Liking and Empathic Accuracy in Intergroup Contexts

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Jennifer Gutsell, Advisor

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ABSTRACT

Liking and Empathic Accuracy in Intergroup Contexts

A thesis presented to the Department of Psychology

Graduate School of Arts and Sciences
Brandeis University
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We examined the role intergroup scenarios on affecting third-party perceiver liking and how liking affected empathic accuracy. In a within-group design, third-party perceivers viewed and continuously rated the affective states of targets sharing events that happened in their lives to perceived ingroup or outgroup members. The videos were followed by questionnaires on how much perceivers liked and felt close to the targets and questionnaires about themselves on trait empathy. Results indicated that liking did not play a crucial role in empathic accuracy and significant differences in empathic accuracy or liking were not fueled by intergroup contexts. Further, we contributed to the controversy of the relationship between empathy and empathic accuracy.
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Introduction

For the purpose of our study, empathic accuracy can be defined as one’s ability to accurately judge another’s affective states, also known as affective sensitivity (Constanzo & Archer, 1989; Ekman & Friesen, 1975). While it facilitates perceivers understand the other person accurately, it is often overlooked when examining successful interactions. Empathic accuracy seems to be a dyadic process – the ability, traits, and behavior of both the perceiver and the target determine whether the perceiver can accurately read the targets’ emotions and thoughts (Zaki, Bolger, & Ochsner, 2009). In our current study, we examined liking as one of the factors inherent in the dyadic relationship between perceiver and target that might determine empathic accuracy. We will also examined target communication differences that might determine liking and empathic accuracy.

Empathy and Empathic Accuracy

In social interactions, empathy is a valued practice where one person catches and shares the other’s emotions (Duffy & Chartrand, 2015; Hatfield, Cacioppo, & Rapson, 1993). Past evidence found that people with high empathy are more apt to engage in prosocial behaviors and have more positive attitudes towards their relationships with others than people with low empathy (Hodges, Clark, & Meyers, 2011; Galinsky, Maddux, Glin, & White, 2008). Therefore, exhibiting this trait is crucial in cultivating relationships involving colleagues, romantic partners, and even strangers (Smith, 2006). Yet, with empathy alone, one may not accurately recognize how the other feels and respond by under- or over-empathizing which could lead to ineffective responses that worsen the situation. For example, Paul Bloom (p32, 2016) discussed the
aftermath of the nation’s empathy-based response when the Sandy Hook massacre occurred. One way the nation responded was by mailing an overflow of gifts that eventually became a burden for the city to hold. Where empathic concern lead to the overflow of gifts, people making empathic-accuracy responses would focus more on social reform, such as targeting gun-control policies.

Empathic accuracy, the tendency to judge another’s affective states and thoughts correctly (Ickes et al., 1990), is curial for effective and appropriate prosocial responding. It helps alleviate disagreements and leads to more satisfying relationships when achieved (Ma-Kellum & Learner, 2016; Cohen, Schulz, & Weiss 2012; Heinke & Louis, 2009). Therefore, one could relate this reduction in disagreements due to one party accurately understanding the partners’ emotions and effectively responding to their needs. Higher empathy levels have been positively linked with higher levels of empathic accuracy (Zaki, Bolger, & Ochsner 2009), however this positive relationship does not always hold true across dyadic studies (Ickes, Stinson, Bissonnette, & Garcia, 1990). Empathic accuracy is a newer field of interest with less well-established relationships compared to empathy (Ickes et al., 1990; Flurry & Ickes; 2006). Thus, we will make further inferences based on well-supported research in empathy. Regardless, further studies examining the association between empathy and empathic accuracy would better clarify if the variables can be studied interchangeably or treated as distinct processes.

The Effects of Liking and Empathy

Due to the complexity of social interactions, assessing the contributing factors of both perceivers and targets on empathic accuracy is more powerful than analyzing either alone. In studies assessing perceiver traits, higher levels of attention (Eckland & English, 2018), engaging more systematic rather than intuitive thinking (Ma-Kellams & Lerner, 2016), target familiarity
(Margoni, Garcia, Ickes, & Teng, 1995; Thomas, Fletcher, & Lange, 1997), and attractiveness (Ickes et al., 1990) contributed to empathic accuracy. In studies assessing target traits high emotional expressivity (Zaki, Bolger, & Ochsner, 2007) and lower authoritative behaviors (Pfetsch, 2017) contributed to empathic accuracy. Pioneering work examining both perceiver and target traits affecting empathic accuracy found perceiver empathy facilitated empathic accuracy only when targets expressed high emotional expressivity (Zaki, Bolger, & Ochsner, 2007).

