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What is This?
Self-Awareness of Judgment Policies of Rapport

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Social perceivers are believed to report their perceptions in terms of subjective cues (e.g., warmth, agreeableness, etc.) more than objective cues (e.g., gestures, head nods, etc.). The authors examined perceivers’ awareness of and control over both types of cues when making social judgments. Consistent with past theorizing, Study 1 demonstrated that perceiver judgments were influenced by both types of cues but perceivers were more aware of their subjective cue use. Studies 2 and 3 confirmed this and suggested that perceiver judgment policies changed more when receiving objective cue instructions. Surprisingly, judgment policies (i.e., cue use) did not always improve as a result of these changes. Thus, manipulated changes in judgment policy did not necessarily lead to increased accuracy.

When making a judgment about how well two people are getting along, there are many stimulus cues that may influence a perceiver. A perceiver could pay attention to amount of smiling and touching that the two people exhibit or focus on their mutual level of involvement in the interaction. Judgments based on the frequency of smiles or touching are driven by objective cues. Judgments based on the degree of involvement, agreeableness, or expressivity are driven by more subjective mentalistic constructs derived from objective cues (Heider, 1958).

The objective of these experiments was to determine perceivers’ awareness of, and control over, their own judgment policies of rapport. Three questions were addressed: (a) Which type of stimulus cues (i.e., objective cues vs. mentalistic constructs) affect judgments of rapport? (b) Which type of stimulus cues, if any, do perceivers have insight into using when making judgments of rapport? and (c) Will perceivers’ rapport judgments be influenced more by providing task instructions to the perceivers in terms of objective cues or by providing the information in terms of mentalistic constructs?

Levels of Social Perception

A number of psychologists have discussed the different levels of interpersonal perception (Ambady & Rosenthal, 1993; Asch, 1946; Baesler & Burgoon, 1987; Brunswik, 1955; Heider, 1958; Zuckerman & Miyake, 1993). Behavioral stimulus cues represent specific acts or behaviors that can be objectively defined and reliably coded (e.g., the number of smiles or the frequency of eye contact) but manifest different meanings in different social contexts. These cues have been referred to as molecular cues (Ambady & Rosenthal, 1993), specific behavioral cues (Heider, 1958), objective cues (Baesler & Burgoon, 1987), or overt cues (Brunswik, 1955). Other psychological and social cues are not perceived directly but involve a good deal of inference. Psychological states (e.g., apparent boredom, expressivity, etc.) are manifested by a variety of acts, behaviors, expressions, and movements making them less reliably measured. These cues have been referred to as molar cues (Ambady & Rosenthal, 1993), mentalistic constructs (Heider, 1958), subjective cues (Baesler & Burgoon, 1987), or covert cues (Brunswik, 1955). This class of cues constitutes or conveys relatively more psychological meaning. Furthermore, whereas the meaning and interpretation of these cues remains constant across social contexts, the precise
objective behaviors through which they are manifest can vary substantially.

In discussing the nature of objective and subjective cues, Heider (1958) wrote,

We may see that a person is displeased, without being able to say just what about his appearance or behavior gave us that impression. This very often is true when the cues involve the interpretation of physiognomies, gestures, the tone of voice, and similar expressive features. They often mediate personality traits, wishes, or attitudes of persons without our being able to say what the material is upon which we base our perceptions. (p. 26)

Heider goes on to state that there are also times when our perceptions of people are based on specific instances of concrete behaviors. For example, parents may monitor the facial expressions of their infant to reduce certain looks of distress and increase smiling and laughter. Although theorists have suggested that perceivers process social stimuli both in terms of specific events and psychologically meaningful constructs, research has not empirically documented whether perceivers’ awareness of stimuli differs within the subjective and objective levels, and they have not considered what implications this might have.

