Research Article

Psychological Science
23(9) 1040–1046

DOI: 10.1177/0956797612439719
http://pss.sagepub.com

Reading Between the Minds: The Use of Stereotypes in Empathic Accuracy

Karyn L. Lewis, Sara D. Hodges, Sean M. Laurent, Sanjay Srivastava, and Gina Biancarosa
University of Oregon

Abstract

An ideal empathizer may attend to another person's behavior in order to understand that person, but it is also possible that accurately understanding other people involves top-down strategies. We hypothesized that perceivers draw on stereotypes to infer other people's thoughts and that stereotype use increases perceivers' accuracy. In this study, perceivers (N = 161) inferred the thoughts of multiple targets. Inferences consistent with stereotypes for the targets' group (new mothers) more accurately captured targets' thoughts, particularly when actual thought content was also stereotypic. We also decomposed variance in empathic accuracy into thought, target, and perceiver variance. Although past research has frequently focused on variance between perceivers or targets (which assumes individual differences in the ability to understand other people or be understood, respectively), the current study showed that the most substantial variance was found within targets because of differences among thoughts.

Keywords

social perception, social cognition

Received 5/6/11; Revision accepted 1/25/12

It is difficult to think of a more fundamental social skill than accurately understanding other people, but after two decades of research on empathic accuracy—everyday mind reading (Ickes, 2001)—researchers are still challenged to pin down variables that reliably predict this skill. The search for a "good judge" has turned up very few individual differences that are consistently predictive of empathic accuracy (for a review, see Davis & Kraus, 1997). Several initially promising variables, including self-reported empathy and perspective taking (Myers & Hodges, 2009) as well as gender-related variables (Hodges, Laurent, & Lewis, 2011), have turned out to be, at best, mediocre predictors of empathic accuracy.

We propose that one reason researchers have come up short may be that the search for predictors of empathic accuracy has been too narrow in its aim. Although many theorists acknowledge the role of top-down processing in empathy (e.g., Decety & Lamm, 2006), the candidate predictors that have typically been assessed (e.g., empathy, communion, motivation) reflect an idealized version of the accurate empathizer as someone who employs bottom-up strategies, such as paying close attention to the specific words, nonverbal cues, and overt behaviors of a target person, and then uses that information to deduce the person's thoughts. In contrast, we propose that a substantial source of accuracy in inferring another person's thoughts comes from within the perceiver's own mind. Contrary to the idealized bottom-up view, our proposal is that perceivers may effectively use prior knowledge to go beyond the information given. One important source of knowledge may be characteristics associated with the target person's roles or group memberships—that is, stereotypes. Of course, not all stereotypes contain valid information (Hamilton & Gifford, 1976), but in instances in which perceivers hold stereotypes that reflect real group characteristics, stereotypes may increase accuracy at inferring the stereotyped individual's thoughts.

We know of no previous research specifically examining the use of stereotypes in empathic accuracy, but related research and theories of interpersonal perception inform our hypothesis. In his PERSON model, Kenny (2004) proposes stereotypes as one of six sources of variance that influence interpersonal perceptions (the other five are personality, error, residual, opinion, and norm). A key prediction of the PERSON model is that stereotypes contribute less variance to interpersonal perception when perceivers have access to more individuating information about the target, as typically happens when perceivers and targets become better acquainted. In

Corresponding Author:
Karyn L. Lewis, Department of Psychology, University of Oregon, 408 Straub Hall, 1227 University of Oregon, Eugene, OR 97403
E-mail: klewis3@uoregon.edu

studying sources of accuracy in personality-trait judgments, Biesanz, West, and Millevoi (2007) found support for this prediction: As length of acquaintance increased, there was a decrease in stereotype accuracy (i.e., accuracy at judging the person on the basis of generalizations about the average person) and an increase in differential accuracy (i.e., accuracy at judging a specific target after removing stereotype accuracy and sources of bias). Stated differently, when perceivers were less acquainted with a target and presumably had less individuating information with which to inform their judgments, those judgments were based more on generalized (i.e., stereotypical) knowledge. Biesanz et al.'s work supports predictions from the PERSON model in the domain of personality-trait judgments; in the present study, we proposed that the same predictions can be made for empathic accuracy, another domain of interpersonal perception.

