the Supplemental Material, served as the target-similarity manipulation.

After reading the vignette, participants composed an essay describing a typical day in the person's life (Galinsky & Moskowitz, 2000a). Participants in the *perspective-taking* condition received the following additional instructions (adapted from Todd & Burgmer, 2013):

> As you're writing, we ask that you take [his or her] perspective. In your mind's eye, visualize clearly and vividly what [he or she] might be thinking and feeling, and what [his or her] intentions and goals are.[2]

Participants in the *control* condition received no additional instructions.

Participants then viewed (in randomized order) the same list of 90 traits from earlier. This time they rated how well each trait characterized the target.

Finally, participants answered a dichotomous item about the target's political orientation. They also completed several other items for exploratory purposes; these items and analyses appear in the Supplemental Material.

Results

Manipulation checks. All but 4 participants (>95%) correctly identified the political orientation of their assigned target. We retained their data to maximize power; however, excluding their data produced nearly identical results.

To assess the efficacy of the perspective-taking manipulation, we calculated the proportion of mental-state verbs (e.g., thinks, felt, want; see the Supplemental Material for a complete list) in the essays, using Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2007); higher scores reflect greater consideration of the target's mental states. As expected, perspective takers

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[1] Across experiments, we used two photos of each gender. Analyses revealed no moderating effects of the particular photo.

[2] These instructions reflect an *imagine-other* form of perspective taking that entails imagining the target's perspective in the situation; this can be contrasted with an *imagine-self* form of perspective taking that entails imagining one's own perspective in the target's situation (Batson et al., 1997; Stotland, 1969).

used more mental-state verbs than did control participants, $t(82) = 2.49$, $p = .015$, Hedges' $g = 0.54$.

Self-knowledge activation. We predicted that, relative to the control condition, perspective taking would increase self-knowledge activation for both similar and dissimilar targets. To test this prediction, we calculated the proportion of first-person singular pronouns (e.g., I, me, my) in the essays, again using LIWC software; higher scores reflect greater accessibility for self-related thoughts. Prior work has used personal-pronoun usage as an indirect measure of self-knowledge activation (Davis et al., 2004). For interpretive ease, we used participant political orientation (reverse-scored in the conservative-target condition) as a continuous proxy for target similarity in all analyses below; higher scores reflect greater perceived self-other similarity.

Regressing self-knowledge activation on target similarity (standardized), essay instructions ($-1 = $ control, $1 = $ perspective taking), and their interaction revealed that perspective takers used more personal pronouns than did control participants ($\beta = .44$, $t = 4.38$, $p < .001$). This effect was not moderated by target similarity ($\beta = .08$, $t < 1$, $p = .43$), indicating that perspective taking produced comparable increases in self-knowledge activation for both similar and dissimilar targets.

Self-knowledge application. The flexible self-application account predicts that perspective taking should increase projection for dissimilar targets but decrease it for similar targets. To test this prediction, we created self-other discrepancy scores by taking the absolute value of the difference between self-ratings and target ratings for each of the 90 traits and then averaging across all traits (Galinsky & Moskowitz, 2000a); lower values reflect lower self-other discrepancy, or higher projection.

Regressing these scores on the same predictors as before revealed that, overall, projection was greater for similar versus dissimilar targets ($\beta = -.34$, $t = 3.49$, $p = .001$). Consistent with the flexible self-application hypothesis, the two-way interaction was also significant ($\beta = .38$, $t = 3.87$, $p < .001$; see Figure 1).[3] For dissimilar targets (-1 SD), perspective taking increased pro-

jection relative to the control condition ($\beta = -.36$, $t = 2.62$, $p = .010$). For similar targets ($+1$ SD), however, perspective taking decreased projection relative to control ($\beta = .39$, $t = 2.85$, $p = .005$). Approaching this interaction differently, projection was greater for similar versus dissimilar targets among control participants ($\beta = -.62$, $t = 5.26$, $p < .001$), but not perspective takers ($\beta = .04$, $t < 1$, $p = .79$).