**Lens Model Analysis**

Brunswik’s (1955; see also Cooksey, 1996) lens model of perception is capable of studying a myriad of psychological phenomena. Embraced by Heider (1958) as a means to understand interpersonal perception, this paradigm has frequently been used by decision-making researchers (Hammond, 1996). For example, the lens model has been used to examine judgment policies when observing face-to-face interactions (Bernieri, Gillis, Davis, & Grahe, 1996; Gifford, 1994). Researchers who examine self-insight into judgment policies often do so using the lens model paradigm (for reviews, see Slovic & Lichtenstein, 1971; White, 1988) because the lens model contains statistical measures conducive to the study of judgment policies. In a lens model design, researchers study (a) the predictive validity of the measured cues to an objective criterion (ecological validity), (b) the cues perceivers utilize when making judgments about the construct (cue utilization), and (c) how accurate perceivers are in making judgments about the construct (achievement) (Beal, Gillis, & Stewart, 1978; Brunswik, 1955). Figure 1 depicts the relationship between the three components studied in a lens model analysis.

**Ecology of rapport**. Bernieri et al. (1996) demonstrated the importance of context to the ecology of rapport in two social situations: trip planning and debating. They found that eight behavioral cues (back channel responses, eye contact, forward lean, female gestures, amount of silence, frequency of posture shifts, proximity, and nonverbal synchrony) predicted rapport in the debate situation. However, only two cues encoded rapport within a different context: a more cooperative trip-planning situation. This change in the apparent relationship between rapport and manifested behavior across situations has important implications about the way individuals perceive situations. If the same objective cue reflects different internal psychological states when observed in different contexts, judgments based exclusively on objective cues become extremely complicated. Perceivers’ judgment policies would need to be incredibly complex, containing the different possible meanings of nonverbal behaviors in every conceivable situation. Judgments relying on latent psychological constructs, however, do not need to be context specific (an agreeable individual is perceived as agreeable in a debating or a cooperative situation, even if different behaviors manifest agreeableness between the contexts).

**Cue utilization**. The lens model analysis also examines how judgments covary with the stimulus cues perceived. For a given individual, the relative contribution or influence of each cue is represented by correlation coefficients predicting an observers’ judgment. These are termed cue utilizations or cue dependencies. Cooksey (1996) pointed out that there are many possible ways to assess the importance of a given cue to a perceive’s
judgment policy, ranging from zero-order correlation coefficients to standardized regression coefficients to usefulness indices. Different metrics arose because the intercollinearity between stimulus cues can affect the measured importance of a given cue. For example, if two cues were highly correlated (say, height and weight), cue utilization scores derived from zero-order correlations between the cues and the judgments would be similar, even if a perceiver only used either height or weight exclusively.

For this reason, many researchers construct judgment tasks where cues are uncorrelated (Brehmer & Brehmer, 1988; Hammond, 1996). This decreases the ambiguity of judgment policy interpretation by the researcher. However, the natural social ecology is hopelessly complex and replete with correlated cues. Therefore, to investigate the judgment policies of normal day-to-day interpersonal perception, one should employ representative samples of the interpersonal ecology. In other words, forcing a constraint of orthogonality on a set of naturally occurring variables requires severely selective sampling or construction and thus reduces the generalizability of the findings.

**Rapport judgment policies.** A description of the various cue utilizations for a given perceptual event represents a perceiver’s judgment policy (Hammond, 1996). The research by Bernieri and colleagues identified perceivers’ judgment policies when rating dyadic rapport in the social context used in this study (Bernieri et al., 1996; Bernieri & Gillis, 1995; Gillis, Bernieri, & Wooten, 1995; Grahe & Bernieri, 1999; Slotnik, 1996). Bernieri et al. found that observer cue utilizations did not differ across social contexts that manifested different relationships between cues and the rapport criterion. In other words, judgment policies seemed relatively insensitive to changes in the social ecology. Thus, the same rapport judgment policy was more or less effective depending on the context in which rapport was observed. For example, perceivers consistently utilized target expressivity more than any other cue (Bernieri et al., 1996; Slotnik, 1996). This was demonstrated in multiple cultures (Bernieri & Gillis, 1995; Bernieri et al., 1998). This was true regardless of the channels of information accessible (Grahe & Bernieri, 1999), and this was true even when perceivers were directed explicitly to avoid using expressivity (Gillis et al., 1995). Expressivity is a subjective cue that requires a good deal of inference to assess. The chronic reliance on expressivity may have occurred because expressivity is a subjective cue, not necessarily because it was the most important cue.