Expanding on the dyadic interplay of traits contributing to empathic accuracy, the simple notion of liking may contribute to accurately detecting one’s affective states. Liking is an umbrella term that encompasses a plethora of positive attitudes towards someone that attributes more self-positive feelings and wanting to interact with the interaction partner in the future (Sprecher, Treger, Fisher, Hilaire, & Gryzbowski, 2015; Sprecher, Treger, & Wondra 2012). When the communicator likes their interaction partner, the communicator is more attentive (Grynszpan, Martin, & Fossati, 2017), finds him or herself to be more similar towards the interaction partner (Byrne, 1971), and empathizes more with the communicator (Yabar & Hess, 2007). Hence, we suggest liking may act as a gateway to increasing empathic accuracy in social interactions by increasing attention, closeness, and empathy towards the interaction partner.

The relationship between liking and empathy seem to be bi-directional. For example, studies examining empathy demonstrated the more targets perceived their partners actively perspective-taking, or putting one in the other’s shoes (a subtype of empathy), the more speakers liked their counterparts (Galinsky, Magee, Inesi, & Gruenfeld, 2006). Furthermore, higher liking was positively associated with mental and physical similarities between the dyads (Sprecher et al., 2015; Mackinnon, Jordan, & Wilson, 2011). Additionally, despite racial differences, liking and empathy both increased after dyads were exposed to each other and interacted (Vezzali,
Hewstone, Capozza, Triflettt, & Di Bernardo, 2017). Although the relationship between liking and empathic accuracy is not clearly defined, the relationship between liking and empathy appears to be strong.

**Intergroup Empathy**

Albeit a positive association between empathy and liking, the act of empathy has its limitations. Empathy is susceptible to racial bias, such that people express more empathy towards those perceived to be racially similar to them (ingroup) compared to those who are not (outgroup) (e.g. Mekawi, Bresin, & Hunter, 2016; Cao, Contreras-Huerta, McFadyen, & Cunnington, 2015). In the past, studies explored racial biases by having participants rate target pain of photographed facial expressions or vignettes of ingroup (Caucasian-American) or outgroup members (African-American) in pain and found higher levels of empathic pain for ingroup compared to outgroup (Mathur, Richeson, Paice, Muzyka, & Chiao, 2014), automatic processes was partially due to racial biases (Mathur et al., 2014), and participants made inaccurate predictions of how outgroup members responded in a social interaction compared to ingroup members (Hugenberg & Bodenhausen, 2004; Hutchings & Haddock, 2008). In some cases, this empathy gap may contribute to falsely stereotyping outgroup members and thus, becoming avoidant in social interactions (Moons, Chen, & Mackie, 2015).

If people perceive racially outgroup members unlike their own kind, they might also act avoidant and communicate emotions differently (less so) when interacting. In turn, the communication style might be contributing to the empathy bias that usually shows that people are less accurate in cross-group interactions. We are testing this pathway indirectly to examine the target-related effects separately from any perceiver-related bias.
Present Study

The present study examined if liking played a significant role in empathic accuracy and if there were differences in liking and empathic accuracy based on intergroup versus intragroup contexts. The empathic accuracy method involved perceivers watching and continuously rating 4 randomly-selected videos of targets sharing experiences. The manipulation worked so that 2 videos presented were of targets communicating with ingroup members and 2 videos presented were of targets communicating with outgroup members. Unlike prior research, we examined the relationship between liking and empathic accuracy and also assessed traits of both perceivers and of targets. We hypothesized the more perceivers liked the targets, the higher their empathic accuracy scores would be. Furthermore, we hypothesized significant differences in liking and empathic accuracy based on perceived communication conditions of the target.
Methods