Although the role of stereotypes in empathic inferences has not yet been examined, several previous studies have demonstrated how perceivers use other kinds of top-down social knowledge to improve empathic accuracy. For instance, Stinson and Ickes (1992) found that male friends more accurately guessed each other's thoughts than did strangers. This effect was not due to dispositional similarity or a more highly involved interaction between target and perceiver. Instead, the authors linked this effect to a level of understanding between friends that went beyond the immediate context of the interaction and drew on stored knowledge from previous interactions. Similarly, Thomas and Fletcher (2003) found that empathic accuracy increases with intimacy, such that dating partners were more empathically accurate than friends, and friends more than strangers. The authors interpreted these findings to suggest that perceivers who were closer to a target had more extensive person-specific schemas to inform empathic inferences, whereas strangers had to rely more heavily on other sources of information.

Taken together, these studies suggest that an existing relationship with a target benefits empathic accuracy because perceivers have already constructed person-specific schemas that contain a wealth of individualized information that can guide empathic inferences. However, the construction of person-specific schemas does not just occur among friends: Gesn and Ickes (1999) showed that schemas can develop quite rapidly if perceivers are given high-quality information about a target. In their study, perceivers watched a videotape of a target discussing a personal problem. They saw the tape either in its naturally occurring order or spliced in a random sequence. Perceivers in the natural-order condition showed more accuracy than those in the random-order condition, but only when the target's thoughts were consistent with the general tenor of the interview. In other words, people who viewed the interview in the original order were able to construct a schema of the target to draw on when making inferences about the target's thoughts. When those thoughts were schema consistent, accuracy was high; when the thoughts were schema inconsistent, accuracy was low. Thus, perceivers seem to quickly start integrating information about targets into personalized schemas that can aid in making empathic inferences.

Thus, previous studies suggest that empathic accuracy increases with intimacy and acquaintanceship because a perceiver's schema of a target becomes more extensive with accumulated knowledge from interactions and experiences with a specific other person. However, people do not always have the luxury of acquaintance and yet often still manage to competently infer each other's thoughts. We used Kenny's (2004) PERSON model, which has been used in the domain of trait judgments but not empathic inferences, to derive our prediction about empathic accuracy with strangers. Specifically, we hypothesized that one reason perceivers can accurately understand strangers is because perceivers draw on stereotypes. Although stereotypes generally evoke negative connotations as a source of bias in person perception that is related to prejudice (Brewer, 1996; Devine, 1989), stereotypes can also increase the accuracy of social perceptions (Jussim, Harber, Crawford, Cain, & Cohen, 2005). Thus, we hypothesized that perceivers draw on stereotypes when inferring a target's mental state, and as long as these stereotypes contain valid information, they may buy perceivers substantial accuracy in guessing a stranger's thoughts.

To gain a more nuanced view of how stereotypes might affect empathic accuracy, we used a novel multilevel design to analyze the stereotypicality of each distinct thought reported by the target person. Previous studies of empathic accuracy have aggregated thoughts within a target to circumvent violations of the assumption of independence required by traditional data-analysis techniques. However, one downside to collapsing accuracy across thoughts within a target is that this procedure ignores potentially meaningful variations among individual thoughts that may also be related to empathic accuracy. For example, a person might have some thoughts that are relatively stereotypical but others that are idiosyncratic. Within-targets, thought-to-thought variation has gone largely uninvestigated up to this point.

Our multilevel design and analyses allowed us to simultaneously study thought-level variables, target-level variables, and perceiver-level variables. Moreover, multilevel modeling can be used to address another important question: What are the sources of variance in empathic accuracy? There might be individual differences among perceivers (people are good or bad at understanding others), individual differences among targets (people are easy or difficult to understand), and variability among thoughts (thoughts are easy or difficult to infer). Ickes et al. (2000) used a social relations model (Kenny, 2004) to partition aggregated accuracy scores (averaged across thoughts) into perceiver variance, target variance, and residual variance, but they did not examine variance in individual thoughts. The current study builds on past work by further partitioning variance of empathic accuracy by examining thought variance in addition to perceiver and target variance.