**Self-Awareness of Judgment Policies**

In examining judgment policies, Bernieri and colleagues never considered whether perceivers were aware of their own cue use. Some have noted an inability of perceivers to recognize their own judgment policies (Nisbett & Wilson, 1977; Slovic & Lichtenstein, 1971). Others have argued the contrary (Reilly & Doherty, 1992; Smith & Miller, 1978; White, 1988). With few exceptions (e.g., Reilly & Doherty, 1992), little research has been published studying self-awareness of social judgment policies within natural interpersonal ecologies.

**Hypotheses**

The primary goal in the current project was not to discover whether perceivers were aware of their own policies but to discover which aspects of their own judgment policies they were most aware. First, it was predicted that perceivers would be more aware of their subjective cue utilization than their objective cue utilization. Second, it was predicted that perceivers’ rapport judgments would covary more strongly with subjective cues than with objective cues (Ambady & Rosenthal, 1983; Asch, 1946; Heider, 1958). Third, if perceivers are found to be more aware of these subjective cue judgment policies, then we expect them to be better able to control their use of these cues in accordance with specific instructions to do so. For example, judgment accuracy should increase when given correct instructions versus incorrect instructions more strongly when phrased in terms of subjective cues as opposed to objective cues.

**STUDY 1**

Perceivers rated the rapport experienced between dyads planning hypothetical trips around the world and then provided a self-report of the impact each cue had on their judgments. For each perceiver and every cue, a correlation was computed between self-reported reliance and the perceiver’s actual dependency on each cue (dependency or cue utilization was operationalized as the correlation between an observer’s judgment of rapport and the cue magnitude across judgment items). It was hypothesized that the correlation between the self-reported cue use and actual cue use would be greater for the subjective cues than for objective cues.

**METHOD**

**Participants and Design**

Fifty-six undergraduates (31 men and 25 women) received extra credit for their participation in this study.

**Rapport Criterion and Judgment Stimuli**

Participants viewed a videotape containing 37 video clips of mixed-sex dyads planning a hypothetical trip around the world. Following the discussion, dyads filled
out a 29-item self-report measure of rapport (Bernieri et al., 1996) that served as the rapport criterion. Videotaped interactants were high school students and undergraduates participating in a larger study of face-to-face social interaction (Bernieri, Davis, Rosenthal, & Knee, 1994). In all, 120 interactants (60 men and 60 women) were enlisted in the study from which the judgment stimuli were derived. Interactants were formed randomly into 60 unacquainted dyads.

A 30-sec video clip was taken from the second-to-last minute of the interaction. We wanted to use a “thin slice” (Ambady, Bernieri, & Richeson, 2001) that was proximal in time to when the interactants reported their rapport. The last minute was not sampled, however, because we felt it may be filled with scripted behaviors associated with ending an interaction. Both interactants could be seen in the video. The number of clips was reduced from 60 to facilitate data collection and the 37 clips were selected on the basis of their resemblance to the full sample of 60 (Bernieri & Gillis, 2001; Gillis & Bernieri, 2001).

**Judging Rapport**

Participants judged the stimuli in groups ranging in size from two to eight students. Participants were told not to comment during the rating session and were told to work independently. A definition of rapport was provided to participants and read to them before beginning the judgment task:

Rapport is a term used to describe the combination of qualities that emerge from an interaction. These interactions are characterized by such statements as “we really clicked” or “we experienced real chemistry.” When you come away from a conversation that was 2 hours long and you feel invigorated, you have experienced an interaction high in rapport. Terms like engrossing, friendly, harmonious, involving, and worthwhile describe interactions high in rapport.

The participants made their judgments for each of the 37 video clips on an 8-point Likert type scale, where 1 represented no rapport and 8 represented high rapport.