Procedure

The current study was a 2(Communication condition: cross-group vs. same-group) X 2 (Emotional valence: positive event vs. negative event) within-group design that consisted of two segments. In the first segment, target videos and their affective state ratings were selected for our study based on our selection criterion. The selection criterion consisted of videos with a length longer than 1 minute, a storyline of a beginning, middle, and end, clear video-audio quality, and no personal-identifying information shared. In the prior study that produced the target videos, white-only participants (targets) were first introduced to a photo of their racially-ingroup male partner. Then targets shared a positive event and negative event with their ostensible partner via video camera. Since the first segment was a within-group design, the same procedure was done with a racially-outgroup male partner following the ingroup member. After each set of videos, the targets watched their own videos and continuously rated how positive through negative they had felt at the time of experience-sharing. In the next segment, third-party perceivers were recruited for this online study. They watched four randomly selected videos of negative and positive events with in and outgroup communication conditions. Using the same procedure as targets rated their own videos, perceivers viewed and continuously rated how the target was feeling during the video. Here, empathic accuracy was measured as a correlation between perceivers’ affect ratings of targets’ feelings and ratings of targets’ feelings.
**Video Selection and Rating**

In the prior study used to create the videos, 56 participants were recruited from ads posted around the university campus targeting current college white students 18 years-old or older. Upon arrival to the lab, participants who read and signed the consent form continued with the study. In the first part of the study, the computer program introduced the targets to a picture of their racially-white male partner (ingroup). In the next round, the targets were introduced to a picture of their racially-outgroup African-American partner (outgroup). The images seen were the same images seen for all participants, so there was no actual partner. The images selected were from a Chicago face database. In the first condition, the targets were video-recorded and shared one unique positive experience and then followed with one unique negative experience. Targets were instructed to tell a story up to 4 minutes long and share stories they were comfortable sharing with strangers. This experience-sharing procedure occurred for their racial in-group partner and their racial out-group partner. After each set of videos were recorded, research assistants uploaded the videos to a desktop and then targets continuously rated each of them on how negative through positive they felt had felt as they were experience-sharing. The scale ranged from 1 to 9, with 1 being “negative” and 9 being “positive”. At the conclusion of the study, the participants were debriefed and asked for permission to distribute these videos online for a follow up study examining empathic accuracy.

In the selection process for our current study, the videos had to have met our approved criterion. The videos’ lengths must have exceeded 1 minute with a beginning, middle, and end, the audio quality must have been clear enough to be heard through headphones or speakers, and
videos were excluded if personal information was shared that would make it possible to identify or locate the targets. A total of 83 videos were selected for our study.

**Sample**

For our current study, participants (perceivers) were recruited through Prolific Academic, an online crowd sourcing platform that connects qualified and eligible participants with researchers. Participants were given up to an hour to complete the online study and were rewarded $6.00 upon completion. Participants were 18 years old or older, English-speaking, and had access to a laptop or desktop. A power analysis conducted by G power, a statistical computing program, revealed that 52 participants were needed. This was calculated in order to obtain 80% power and detect a medium effect size of $f=.20$, in a 2x2 design, two-tailed, and with .05 alpha error probability.

**Procedures**

The participants were recruited through Prolific Academic and continued with the online study if they accepted the terms and conditions listed in the online consent form. Participants completed the Positive and Negative Affective Scale (PANAS; Watson et al, 1988), a questionnaire used to evaluate their current affective states prior to the study. Next, they viewed 4 randomly selected videos from a combination of communication (ingroup x outgroup) and valence (positive x negative) videos. By the end of the videos, all perceivers viewed and rated a randomized combination of one ingroup-positive experience, one ingroup-negative experience, one outgroup-positive experience, and one outgroup-negative experience. To ensure perceivers did not view the same target twice but in two different communication conditions, we programmed our study so targets shown only belonged to one communication condition. During each video, participants viewed the video and continuously rated (with their mouse) the
speakers’ affective state(s) on 1-9 scale, with 1 being “negative” and 9 being “positive”.

This method of rating aligned with the method targets used to rate their affective states during their experience-sharing. Following each video, participants answered questions about how the target felt after viewing the video, how they felt after viewing the video, how much they liked the target, and how close they felt with the target.

After viewing and rating the four videos, participants completed self-questionnaires about their demographics and measuring their empathy. A debrief form and monetary compensation concluded the end of the study.

Measures.