In sum, understanding and describing what lies at the heart of empathic accuracy is an unfinished task, and past research

may have been limited because of theoretical focus and analysis choices. We considered a novel basis for empathic inferences (stereotypes) using a new methodological approach (multilevel design and analyses), which made it possible to ask two research questions: First, do perceivers draw on stereotypes to infer a target's thoughts, and if so, does this improve empathic accuracy? And second, how does thought-level variance compare with variance at the target and perceiver levels?

To test our hypotheses, we designed a study in which each perceiver inferred multiple thoughts of multiple targets. We took advantage of naturally occurring stereotypes by using targets who were all new mothers, a group about which many people hold stereotypes (Ganong & Coleman, 1995). We predicted perceivers would show increased accuracy when their inferences were consistent with new-mother stereotypes, particularly when new mothers' thoughts were also consistent with stereotypes. Our predictions for the variance decomposition were tentative. On the basis of Ickes et al.'s (2000) results, we predicted nonzero perceiver and target variance, but we suspected that target variance might be modest when thought variance was explicitly modeled and estimated.

Method

A total of 161 predominately Caucasian (78.9%) undergraduate students (93 women, 68 men; mean age = 19.80 years, *SD* = 3.10) participated in exchange for partial course credit in introductory psychology courses.

Procedure

Participants were run in small groups, with each participant sitting in an individual cubicle. All instructions and experimental materials were presented via computer using MediaLab presentation software (Jarvis, 2000).

Participants' empathic accuracy was assessed using the standard-stimulus paradigm developed by Marangoni, Garcia, Ickes, and Teng (1995). In this task, each perceiver watches a videotape showing the naturalistic behavior of a target, and the perceiver attempts to infer the target's thoughts. The 14 targets in the current study were women who had been interviewed about the recent birth of their first child (see Hodges, Kiel, Kramer, Veach, & Villanueva, 2010, for additional details). Immediately after the video was originally made, each target watched the video and reported any specific thoughts or feelings[1] she remembered having had during the interview. When perceivers viewed the videos in our study, the tapes were stopped at the specific moments that the target reported having had a thought, and perceivers were asked to infer what the target was thinking at that moment. To allow time for each participant to view multiple targets, we stopped the tape only at the targets' first four thoughts. To control for order effects in the presentation of targets, we used a pseudo Latin-square design to devise six target-order conditions. Participants were randomly assigned to these six conditions. Participants worked at their own pace and viewed as many targets as possible in the allotted time for the experimental session (mean number of targets viewed = 11.98, *SD* = 2.50).

Measures

Empathic-accuracy scores. To assess empathic accuracy (following Ickes, Stinson, Bissonnette, & Garcia, 1990), six coders compared each participant's inferences with the actual thoughts reported by the target. The responses were coded for accuracy using a 3-point scale (0 = *essentially different content*, 1 = *somewhat similar, but not the same, content*, 2 = *essentially the same content*). The ratings for each inference were averaged across coders (Cronbach's $\alpha = .85$). These mean accuracy scores were rescaled to a scale from 0 (*no accuracy*) to 100 (*complete accuracy*).

Stereotypicality of targets' thoughts. A different set of coders rated the stereotypicality of each thought reported by each of the targets (targets were divided into two sets, with 14 coders rating the first set and 17 coders rating the second set). Coders rated "to what extent the thoughts reported by the target were characteristic of what a typical new mother would say about her experience" using a 4-point scale (1 = *uncharacteristic*, 2 = *neither characteristic nor uncharacteristic*, 3 = *somewhat characteristic*, 4 = *very characteristic*). For example, coders rated the thought "I was thinking how exhausting it is to have a newborn baby and how challenging it was to find time for myself" as highly characteristic ($M = 3.71$) and the thought "I was feeling sad—as if the pre-baby me has been lost—I don't know where 'she's' gone" ($M = 1.71$) as less characteristic. Ratings were averaged across coders for each thought (first set of coders: Cronbach's $\alpha = .80$, second set of coders: Cronbach's $\alpha = .87$).