Experiment 2

Experiment 1 provided initial evidence for the flexible self-application account. Whereas perspective taking increased self-knowledge activation across the board, its effects on self-knowledge application differed based on target similarity. In Experiment 2, we conducted a high-powered replication, aiming to extend these findings in a couple ways. First, we examined the interactive effect of target similarity and perspective taking on the projection of one's own preferences rather than one's own traits. Second, instead of assessing self-ratings immediately before introducing the target, which may have artificially increased self-knowledge activation, we inserted a delay between the self-ratings and the target introduction.

Method

Participants. Experiment 2 was a high-powered replication of Experiment 1. We aimed to collect as much data as possible in one semester. Native English-speaking undergraduates ($N = 419$) participated for course credit. We excluded data from 1 participant who gave the same response on all target ratings and 31 participants who exceeded recommended thresholds on the Attentive Responding Scale (Maniaci & Rogge, 2014), leaving a final sample of 387 (247 women, 140 men; $M_{age} = 18.95$, $SD = 1.45$). This sample afforded >99% power to detect the interaction effect size from Experiment 1 (Faul et al., 2007).

Procedure. Participants first reported the same demographic and political-orientation information ($\alpha = .88$, $M = 4.08$, $SD = 1.26$) from Experiment 1, after which they viewed (in randomized order) 50 statements about their opinions and preferences (e.g., "dislikes mushrooms on pizza"). These items were drawn from a larger pool of statements used in prior social-inference research (Tamir & Mitchell, 2010, 2013). Participants rated the likelihood that each statement applied to them personally ($1 = $ *very unlikely*, $7 = $ *very likely*).

After working on unrelated tasks for about 30 min, participants underwent the same target-similarity manipulation from Experiment 1. We modified the target vignettes to better reflect political issues at the time of testing (see the Supplemental Material). After reading a vignette about one target, participants rated how similar they and the target are to each other ($1 = $ *not at all*, $7 = $ *extremely*).

Next, participants underwent the same perspective-taking manipulation from Experiment 1. They composed a day-in-the-life essay while actively imagining the target's perspective or with no additional instructions.
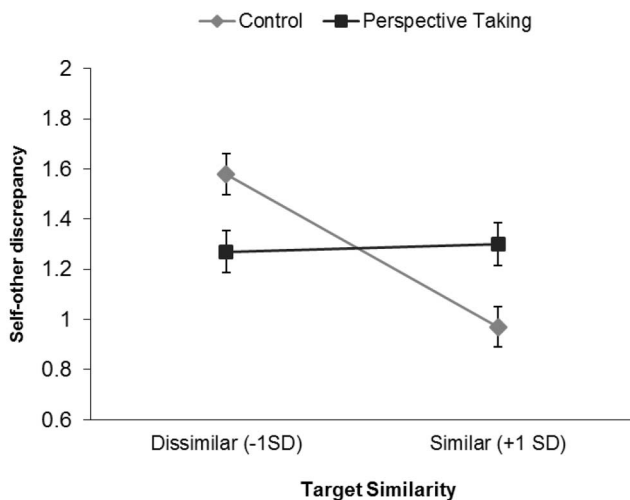

Figure 1. Self–other discrepancy by target similarity (similar vs. dissimilar) and essay instructions (perspective taking vs. control); error bars depict $\pm$ 1 *SEM* (Experiment 1).

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[3] This interaction was not moderated by target political orientation here or in Experiment 2, indicating comparable results for liberal and conservative targets.

Participants then viewed (in randomized order) the same 50 preference statements from earlier. This time they rated the likelihood that each statement applied to the target.

Finally, as a manipulation check, participants rated the target's political orientation, using the same three items ($\alpha = .96$) from earlier. They also completed several other items for exploratory purposes; these items and analyses appear in the Supplemental Material.

Results

Manipulation checks. The liberal target ($M = 5.36$, $SD = 0.90$) was rated as more liberal than the conservative target ($M = 2.66$, $SD = 1.04$), $t(385) = 27.41$, $p < .001$, $g = 2.78$. Target political-orientation ratings differed from the scale's midpoint in the predicted direction in both conditions ($ps < .001$, $gs > 1.28$).

To assess the efficacy of the perspective-taking manipulation, we calculated mental-state-verb usage as in Experiment 1. Perspective takers used more mental-state verbs than did control participants, $t(385) = 2.29$, $p = .022$, $g = 0.23$.