**Empathic accuracy.** The outcome variable was empathic accuracy, or the correlation between perceiver affect ratings and the targets’ affect ratings. The likert scale ranged from 1-9, with 1 being “negative and 9 being “positive”. MATLAB was used to attain the accuracy scores (MATLAB and Statistics Toolbox Release 2013b. Perceivers’ time-course affect ratings of the targets were correlated with targets’ reported time-course affect ratings that resulted in coefficient accuracies from each participant-target combination. The correlation coefficients were r-to-Z transformed to be normally distributed for analysis.

**Liking.** Liking was self-reported using the Subjective and Affective Questionnaire (SAQ) (Holoein et al., 2015. Three questions were added to this questionnaire: 1) “Based on your experience with this person, overall, this person is friendly”, 2) “To what degree did the experience-sharing seem awkward, forced, and strained to you”. 3) “To what degree did the experience-sharing seem smooth, natural, and relaxed to you?” The first question was added because we it was a new question that we thought may have strengthened the construct of liking.
The last two questions were added to evaluate the overall smoothness of the communication. The likert scale used ranged from 1-7, with 1 being “not at all” characteristic to “very” characteristic.

**trait empathy.** To parse apart the type of empathy successful in empathic accuracy, trait empathy was assessed using the Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers et al., 2011). The QCAE is a 31 item- questionnaire that can be divided into subsets of cognitive and affective empathy. The scale was based on four choices: “strongly agree”, “slightly agree”, “slightly disagree”, “strongly disagree”.

**state affect.** PANAS (Watson et al., 1988) was used to gage the current emotions the participants were feeling at the time of the study. PANAS is 20-emotion (e.g. irritable, excited, alert) rating of how one feels in the present moment using a 1-5 scale with 1 being “very slightly or not slightly at all”, 2 being “a little”, 3 being “moderately”, 4 being “quite a bit”, and 5 being “extremely”. The questionnaire scores were into positive and negative affect.

**closeness.** Inclusion of Other in the Self (iOS, Aron & Aron, 1992), a self-questionnaire, was used to measure how close the participant felt with the target. The iOS scale included 7 diagrams of 2 circles with 1 circle representing “self” and the other circle representing “other”. The diagrams ranged from option 1 being “self and other not overlapping at all” to 7 being “self and other overlapping completely”.

**state empathy.** State empathy or affect sharing was assessed using two simple questions, 1) how the target may have felt after experience-sharing and 2) how the perceiver felt after listening to the target experience-share. The likert scale ranges from 1-5 with 1 being “negative” and 5 being “positive”. State empathy was calculated by the reported difference between the questions above. The difference score of 0 indicated the participants perceived themselves and
targets felt the same (strong state empathy) and any other value difference suggested incomparable feelings (dissimilar state empathy).

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Analytical Plan

For analyses, we first excluded communication-condition observations with large discrepancies between perceiver and target affective state ratings and communication-condition observations where the perceivers reported the video quality as disruptively freezing. Large discrepancies were defined as the perceivers’ number of entered affective state ratings differing by 5 or more targets’ entered-affective entered ratings for the same video. The cut-off point was decided with the notion that more than 5 mismatched ratings more would not truly reflect the perceivers’ accurate affective state ratings of the target. To our knowledge, this was the first study to administer this form of empathic accuracy online. Thus, the discrepancies may have been caused by online technicalities of slow internet speed freezing the video and audio presentations. Additionally, we excluded communication-condition observations where the perceivers rated the videos viewed to have disruptive freezing indicated as an 8 or 9 in a 1-9 scale. The rating came from a video-quality question presented after each video with 1 being “no problems” and 9 being “disruptive freezing”. When we excluded communication-condition observations, we excluded all the data pertaining to that communication-condition. For example, if a perceiver rated the presented target’s positive story and outgroup-condition video extremely disruptive, we excluded this particular line of data (i.e. closeness, affective state ratings). Meanwhile, if the same perceiver’s other communication-condition videos met the criterion selection, their data pertaining to those particular communication-condition lines were included.
in the analyses. As a result, 74 perceivers data were included for further analyses, however 1 perceiver and 65 communication-condition observations were excluded in the further analyses.

To determine if the added questions to the SAQ remained consistent in defining liking, a reliability analysis examined the covariance of liking with the original scale items and the additional questions. We performed the reliability check using SPSS, if the three additional questions lowered Cronbach’s alpha towards a weaker construct, the questions would be dropped from the computation of liking in our study.