Stereotypicality of perceivers' inferences. A different set of coders rated the stereotypicality of each inference made by each perceiver. Coders rated "to what extent the inferences presented were characteristic of what a typical new mother would say about her experience" using the same 4-point scale as used to rate the stereotypicality of targets' thoughts. For example, coders rated the inference "I think she was thinking how her baby is her top priority now and she has less time for herself" as highly characteristic ($M = 4.00$) and the inference "I think she was feeling disappointed to have had a child" ($M = 1.33$) as less characteristic. Ratings were averaged across coders for each thought (Cronbach's $\alpha = .68$).

Baseline accuracy scores. Also following Ickes et al. (1990), we estimated average baseline accuracy. Baseline accuracy refers to the overlap between the content of perceivers' inferences and targets' thoughts that is due to perceivers' general knowledge of a target or of the whole target pool, rather than distinctive knowledge of one specific thought. Our multilevel

design made it possible to assess baseline accuracy both within and across targets. To estimate within-targets baseline accuracy, we randomly selected a subsample of 20% of the perceivers (n = 32), and for each one, we selected three random targets. For each target, we then randomly selected two of the perceiver's inferences and paired them with two randomly selected thoughts reported by that target (these pairings were never duplicated, and no original pairings were allowed).

To estimate across-targets baseline accuracy, we randomly selected (with replacement from the previous sample) another subsample of 20% of the perceivers (n = 32). For each perceiver, we randomly selected six targets they had viewed. We paired one randomly selected inference that they had made for each target with another randomly selected thought reported by a different target. These pairings were rated for accuracy (using the same 3-point scale as used to measure empathic accuracy) by four judges. Accuracy ratings for each inference were averaged across judges separately for within-targets baseline accuracy coding (Cronbach's α = .81) and across-targets baseline accuracy coding (Cronbach's α = .74).

Transparency of thoughts. To ensure that any effect of stereotypicality was not simply the result of stereotypic thoughts being less difficult to infer, we also coded the transparency of each thought to use as a covariate in all analyses (see Marangoni et al., 1995). To code transparency, another pool of 35 coders (a different group from those who rated stereotypicality) watched the target videos, with each target's videotape shown to a subset of coders (mean coders per target = 7.5). At each point in the video that the target reported a thought, these coders were shown the actual thought reported by the target and were asked to rate "How difficult would it be to infer this thought given what you've seen and heard in the video?" using a 3-point scale (1 = *very difficult to infer*, 2 = *somewhat difficult to infer*, 3 = *easy to infer*). Different coders saw different subsets of videos, so to index the dependability of these ratings, we used a multilevel model to partition the total variance in transparency into coder variance, target variance, thought variance, and residual variance, and then computed a ratio of thought variance to the sum of thought plus residual variance. This estimate (40.66%) indicated that relative to the residual variance, there was reliable variance in transparency across thoughts; thus, transparency ratings were averaged across coders.

Results

All analyses were performed using Mixed procedure in SPSS (Version 17). Given the structure of the data (thoughts nested within targets, which were crossed with perceivers), a two-level cross-classified model was used. All models were tested using full-information maximum-likelihood estimation, and all predictor variables were grand mean centered. All models included random effects of the intercept for thoughts (μ_{0k}) and perceivers (μ_{0i}), and all other effects were treated as fixed given the small number of observations (i.e., thoughts) per target at Level 1. The model equation was as follows:

$$\begin{aligned} Y_{ijk} = {} & \beta_{0ik} + \beta_1 \text{ThoughtStereotypicality}_{jk} + \\ & \beta_2 \text{InferenceStereotypicality}_{ijk} + \\ & \beta_3(\text{InferenceStereotypicality}_{ijk} \times \\ & \text{ThoughtStereotypicality}_{jk}) + \\ & \beta_4 \text{Transparency}_{jk} + \varepsilon_{ijk} \end{aligned}$$

$$\beta_{0ik} = \gamma_{00} + \gamma_{01}\text{Gender}_i + \mu_{0i} + \mu_{0k}$$

Y_{ijk} is perceiver i's empathic accuracy for thought k from target j. $\text{ThoughtStereotypicality}_{jk}$ is the stereotypicality of target j's thought k. $\text{InferenceStereotypicality}_{ijk}$ is the stereotypicality of perceiver i's inference for target j's thought k. Transparency_{jk} is the transparency of target j's thought k.