**Cues**

Cues were identified and measured in the current study if they met one of three criteria: (a) they were previously found to be predictive of actual rapport in this social situation, (b) they were previously found to be predictive of judgments of rapport in this social situation, or (c) there was a theoretical reason to expect the cue to predict judgments of rapport or actual rapport (Tickle-Degnen & Rosenthal, 1990). The appendix presents a complete list of cues.

Ten cues were considered as being objectively defined cues on the basis of the concreteness and unambiguity of their operationalized definitions. For example, female gestures is an objective cue because it was defined as the “number of nonverbal acts that have direct verbal translations or are used to illustrate or punctuate speech.” Furthermore, the objective status of a cue was established empirically by evidence of high intercoder reliability. For a cue to be considered objective it needed to be coded with sufficient reliability by two raters. Subjective cues, on the other hand, were those having no unique cue-to-behavior manifestation. Expressivity, for example, was operationalized as “the extent to which an individual’s total behavior was active, animated, and exaggerated.” The assessment of expressivity involved more subjective judgment on the part of coders and showed much less intercoder reliability than any objective cue. Therefore, a relatively large number of coders whose judgments were pooled were needed to assess each subjective cue with sufficient reliability.

Although the average interjudge correlation of the subjective cues was much lower than that of the objective cues, the effective reliabilities for both sets of cues reached similarly acceptable levels. The median effective reliability (Rosenthal & Rosnow, 1991) ranged from .85 to .98 for objective cues (Mdn = .96) and from .74 to .97 for subjective cues (Mdn = .90). In addition to roughly equating reliability across cue types, we chose cues such that each group of 10 had roughly equivalent predictability to the criterion. Dyad rapport was regressed onto each set of 10 cues. Both sets of cues were similarly predictive of the criterion (objective $R^2 = .34$; subjective $R^2 = .29$). Thus, differences in cue utilization would not be due to differences in the strength of their predictive relationship to the criterion.

**Cue Utilization and Achievement**

Cue utilization and achievement were computed using the procedures described by Bernieri et al. (1996). Perceivers’ cue utilizations were computed by correlating their ratings of rapport with the assessed magnitude of a given cue as it appeared within each of the 37 video clips. This correlation indicates the extent to which a particular cue or behavior covaried with a perceiver’s ratings of rapport. We computed a cue utilization correlation for each of the 20 cues for each judge (i.e., perceiver). Rapport judgment accuracy (or achievement) was computed by correlating a judge’s rating of rapport with the rapport criterion (the self-reports of rapport made by the 37 target dyads). These correlations were then transformed to Fisher’s Zs (Rosenthal & Rosnow, 1991) for further statistical analyses.
**Procedure**

Perceivers first completed three individual difference measures.1 Perceivers then viewed and rated the rapport stimulus tape. After the judgment task, perceivers reported their cue use.2 The order in which participants reported each set of cues was counterbalanced.

**RESULTS AND DISCUSSION**

**Achievement**

The average achievement across all participants was similar to previous studies using the 37-clip stimulus tape, $M_\alpha = .13, SD_\alpha = .13$ (Gillis & Bernieri, 2001; Grahe, Bernieri, & Gillis, 1997). An ANOVA on the Fisher Z transformed achievement coefficients revealed no difference between men and women in their rapport judgment achievement, $F(1, 53) < 1$.

**Cue Utilizations**

The absolute values of the cue utilizations are presented in Table 1. Absolute values were computed because cue utilizations can be positive or negative. Cue validities are also presented in Table 1. Absolute values were computed to allow a comparison between how the cues were presented to allow a comparison between how the cues could have been used optimally and how they were used because cue utilizations can be positive or negative. Cue validities are also presented in Table 1. Absolute values were computed to allow a comparison between how the cues could have been used optimally and how they were used in practice. All 20 absolute cue utilizations differed significantly from zero, $Mdn t(54) = 12.55$. An absolute cue utilization coefficient of zero would occur if a perceiver’s judgment were uncorrelated with the presence or magnitude of that cue. Subjective cue utilizations ($M_\alpha = .34$) were greater than the objective cue utilizations ($M_\alpha = .19$), $t(18) = 2.08, p = .05$.