To determine if current affective states of the perceivers would confound their accuracy scores, a Pearson correlation and simple regression model examining the relationship between empathic accuracy and PANAS positive and negative scores were performed. The results were two-tailed with the probability of rejecting the null hypothesis at \( p<.05 \)

**Hypothesis 1**

We predicted that liking of the target would predict higher empathic accuracy. To test this hypothesis, we first ran a Pearson correlation to evaluate the relationship between empathic accuracy and liking. Next, we ran a regression model with accuracy scores as the dependent variable and liking as the predictor variable. Empathic accuracy was quantified as time-course correlations of perceiver and target ratings. A linear regression was executed to address whether or not liking predicts coefficient accuracy. Linearity and homoscedasticity were assessed by examination of scatter plots. The \( F \)-test was utilized to evaluate whether liking predicted accuracy, and \( R^2 \) was used to determine how much variance liking accounts for empathic accuracy. The first hypothesis results were two-tailed with the probability of rejecting the null hypothesis was set at \( p<.05 \).
**Hypothesis 2**

We predicted there was a significant difference in liking contingent on communication condition, such that perceivers would like the targets more when rating targets with ingroup ideations compared to outgroup-ideations. To assess this, we conducted a paired t-test to determine potential significant differences in liking depending on communication-ideation. The results of this paired t-test were two-tailed with the probability of rejecting the null hypothesis at $p<.05$.

We predicted that there was a significant difference in empathic accuracy contingent on communication condition, such that perceivers would score higher accuracy scores for targets with ingroup-ideations compared to outgroup-ideations. To assess this hypothesis, we conducted a paired t-test to determine potential significant differences in empathic accuracy depending on communication-ideation. The second hypothesis results were two-tailed with the probability of rejecting the null hypothesis at $p<.05$.

**Hypothesis 3**

We predicted that communication condition mediated the relationship between liking and empathic accuracy. To assess this hypothesis, we utilized the mediation analysis in QuantPsyc package in R. We would perform this test if we found that the liking was a crucial determinant in empathic accuracy. The mediation analysis results were two-tailed with the probability of rejecting the null hypothesis at $p<.05$. 
Exploratory

We explored trait empathy and any significant relationships among empathy subfactors and empathic accuracy. We conducted a Pearson correlation between the subfactors of empathy with empathic accuracy. If the factors or subfactors correlated above 20% (George & Mallery, 2003), we would consider the relationship influential and include it in the regression model explaining empathic accuracy. The relationships of closeness and state affect with empathic accuracy was measured using Pearson correlations to examine any strong associations.
Results

For this analyses, 74 perceivers’ data were included, 47 identified as male, 26 identified as female, and 1 identified as other. The average age of the participants was 31 years old. Of the 74 perceivers’ data included, 109 belonged to ingroup conditions and 118 belonged to outgroup conditions. 1 perceiver and 65 ingroup and outgroup communication-conditions were excluded from analyses due to meeting one or both of the exclusion criteria described in the beginning of the Analytical Plan section.

Liking

A reliability analysis was computed to examine the construct of liking with the additional questions added to the SAQ. Table 1 revealed the Cronbach alpha for the original questionnaire ($\alpha = 0.857$) was the better choice compared to the addition of the new questions ($\alpha = 0.757$) as it had the higher consistency that stayed within the .80-.90 scale (George & Mallery, 2003). Thus, liking was calculated using only the original items of the SAQ.

<table>
<thead>
<tr>
<th>Questionnaire with 3 additional questions ($n=9$)</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire ($n=6$)</td>
<td>0.76</td>
</tr>
<tr>
<td></td>
<td>0.86</td>
</tr>
</tbody>
</table>

Table 1. Reliability Analysis of Liking
State Affect

A Pearson correlation was computed to evaluate the relationship between current emotions and empathic accuracy. There was no association between positive emotions and empathic accuracy \((r=-0.07, p=0.28)\) and also no association between negative emotions and empathic accuracy. \((r=-0.01, p=0.82)\). The results suggested that participants’ current emotions did not largely influence their accuracy.

Liking Effects on Empathic Accuracy

Since current emotions were weakly associated with empathic accuracy scores, we ruled out current emotions as a confound to accuracy reading. Next, a Pearson correlation was computed to assess the relationship between liking and empathic accuracy. There was no correlation between the two \((r=0.09, p=0.16)\) (Figure 1). The results suggested that liking someone was not equivalent to accurate understanding of emotions.