Null model

A null model with no predictors was fitted to decompose the variance in empathic accuracy into that which was due to differences among perceivers, differences among targets, and differences among thoughts nested within targets. As Table 1

Table 1. Variance Decomposition

Model and source of variance	Variance estimate	*SE*	Wald *Z*	*p*	Percentage of the total variance	Percentage change in variance explained[a]
Null model						
Residual	546.11	9.01	60.59	< .001	74.42	—
Thoughts	139.61	27.39	5.10	< .001	19.03	—
Perceivers	48.86	6.87	7.15	< .001	6.66	—
Full model						
Residual	523.30	8.64	60.58	< .001	78.37	4.18
Thoughts	113.78	22.84	4.98	< .001	17.04	18.50
Perceivers	30.68	4.77	6.43	< .001	4.59	37.21

[a]Change in variance explained by the fixed effects was calculated relative to the null model.

shows, of the total variance in empathic accuracy (σ^2 = 733.81), the majority of the predictable variance was due to differences between thoughts within a target (19.03% at the thought level). The perceiver-level variance was smaller but significant (6.66% at the perceiver level). Variance at the target level was so close to zero that models including this effect would not converge. To confirm with a simpler analysis that there was no variance due to differences among targets, we computed the average accuracy of each target's first, second, third, and fourth thought (averaging over perceivers), and then we computed the correlations (across targets) between the four thoughts. The average correlation was not significantly different from zero (r = –.08, p = .32), which again suggests that there is no variance in empathic accuracy attributable to systematic differences between targets.

Full model[2]

How accurate were perceivers overall? The grand mean (i.e., the intercept) for empathic accuracy was 24.22, t = 15.95, p < .001. Because empathic accuracy ranged from 0 to 100, one way to interpret this mean is that perceivers achieved about 25% of the maximum possible accuracy scores. This intercept can also be compared with the mean baseline accuracy measures, which were based on the accuracy scores of perceivers' inferences paired with randomly mismatched thoughts. The mean within-targets baseline accuracy was 20.34 (*SD* = 25.75), and the mean across-targets baseline accuracy was 16.54 (*SD* = 21.13). Although the mean within-targets baseline accuracy was slightly higher, these means did not differ from one another, t = 1.58, p = .11. This suggests that for this sample of perceivers, empathic accuracy was composed largely of stereotype accuracy and to a much lesser extent actual distinctive accuracy—knowing what a particular target was thinking at a specific time after correcting for guessing based on general knowledge of a particular target or of the target pool as a whole.

We hypothesized that perceivers draw on stereotypes to make empathic inferences and that using stereotypes results in higher accuracy when the stereotypes contain valid information than when they do not. Inference stereotypicality significantly predicted empathic accuracy (b = 7.27), t = 16.22, p < .001; the more stereotypic perceivers' inferences were, the more accurately they corresponded with targets' thoughts. Thought stereotypicality also significantly predicted empathic accuracy (b = 5.79), t = 2.04, p = .05; more stereotypic thoughts were more accurately read. More important, as the critical test of our hypothesis, the interaction between inference stereotypicality and thought stereotypicality was also significant (b = 8.31), t = 10.93, p < .001. As hypothesized, perceivers were more accurate overall when their inferences were more stereotypical of new mothers, but this was especially true when those new mothers' thoughts were stereotypic (see Fig. 1). The size and direction of these effects remained largely unchanged when thought transparency (scaled so that higher values indicated more transparent thoughts; b = 7.16), t = 2.49, p = .02, was added to the model, although the main effect of thought stereotypicality became nonsignificant. Table 2 displays the parameter estimates for the full model after thought transparency was included as a covariate. See the bottom half of Table 1 for the change in variance components after accounting for the predictors of empathic accuracy.