Self-knowledge activation. We predicted that, relative to the control condition, perspective taking would increase self-knowledge activation for both similar and dissimilar targets. To test this prediction, we calculated personal-pronoun usage as in Experiment 1. Following Tamir and Mitchell (2013), we used participants' ratings of similarity between the target and themselves as a continuous measure of target similarity.

Regressing self-knowledge activation on target similarity, essay instructions, and their interaction revealed that perspective takers used more personal pronouns than did control participants ($\beta = .26$, $t = 5.27$, $p < .001$). This effect was not moderated by target similarity ($\beta = -.02$, $t < 1$, $p = .67$), indicating that perspective taking produced comparable increases in self-knowledge activation for both similar and dissimilar targets.

Self-knowledge application. The flexible self-application account predicts that target similarity should moderate the effect of perspective taking on self-knowledge application. To test this prediction, we calculated self-other discrepancy scores as in Experiment 1.

Regressing these scores on the same predictors as before revealed that, overall, projection was greater for similar versus dissimilar targets ($\beta = -.27$, $t = 5.47$, $p < .001$). Consistent with the flexible self-application account, the two-way interaction was also significant ($\beta = .15$, $t = 3.00$, $p = .003$; see Figure 2). For dissimilar targets (-1 SD), perspective taking marginally increased projection relative to the control condition ($\beta = -.13$, $t = 1.90$, $p = .058$). For similar targets ($+1$ SD), however, perspective taking decreased projection relative to control ($\beta = .16$, $t = 2.34$, $p = .020$). Approaching this interaction differently, projection was greater for similar versus dissimilar targets among control participants ($\beta = -.40$, $t = 6.10$, $p < .001$), but only marginally so among perspective takers ($\beta = -.12$, $t = 1.72$, $p = .087$).

To estimate more precisely the effect of perspective taking on the projection of self-knowledge to similar and dissimilar targets across our experiments, we conducted an internal meta-analysis (Cumming, 2014). This analysis revealed that perspective taking had small-to-medium-sized projection effects in the opposite direction for dissimilar targets ($g = -0.26$, 95% CI [-0.08, -0.44]) and similar targets ($g = 0.30$, 95% CI [0.12, 0.49]).
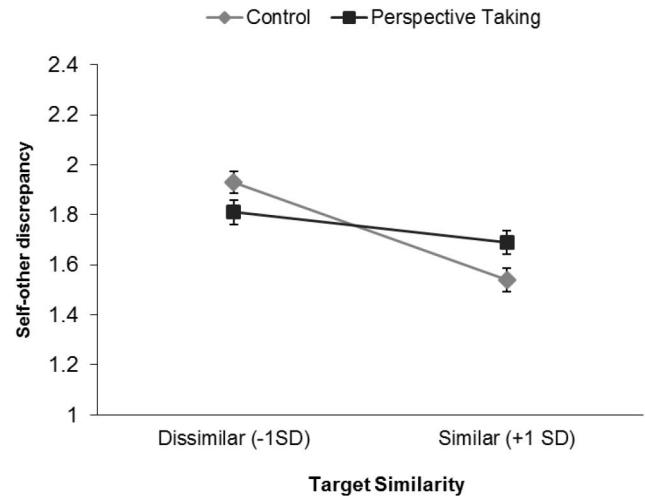

Figure 2. Self–other discrepancy by target similarity (similar vs. dissimilar) and essay instructions (perspective taking vs. control); error bars depict $\pm$ 1 *SEM* (Experiment 2).

Discussion

We tested how active perspective-taking efforts affect self-knowledge activation and application during social inference. Two experiments found consistent support for the flexible self-application account, whereby the effect of perspective taking on projection differs depending on self-target similarity. As in prior work, actively imagining a target's perspective increased self-knowledge *activation* (Davis et al., 2004), regardless of whether the person was initially viewed as similar to or different from oneself. Importantly, though, target similarity shaped how this activated self-knowledge was *applied*. When making inferences about dissimilar others, perspective taking increased the projection of one's own traits and preferences to those targets. When making inferences about similar others, however, perspective taking decreased projection.

Prior research has enhanced our understanding of the inferential processes triggered by active perspective taking, yet much of this work used targets who differed from oneself in some salient way (e.g., Davis et al., 1996; Galinsky & Moskowitz, 2000a). Our findings extend this earlier work by showing that these inferential processes operate differently when taking the perspective of someone who is *similar* to oneself. The current work thus sheds new light on how active perspective taking shapes social inference based on characteristics of the perspective-taking target and, in doing so, suggests multiple future research directions.