Further, we examined if higher liking mediated high accuracy utilizing a regression model. Results from the simple regression did not support liking’s pivotal role in empathic accuracy; \(t(225)=1.40, p=0.16\), RMSE=0.53, \(R^2=0.01\) (Figure 2). The slope estimated slope coefficient \(\beta_{\text{like}}=0.05\), indicated that on average, one-unit difference in liking predicted about 0.05 units difference in empathic accuracy. The 95% Confidence Interval for the slope coefficient was

-0.02, 0.11. Likewise, the overall model was insignificant; \(F(1,225)=1.97, p=0.16\). Coupled with the Pearson correlation, these findings implied liking had an insignificant role in one’s ability to accurately understand someone’s feelings.
Figure 1. Scatterplot of the relationship between liking and empathic accuracy by group.
Figure 2. Estimated regression line based on model 1: The relationship between empathic accuracy and liking by communication group.

Note. Accuracy scores are measured as the correlation coefficients between target and perceiver affective state ratings.
Closeness

A Pearson correlation examining the relationship between accuracy and closeness revealed that the variables were negatively associated ($r=-0.13$) and the correlation coefficient was trending, but not significantly different from zero ($p=0.06$). The results suggest the less close one feels to the speaker, the more he or she may be able to accurately understand, however, this relationship is outside of the traditional threshold of significance ($p = 0.05$) and thus needs to be interpreted with caution.

Group Condition Effects on Liking

A paired-samples t-test was conducted to compare liking scores in ingroup and outgroup conditions. There was not a significant difference in liking for ingroup ($M= 4.71$, $SD= 1.06$) and outgroup ($M= 4.74$, $SD= 1.12$) conditions; $t(224.86)=-0.20$, $p=0.84$. The results demonstrated that liking levels did not vary significantly based on speakers’ communication styles with in or outgroup ideations.

Group Condition Effects on Empathic Accuracy

A paired-samples t-test was used to compare empathic accuracy scores in ingroup and outgroup conditions. There was not a significant difference in the scores for ingroup ($M=0.475$, $SD= 0.562$) and outgroup ($M=0.539$, $SD=0.505$) conditions; $t(217.48)=-0.902$, $p=0.368$. These results suggest that the tendency to infer others’ accurately is independent of the target communicating with an ingroup or outgroup member.

Since the simple regression examining the relationship between empathic accuracy yielded insignificant results, meaning liking did not play a pivotal role in empathic accuracy, we
did not perform the mediation analysis to examine indirect effects of communication condition in the relationship between liking and empathic accuracy.

**Empathy Effects on Empathic Accuracy**

In our exploratory analyses, Pearson correlations were performed to parse apart empathy subfactors that may have attributed to higher accuracy scores. The results of relationships among empathy and empathic accuracy and other independent variables compared to accuracy is charted in Table 2 and demonstrated that factors of empathy played an insignificant role in accuracy scores. The relationship between cognitive empathy and accuracy was negative and not strongly linked ($r=-0.09$, $p=0.19$) and the relationship between affective empathy and accuracy was also negative and not strongly linked ($r=-0.05$, $p=0.42$).

**State Empathy**

A Pearson correlation was used to analyze the relationship between accuracy and state empathy. The link appeared to be negative and weak; $r=-0.04$ ($p=0.57$) suggesting that vicariously sharing emotions did not impact accuracy.
<table>
<thead>
<tr>
<th>Accuray</th>
<th>p-values</th>
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<tbody>
<tr>
<td>like</td>
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</tr>
<tr>
<td>State affect: positive</td>
<td>0.09</td>
</tr>
<tr>
<td>State affect: negative</td>
<td>-0.07</td>
</tr>
<tr>
<td>Closeness</td>
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<td>Other in the Self</td>
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<td>Proximal Responsivity</td>
<td>-0.07</td>
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<tr>
<td>Peripheral Responsivity</td>
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Table 2. Pearson Correlation Table of Independent variables and Empathy subset variables relationships with Empathic Accuracy.
Discussion