Our theoretical focus was not on gender differences; however, in light of previous literature on possible gender differences in empathic accuracy (Hodges et al., 2011), as well as the gendered nature of the target stimuli (women discussing motherhood), we ran a model to explore for gender differences. Perceiver gender was a significant predictor of the intercept (b = –2.10), t = 4.03, p < .001: On average, men were less accurate than women.

Discussion

This study examined the role of stereotypes in empathic accuracy, providing novel insight into how perceivers accurately infer the thoughts of targets. In line with predictions, our results revealed that perceivers showed increased accuracy when they drew on stereotypes, particularly when inferring stereotype-consistent thoughts. These findings held even after controlling for how transparent a particular thought was.

Is relying on stereotypes a good strategy for mind reading? The answer to this question is yes . . . and also no. Our data suggest that relying on stereotypes can buy perceivers some accuracy that may otherwise be difficult to come by if the perceiver is unacquainted with that target. However, the gains in accuracy depended on the targets' thoughts being consistent with stereotypes. Extrapolating from the present findings, we would predict that empathic accuracy might suffer from relying on group-based stereotypes that are largely inaccurate; this would be a promising avenue for future study. In addition to containing some accurate information, the stereotype of new mothers is mostly neutral or positive in valence (e.g., new mothers are stereotyped as tired but also happy). Future research on the use of a wider range of stereotypes, such as negative stereotypes and stereotypes that cover more varied content, will also be important.

A second goal of the current study was to examine variation in empathic accuracy at different levels. Variance decomposition analyses revealed that there was little variance at the perceiver level (7%) and no variance at the target level, but there was more substantial variance within targets at the thought level (19%). Interpreting this finding in light of Funder's (1995) realistic accuracy model, we reason that one implication of this result is that searching for characteristics of a good judge or a good target may be less fruitful than considering what characteristics make for good information (i.e., what makes a thought more or less readable). Given that several studies have searched and failed to identify the characteristics of a good judge of empathic accuracy (Davis & Kraus, 1997), this is an important direction for future researchers to explore.