First, we examined how perspective taking and target similarity interact to affect the activation and application of *self-knowledge* to social targets. Another frequently invoked source of top-down information stems from *stereotypes*. Absent active perspective-taking efforts, people often default to using stereotypes when making inferences about dissimilar others (Ames, 2004a, 2004b). Although perspective taking with dissimilar others typically reduces stereotyping (Galinsky & Moskowitz, 2000a; Wang et al., 2014), it is unknown how perspective taking with *similar* others affects it. Insofar as projection and stereotyping operate hydraulically (Ames, 2004a, 2004b), it is possible that actively imagining

a similar other's perspective increases stereotyping. Because projection is a primary mechanism through which perspective taking improves interpersonal outcomes (Galinsky et al., 2005), an intriguing implication suggested by our findings is that perspective taking with similar others may have some unexpected negative consequences (e.g., Vorauer & Sucharyna, 2013), such as less interpersonal positivity (see the Supplemental Material) and more distancing behaviors. Given that intergroup conflict is often more strongly rooted in ingroup positivity than in outgroup negativity (Brewer, 1999), however, any negative immediate consequences for ingroup members may be accompanied by reduced intergroup conflict more generally. Future research should explore these possibilities.

Second, given the divisiveness of contemporary politics (Pew Research Center, 2014), it is vital to understand how people think about others on both sides of the political aisle. Thus, following others (e.g., O'Brien & Ellsworth, 2012), we focused on political-orientation similarity in the current experiments. Future research should explore how other meaningful bases of similarity (e.g., ethnicity, sexual orientation) interact with perspective taking to shape the use of self-knowledge and other available information (e.g., stereotypes) during social inference.

Third, we have conceptualized our work in terms of target *similarity*; however, a related factor, *familiarity*, can have comparable effects on self-knowledge use: Projection tends to be greater with well-known others (e.g., friends) than with strangers (Savitsky et al., 2011). All targets in our experiments were unknown to participants; thus, familiarity cannot explain our findings. Nonetheless, future work should explore how perspective taking interacts with target familiarity to affect projection. Additionally, because people typically have individuating information about well-known others (Welborn & Lieberman, 2015), future research should also explore how perspective taking affects the use of target-specific information during social inference.

Fourth, our operationalization of active perspective taking involved experimental instructions to imagine a target's perspective. However, we acknowledge that there is natural variation in tendencies to actively imagine others' perspectives (Davis, 1983) and that people high in such tendencies might *spontaneously* deploy a similar set of inferential processes, absent explicit instructions to do so. Given that some prior research has found comparable relationships between measured and manipulated perspective taking and social judgment (e.g., Galinsky et al., 2008; Wang et al., 2014), future research should explore this possibility.

Finally, although the central claims of our flexible self-application account concern how active *perspective taking* shapes social inference, it is possible that perspective taking is one of a larger class of procedures that encourage people to step outside their usual mental routines and default information-processing tendencies. For instance, *counterfactual thinking* (Galinsky & Moskowitz, 2000b), *conflict mindsets* (Kleiman & Hassin, 2013), and *consider-the-opposite strategies* (Lord, Lepper, & Preston, 1984), like active perspective taking (Todd et al., 2012), have all been found to reduce confirmatory thinking during hypothesis-testing by increasing the consideration of disconfirming information. Future research will be needed to determine whether the effects reported here are unique to active perspective taking or whether other "non-default" reasoning strategies produce comparable effects on social inference.

The current research offers new insights into how active perspective-taking efforts shape inferences about others' traits and preferences. Departing from prior findings suggesting that such efforts uniformly increase the application of self-knowledge to all perspective-taking targets, our findings paint a more nuanced picture: Whereas active perspective taking increased projection with dissimilar others, it decreased projection with similar others.