While the relationship between empathy and empathic accuracy was once thought to be positive (Zaki, Bolger, & Ochsner 2009), findings continue to muddle this establishment. Past research found perceivers who scored high in affective empathy shared emotions of other individuals and researchers proposed that these shared emotions resulted in accurately inferring speakers’ internal states (Decety & Jackson 2006; Niedenthal, Barsalou, Rick, & Krauth-Gruber, 2005), however our results illustrated conflicting evidence. There are two reasons that may explain this: audio quality and our empathic accuracy method used. Verbal information is important for high empathic accuracy (Kraus, 2017; Hall & Schmid Mast, 2007). While we filtered out bad audio-quality videos using our selection criterion, our online study was susceptible to varying internet speeds. Therefore, perceivers’ connection may have created delays or malfunctions in the processing of the videos. Next, the way our study measured empathic accuracy was a newer protocol than previous measures of empathic accuracy (Zaki, Bolger, & Oschner, 2007). Prior methods of empathic accuracy was measured by perceivers attempting to guess speakers’ thoughts and emotions verbatim at distinct timepoints throughout speakers’ videos (e.g. Ickes et al., 1990; Stinson & Ickes, 1992). In contrast, our method used measured perceivers’ ability to correctly infer ones’ fluctuations of affect continuously over time (Zaki, Bolger, & Ochsner, 2007). This distinction deviates from the literal concept of mind-reading that is commonly associated with empathic accuracy (Ickes & Hodges, 2013), but entails a more enduring concept of detecting general shifts of one’s emotions and intentions, which allows partners to adapt appropriately in dynamic contexts. Future studies would benefit from investigating this
seemingly crucial difference in defining empathic accuracy and determining which method better represents generalizable behaviors in successful encounters and interactions.

It seems unlikely that audio quality is the sole contributing factors to high empathic accuracy as social forces shape human behavior. In studies with romantic partners, high perceived effort and high reported satisfaction are positively correlated with empathic accuracy (i.e. Sened, Lavidor, Lazarus, Bar-Kalifa, & Ickes, 2017; Cohen, Schulz, Weiss, & Waldinger, 2012). Studies of empathic accuracy have focused on perceiver traits (Ma-Kellum & Lerner, 2016; Simpson, Ickes, & Blackstone, 1995), speaker traits (Snodgrass, Hecht, & Ploutz-Snyder, 1998), or examining the relationships between perceivers and speakers (Sened et al., 2017; Simpson, Orina, & Ickes, 2003). Further expanding on socio-cognitive traits that shape empathic accuracy, we examined the relationship between empathic accuracy and liking. Our findings were not indicative that liking largely influenced empathic accuracy. The main evidence used to infer this potential link was disarmed when empathy was poorly related to empathic accuracy. Lastly, despite our over-powered sample size, the study observed no promising trend in detecting communication differences between ingroup and outgroup-based empathic accuracy and liking. Based heavily on racial empathic gaps in empathy, we hypothesized this would have translated into target communication and thus affect empathic accuracy as well. Aside from the disconnect we found between empathic accuracy and empathy, there are pitfalls in our study to address. First, we are unsure if the videos we chose from the prior study truthfully represented targets believing they were communicating with real people as there were no self-reports asking
how believable the study was for the targets. If the questionnaire existed and it turned out that speakers did not actually believe they were communicating with an in- or outgroup member; this could explain why we did not notice any differences. Secondly, this was an online study where targets communicated via video only, and perceivers rated shifts in targets’ affective states only. As the use of technology continues to grow in day-to-day interactions, there are differences in communication styles comparing face-to-face interactions and technology-based interactions (Blais, Craig, Pepler, & Connolly, 2008). For instance, technology-based interactions are more susceptible to dehumanization, or degrading one as less human than others, as screens can blunt the flexibility of human emotions (Haslam, 2006). Thus, our study may only be generalized to online encounters. Future studies would benefit from studying both types of communication channels as professional and personal relationships continue to grow online.
Conclusion

Although this was an over-powered study, we were unable to see promising trends to support our hypotheses. A strong relationship between trait empathy and empathic accuracy continues to come into question, therefore future research would benefit in further distinguishing the relationship between empathic accuracy and empathy. Liking did not largely impact empathic accuracy; however, it is still important to explore other socio-cognitive traits to better understand the complexity of successful interactions. Finally, group conditions did not appear to significantly affect empathic accuracy or liking, however, more refined methods to examine this should be performed before reaching this conclusion.
References


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