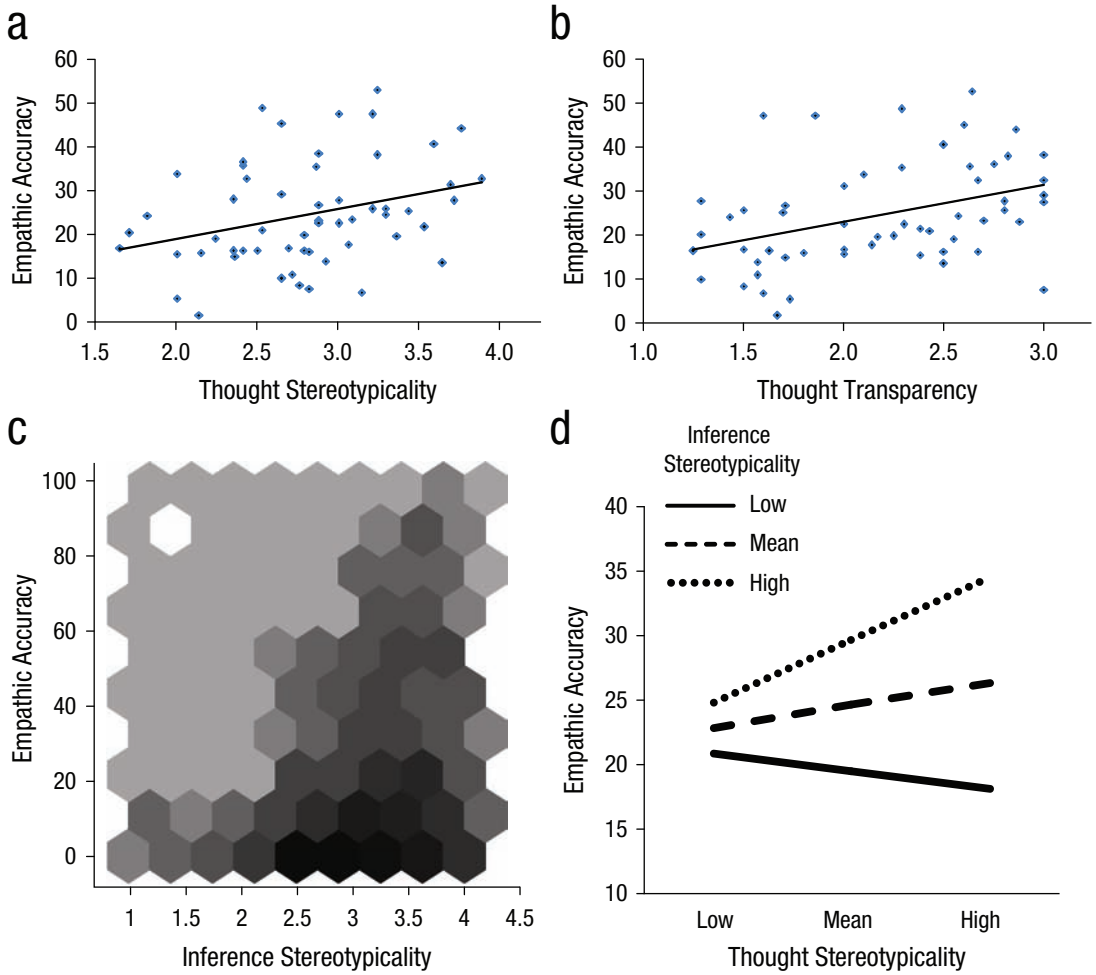

Fig. 1. Results for predictors of empathic accuracy. The scatter plots in the top row show empathic accuracy (aggregated across perceivers for each thought) as a function of (a) thought stereotypicality and (b) thought transparency. The best-fitting regression line is shown for each plot. The hexbin plot (c) shows empathic accuracy as a function of inference stereotypicality. Darker shading indicates greater density of data. The graph in (d) displays predicted empathic accuracy as a function of thought stereotypicality and inference stereotypicality (low = 1 *SD* below the mean; high = 1 *SD* above the mean).

Previous attempts to understand empathic accuracy may have been hampered by methodological limitations that exclusively concerned between-perceivers or between-targets variability. The present study was designed to also examine within-targets variability, because for any given target, thoughts may vary in important ways. We found evidence that perceivers used group-based stereotypes to inform empathic inferences, which helped them to infer some (but not all) thoughts and feelings. Including stereotypes in the pool of strategies used for achieving empathic accuracy may run

Table 2. Parameter Estimates for the Fixed Effects in the Full Model

Parameter	*b*	*SE*	*t*	*p*
Intercept	24.22	1.52	15.95	< .001
Inference stereotypicality	7.28	0.45	16.28	< .001
Thought stereotypicality	3.20	2.91	1.10	.28
Inference Stereotypicality × Thought Stereotypicality	8.26	0.76	10.88	< .001
Thought transparency	7.16	2.87	2.49	.02
Perceiver gender	–2.10	0.52	4.03	< .001

counter to idealized views of empathy, but we liken this process to reading between the lines in a story. A reader's understanding of a text is affected not just by the words on the page, but also by prior knowledge and expectations that the reader brings to the text. Similarly, when people try to read others' minds, they look beyond what is directly observable and use prior knowledge, including stereotypes, to fill in some of the gaps. Although relying on stereotypes may not be the key to achieving complete accuracy, this strategy may under certain circumstances make an otherwise closed book more accessible.

Acknowledgments

Sean M. Laurent is now at the University of Wyoming. We thank Joseph Stevens for helpful comments on an early draft of this article.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

1. In the rest of this article, we refer to both thoughts and feelings as "thoughts."
2. Before adding any predictors, we tested for an order-of-target-presentation effect, which was nonsignificant ($p > .4$).