References

Ames, D. R. (2004a). Inside the mind reader's tool kit: Projection and stereotyping in mental state inference. *Journal of Personality and Social Psychology, 87,* 340–353. http://dx.doi.org/10.1037/0022-3514.87.3.340

Ames, D. R. (2004b). Strategies for social inference: A similarity contingency model of projection and stereotyping in attribute prevalence estimates. *Journal of Personality and Social Psychology, 87,* 573–585. http://dx.doi.org/10.1037/0022-3514.87.5.573

Ames, D. L., Jenkins, A. C., Banaji, M. R., & Mitchell, J. P. (2008). Taking another person's perspective increases self-referential neural processing. *Psychological Science, 19,* 642–644. http://dx.doi.org/10.1111/j.1467-9280.2008.02135.x

Apperly, I. A. (2010). *Mindreaders: The cognitive basis of "theory of mind."* Hove, UK: Psychology Press.

Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imaging how you would feel. *Personality and Social Psychology Bulletin, 23,* 751–758. http://dx.doi.org/10.1177/0146167297237008

Brewer, M. B. (1999). The psychology of prejudice: Ingroup love and outgroup hate? *Journal of Social Issues, 55,* 429–444. http://dx.doi.org/10.1111/0022-4537.00126

Carney, D. R., Jost, J. T., Gosling, S. D., & Potter, J. (2008). The secret lives of liberals and conservatives: Personality profiles, interaction styles, and the things they leave behind. *Political Psychology, 29,* 807–840. http://dx.doi.org/10.1111/j.1467-9221.2008.00668.x

Cumming, G. (2014). The new statistics: Why and how. *Psychological Science, 25,* 7–29. http://dx.doi.org/10.1177/0956797613504966

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44,* 113–126. http://dx.doi.org/10.1037/0022-3514.44.1.113

Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology, 70,* 713–726. http://dx.doi.org/10.1037/0022-3514.70.4.713

Davis, M. H., Soderlund, T., Cole, J., Gadol, E., Kute, M., Myers, M., & Weihing, J. (2004). Cognitions associated with attempts to empathize: How do we imagine the perspective of another? *Personality and Social Psychology Bulletin, 30,* 1625–1635. http://dx.doi.org/10.1177/0146167204271183

Epley, N., Keysar, B., Van Boven, L., & Gilovich, T. (2004). Perspective taking as egocentric anchoring and adjustment. *Journal of Personality and Social Psychology, 87,* 327–339. http://dx.doi.org/10.1037/0022-3514.87.3.327

Epley, N., & Waytz, A. (2010). Mind perception. In S. T. Fiske, D. T. Gilbert, & G. Lindsay (Eds.), *The handbook of social psychology* (5th ed., pp. 498–541). New York, NY: Wiley. http://dx.doi.org/10.1002/9780470561119.socpsy001014

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175–191. http://dx.doi.org/10.3758/BF03193146

Galinsky, A. D., Ku, G., & Wang, C. S. (2005). Perspective-taking and self-other overlap: Fostering social bonds and facilitating social coordi-

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nation. *Group Processes & Intergroup Relations, 8,* 109–124. http://dx .doi.org/10.1177/1368430205051060

Galinsky, A. D., & Moskowitz, G. B. (2000a). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology, 78,* 708–724. http://dx.doi.org/10.1037/0022-3514.78.4.708

Galinsky, A. D., & Moskowitz, G. B. (2000b). Counterfactuals as behavioral primes: Priming the simulation heuristic and consideration of alternatives. *Journal of Experimental Social Psychology, 36,* 384–409. http://dx.doi.org/10.1006/jesp.1999.1409

Galinsky, A. D., Wang, C. S., & Ku, G. (2008). Perspective-takers behave more stereotypically. *Journal of Personality and Social Psychology, 95,* 404–419. http://dx.doi.org/10.1037/0022-3514.95.2.404

Kleiman, T., & Hassin, R. R. (2013). When conflicts are good: Nonconscious goal conflicts reduce confirmatory thinking. *Journal of Personality and Social Psychology, 105,* 374–387. http://dx.doi.org/10.1037/a0033608

Lord, C. G., Lepper, M. R., & Preston, E. (1984). Considering the opposite: A corrective strategy for social judgment. *Journal of Personality and Social Psychology, 47,* 1231–1243. http://dx.doi.org/10.1037/0022-3514 .47.6.1231

Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality, 48,* 61–83. http://dx.doi.org/10.1016/j.jrp.2013.09.008

Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review, 110,* 472–489. http://dx.doi.org/10.1037/0033-295X.110.3.472

Nickerson, R. S. (1999). How we know—and sometimes misjudge—what others know: Imputing one's own knowledge to others. *Psychological Bulletin, 125,* 737–759. http://dx.doi.org/10.1037/0033-2909.125.6.737

O'Brien, E., & Ellsworth, P. C. (2012). More than skin deep: Visceral states are not projected onto dissimilar others. *Psychological Science, 23,* 391–396. http://dx.doi.org/10.1177/0956797611432179

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). *Linguistic inquiry and word count: LIWC2007.* Austin, TX: LIWC.net.