**Self-Awareness of Judgment Policies**

A cue-use awareness statistic was defined as the correlation between a perceiver’s 10 absolute cue utilizations and their self-reported cue use for those cues within cue type. This indicated the level of agreement between a perceiver’s self-reported judgment policy and their actual judgment policy derived from their judgment data.3 The correlations were then transformed to Fisher’s Z scores. Cue-use awareness was analyzed by a 2 (sex of perceiver) × 2 (order of self-reports) × 2 (type of cue: objective vs. subjective) mixed ANOVA where sex of perceiver and order of self-reports were between-S variables and type of cue was a within-S variable. The order in which perceivers reported their cue use (objective first or subjective first) did not affect perceivers’ ability to accurately report their actual use of the cues (all $F < 1$). A main effect for type of cue was found, $F(1, 32) = 16.91, p < .001$, such that perceivers were more aware of their subjective cue use ($M_\alpha = .45, SD_\alpha = .30$) than of their objective cue use ($M_\alpha = .19, SD_\alpha = .33$). This main effect was significantly more pronounced in women ($M_\alpha = .52, SD_\alpha = .30$, subjective; $M_\alpha = .16, SD_\alpha = .28$, objective) than in men ($M_\alpha = .38, SD_\alpha = .29$, subjective; $M_\alpha = .16, SD_\alpha = .28$, objective), $F(1, 32) = 4.47, p < .05$.

In general, one might expect cue-use awareness correlations to increase as a function of the variance in cue utilizations. The range of absolute cue utilizations of objective cues was narrower (.09 to .31) than the range for subjective cues (.11 to .64). Correlations are sensitive to variance. Extreme variability in cue use would make it easier for a person’s self-reported use to covary with cue use. To address this possibility, the variance in cue use was partialed out of the cue awareness statistic and analyzed using the same ANOVA described earlier.3 This ANOVA yielded consistent, if muted, findings for both the effect for type of cue, $F(1, 32) = 4.04, p = .05$, and the interaction between sex and type of cue, $F(1, 32) = 3.40, p = .07$. Thus, cue-use extremity contributed to the increased awareness of subjective cue use but could not explain this effect entirely. In other words, the increased awareness of subjective cues was due entirely to the fact that perceivers utilized them more strongly.

Another reason why the influence of subjective cues on judgments might be easier to monitor could be because the psychological meaning of these cues is not context specific. For example, the concept of “being

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**TABLE 1: Cue Utilization of Objective and Subjective Cues**

<table>
<thead>
<tr>
<th>Cue Validity</th>
<th>Absolute Cue Utilization</th>
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</thead>
<tbody>
<tr>
<td>$r$</td>
<td>$abs_z_\alpha (SD)$</td>
</tr>
<tr>
<td>Objective cues</td>
<td></td>
</tr>
<tr>
<td>Gestures by women</td>
<td>.05</td>
</tr>
<tr>
<td>Gestures by men</td>
<td>.06</td>
</tr>
<tr>
<td>Money monopolization</td>
<td>.07</td>
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<tr>
<td>Mutual eye contact</td>
<td>.03</td>
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<tr>
<td>Mutual silence</td>
<td>.08</td>
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<td>Posture orientation</td>
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<td>Posture shifts</td>
<td>.29</td>
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<tr>
<td>Proximity</td>
<td>.26</td>
</tr>
<tr>
<td>Racial similarity</td>
<td>.36*</td>
</tr>
<tr>
<td>Smiling</td>
<td>.02</td>
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<tr>
<td>Subjective cues</td>
<td></td>
</tr>
<tr>
<td>Male agreeableness</td>
<td>.04</td>
</tr>
<tr>
<td>Female agreeableness</td>
<td>.33*</td>
</tr>
<tr>
<td>Dominance</td>
<td>.06</td>
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<tr>
<td>Expressivity</td>
<td>.09</td>
</tr>
<tr>
<td>Female enjoyment</td>
<td>.24</td>
</tr>
<tr>
<td>Male enjoyment</td>
<td>.17</td>
</tr>
<tr>
<td>Mutual involvement</td>
<td>.22</td>
</tr>
<tr>
<td>Nervous behaviors</td>
<td>.14</td>
</tr>
<tr>
<td>Positivity</td>
<td>.28</td>
</tr>
<tr>
<td>Synchrony</td>
<td>.34*</td>
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</tbody>
</table>