References

Biesanz, J. C., West, S. G., & Millevoi, A. (2007). What do you learn about someone over time? The relationship between length of acquaintance and consensus and self-other agreement in judgments of personality. *Journal of Personality and Social Psychology*, *92*, 119–135.

Brewer, M. B. (1996). When stereotypes lead to stereotyping: The use of stereotypes in person perception. In C. N. Macrae, C. Stangor, & M. Hewstone (Eds.), *Stereotypes and stereotyping* (pp. 254–275). New York, NY: Guilford Press.

Davis, M. H., & Kraus, L. A. (1997). Personality and empathic accuracy. In W. Ickes (Ed.), *Empathic accuracy* (pp. 144–168). New York, NY: Guilford Press.

Decety, J., & Lamm, C. (2006). Human empathy through the lens of social neuroscience. *The Scientific World Journal*, *6*, 1146–1163.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *21*, 281–295.

Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review*, *102*, 652–670.

Ganong, L., & Coleman, M. (1995). The content of mother stereotypes. *Sex Roles*, *32*, 495–512.

Gesn, P. R., & Ickes, W. (1999). The development of meaning contexts for empathic accuracy: Channel and sequence effects. *Journal of Personality and Social Psychology*, *77*, 746–761.

Hamilton, D. L., & Gifford, R. K. (1976). Illusory correlation in interpersonal perception: A cognitive basis of stereotypic judgments. *Journal of Experimental Social Psychology*, *12*, 392–407.

Hodges, S. D., Kiel, K. J., Kramer, A. D. I., Veach, D., & Villanueva, R. (2010). Giving birth to empathy: The effects of similar experience on empathic accuracy, empathic concern, and perceived empathy. *Personality and Social Psychology Bulletin*, *36*, 398–409.

Hodges, S. D., Laurent, S. M., & Lewis, K. L. (2011). Specially motivated, feminine, or just female: Do women have an empathic accuracy advantage? In J. Smith, W. Ickes, J. Hall, & S. Hodges (Eds.), *Managing interpersonal sensitivity: Knowing when and when not to understand others* (pp. 59–73). Hauppauge, NY: Nova Science Publishers.

Ickes, W. (2001). Measuring empathic accuracy. In J. A. Hall & F. J. Bernieri (Eds.), *Interpersonal sensitivity: Theory and measurement* (pp. 219–241). Mahwah, NJ: Erlbaum.

Ickes, W., Buysse, A., Pham, H., Rivers, K., Erickson, J. R., Hancock, M., . . . Gesn, P. R. (2000). On the difficulty of distinguishing "good" and "poor" perceivers: A social relations analysis of empathic accuracy data. *Personal Relationships*, *7*, 219–234.

Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology*, *59*, 730–742.

Jarvis, W. B. G. (2000). *MediaLab* [Computer software]. Columbus, OH: Empirisoft.

Jussim, L., Harber, K. D., Crawford, J. T., Cain, T. R., & Cohen, F. (2005). Social reality makes the social mind: Self-fulfilling prophecy, stereotypes, bias, and accuracy. *Interaction Studies*, *6*, 85–102.

Kenny, D. A. (2004). PERSON: A general model of interpersonal perception. *Personality and Social Psychology Review*, *8*, 265–280.

Marangoni, C., Garcia, S., Ickes, W., & Teng, G. (1995). Empathic accuracy in a clinically relevant setting. *Journal of Personality and Social Psychology*, *68*, 854–869.

Myers, M. W., & Hodges, S. D. (2009). Making it up and making do: Simulation, imagination and empathic accuracy. In K. Markman, W. Klein, & J. Suhr (Eds.), *The handbook of imagination and mental simulation* (pp. 281–294). New York, NY: Psychology Press.

Stinson, L., & Ickes, W. (1992). Empathic accuracy in the interactions of male friends versus male strangers. *Journal of Personality and Social Psychology*, *62*, 787–797.

Thomas, G., & Fletcher, G. J. O. (2003). Mind-reading accuracy in intimate relationships: Assessing the roles of the relationship, the target, and the judge. *Journal of Personality and Social Psychology*, *85*, 1079–1094.