Pew Research Center. (2014). *Political polarization in the American public.* Retrieved from http://www.people-press.org/2014/06/12/political-polarization-in-the-american-public/

Savitsky, K., Keysar, B., Epley, N., Carter, T., & Swanson, A. (2011). The closeness-communication bias: Increased egocentrism among friends versus strangers. *Journal of Experimental Social Psychology, 47,* 269–273. http://dx.doi.org/10.1016/j.jesp.2010.09.005

Schwarz, N., & Bless, H. (1992). Constructing reality and its alternatives: An inclusion/exclusion model of assimilation and contrast effects in social judgment. In H. Martin & A. Tesser (Eds.), *The construction of social judgment* (pp. 217–245). Hillsdale, NJ: Erlbaum.

Smith, E. R., & Henry, S. (1996). An in-group becomes part of the self: Response time evidence. *Personality and Social Psychology Bulletin, 22,* 635–642. http://dx.doi.org/10.1177/0146167296226008

Stotland, E. (1969). Exploratory investigations of empathy. *Advances in Experimental Social Psychology, 4,* 271–314. http://dx.doi.org/10.1016/S0065-2601(08)60080-5

Tamir, D. I., & Mitchell, J. P. (2010). Neural correlates of anchoring-and-adjustment during mentalizing. *Proceedings of the National Academy of Sciences of the United States of America, 107,* 10827–10832. http://dx .doi.org/10.1073/pnas.1003242107

Tamir, D. I., & Mitchell, J. P. (2013). Anchoring and adjustment during social inferences. *Journal of Experimental Psychology: General, 142,* 151–162. http://dx.doi.org/10.1037/a0028232

Tetlock, P. E., Skitka, L., & Boettger, R. (1989). Social and cognitive strategies for coping with accountability: Conformity, complexity, and bolstering. *Journal of Personality and Social Psychology, 57,* 632–640. http://dx.doi.org/10.1037/0022-3514.57.4.632

Todd, A. R., & Burgmer, P. (2013). Perspective taking and automatic intergroup evaluation change: Testing an associative self-anchoring account. *Journal of Personality and Social Psychology, 104,* 786–802. http://dx.doi.org/10.1037/a0031999

Todd, A. R., Galinsky, A. D., & Bodenhausen, G. V. (2012). Perspective taking undermines stereotype maintenance processes: Evidence from social memory, behavior explanation, and information solicitation. *Social Cognition, 30,* 94–108. http://dx.doi.org/10.1521/soco.2012.30.1.94

Todd, A. R., Hanko, K., Galinsky, A. D., & Mussweiler, T. (2011). When focusing on differences leads to similar perspectives. *Psychological Science, 22,* 134–141. http://dx.doi.org/10.1177/0956797610392929

Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology, 33,* 455–472. http://dx.doi.org/10.1002/ejsp.163

Vorauer, J. D., & Sucharyna, T. A. (2013). Potential negative effects of perspective-taking efforts in the context of close relationships: Increased bias and reduced satisfaction. *Journal of Personality and Social Psychology, 104,* 70–86. http://dx.doi.org/10.1037/a0030184

Wang, C. S., Ku, G., Tai, K., & Galinsky, A. D. (2014). Stupid doctors and smart construction workers: Perspective-taking reduces stereotyping of both negative and positive targets. *Social Psychological and Personality Science, 5,* 430–436. http://dx.doi.org/10.1177/1948550613504968

Welborn, B. L., & Lieberman, M. D. (2015). Person-specific theory of mind in medial pFC. *Journal of Cognitive Neuroscience, 27,* 1–12. http://dx.doi.org/10.1162/jocn_a_00700