* $p < .05, ** p < .01, *** p < .001.$
involved” means that someone is interested or engaged in an activity. However, depending on the situation (i.e., lecture vs. discussion in a classroom) or target individual, the behaviors that manifest involvement could differ (e.g., taking notes and raising a hand to ask a question vs. looking at other students and actively arguing a point). The meaning of involvement does not change from target dyad to target dyad but the specific behaviors and gestures that encode involvement might, in conjunction with the varying context. Observers, therefore, might be more aware of the latent construct of involvement and how it is affecting their social judgments than they are of the myriad of specific cues that in turn determine their perception of involvement (see also Heider, 1958).

A third explanation for these findings involves the fact that perceivers did not expect to have to report their judgment policies. If, as suggested by others (Berry, Misovich, Kean, & Baron, 1992; Heider, 1958), people are more practiced at discussing social perception in terms of subjective cues, then it might not have occurred to them to pay attention to the objective cues. Thus, the effect would be due to motivated attention differences and not due to a competency or process difference.

STUDY 2

Participants received instructions on how to utilize a small subset of cues to increase the accuracy of their rapport judgments for the trip-planning stimuli. Participants either received correct instructions (instructions that should improve accuracy if participants employed them) or incorrect instructions (instructions that told them to use cues in the wrong direction). These instructions were provided in terms of either the subjective cues or the objective cues. We expected that task information presented at the subjective cue level would alter judgment achievement more than task information presented at the objective cue level, given that social perceivers are more aware of how subjective cue information influences their rapport judgments.

METHOD

Participants and Design

Participants included 137 individuals (63 men and 74 women) who received extra credit for their participation in this study. A 2 (sex of participant) × 2 (correctness: correct vs. incorrect) × 2 (criterion level: subjective cue vs. objective cue) + 1 (no instructions) between-S design was employed to test the hypotheses of Study 2. Perceivers viewed the trip-planning stimulus tape described in Study 1.

Cue Instructions

Cue instructions were presented in written form. The treatment conditions differed in their descriptions and cue validities of four cues. Participants in the correct objective instruction condition were told to use posture orientation, posture shifts, racial similarity, and to ignore smiling. Participants in the correct subjective cue instruction condition were told to use female agreeableness, male enjoyment, synchrony, and to ignore expressivity. Cues were chosen based on their predictive validity to the rapport criterion so that each set of four cues similarly predicted self-reported judgments of rapport. Regressions were computed to measure the predictive validity (determinacy) of the self-reported rapport by the three cues included in each set of instructions. The three objective cues included in the instructions predicted rapport variance, $R^2 = .21$ (Adj $R^2 = .14$), $F(3, 33) = 2.95, p < .05$, similar to the three subjective cues that were included in the instructions, $R^2 = .22$ (Adj $R^2 = .15$), $F(3, 33) = 3.13, p < .05$. This ensured that the potential increase in perceivers’ achievement would be equal.

Procedure

Participants were told that to improve their judgment accuracy, they would receive information about what to attend to when making their judgments. They then received the cue instruction sheets. In the correct instructions condition, the perceivers were told to pay attention to three ecologically valid cues and to avoid using one invalid cue. In the incorrect instructions condition, the perceivers were told to pay attention to these same cues; however, the manner in which they should be used (i.e., either positively or negatively) was reversed. Following the judgment task, participants were told that the study also was designed to evaluate their insight into their judgment policies and reported their cue use.

RESULTS AND DISCUSSION

Effect of Instructions on Achievement

Perceivers’ achievement coefficients were subjected to a 2 (sex) × 2 (instruction correctness) × 2 (cue level) between-S ANOVA. This analysis yielded a main effect for instruction correctness, $F(1, 101) = 27.26, p < .001$, such that perceivers who received correct instructions ($M_w = .19, SD_w = .14$) attained greater judgment achievement than perceivers who received incorrect instructions ($M_w = .03, SD_w = .17$). The only other statistically significant finding was an unpredicted three-way interaction, $F(1, 101) = 5.04, p < .05$. The pattern of means of the three-way interaction suggested that when given correct instructions, the subjective instructions...
TABLE 2: Cue Utilization as a Function of Correctness and Type of Instruction (Study 2)

<table>
<thead>
<tr>
<th></th>
<th>Objective Cue Instructions</th>
<th>Subjective Cue Instructions</th>
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<tbody>
<tr>
<td></td>
<td>Incorrect</td>
<td>Correct</td>
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<td><strong>Objective cues</strong></td>
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<td></td>
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<tr>
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</tr>
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<td>.16</td>
</tr>
<tr>
<td>Money monopolization</td>
<td>.11</td>
<td>.04</td>
</tr>
<tr>
<td>Mutual eye contact</td>
<td>.28</td>
<td>.01</td>
</tr>
<tr>
<td>Mutual silence</td>
<td>-.32</td>
<td>-.10</td>
</tr>
<tr>
<td>Proximity</td>
<td>-.01</td>
<td>-.14</td>
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<tr>
<td>Posture orientation</td>
<td>-.18</td>
<td>-.05</td>
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<tr>
<td>Posture shifts</td>
<td>.42</td>
<td>.01</td>
</tr>
<tr>
<td>Racial similarity</td>
<td>.19</td>
<td>-.07</td>
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<td>Synchrony</td>
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<td>Expressivity</td>
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<td>Male agreeableness</td>
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<td>-.19</td>
</tr>
<tr>
<td>Positivity</td>
<td>.37</td>
<td>.22</td>
</tr>
</tbody>
</table>

NOTE: Cues in italics were included in the Cue Instruction Sheets. Participants receiving instructions saw only the four italicized cues within a given cue type specified by their experimental condition.

improved men’s accuracy more than did objective instructions, $F(1, 25) = 5.22, p < .05$, whereas this pattern of means was reversed for female participants.

**Effect of Instructions on Judgment Policies**

The cue utilization coefficients from each of the five instruction conditions are reported in Table 2. It was expected that the instructions would influence the eight cues that perceivers were told to use or not use when making their judgments. Therefore, planned contrasts were computed to test the hypothesis that perceivers’ use of cues would be more valid when given correct instructions and less valid when receiving incorrect instructions. Contrast coefficients reflected the change in cue utilization in the direction of the validity coefficient. For example, if the correct utilization of the cue from the no instruction condition to the correct instruction condition needed to decrease to zero, then the contrast coefficient applied to the cue utilization in the correct condition would be negative (and vice versa). Therefore, positive contrast effects indicate cue use change in accordance with improved cue validity. Cue utilizations of the other cues not mentioned explicitly in the instructions appear in Table 2 as well because it is possible that the instructions influenced perceivers’ implicit theories about how the cues were interrelated.

The changes in cue utilizations between the correct and incorrect instructions conditions and the significance tests for the eight cues included in the instructions are presented in Table 3. Type of instruction affected perceivers’ utilization of the objective cues, affecting each cue included in their instructions and even two of the four subjective cues, although perceivers were not instructed about these cues. However, cue utilizations of two cues (posture orientation and racial similarity) changed in a direction opposite of what was intended. The correctness of instructions affected perceivers’ subjective cue utilization more consistently, although with weaker impact. Cue utilizations of all four subjective cues changed in the predicted direction.

When considering all 20 cues, the results further demonstrated the effect of objective instructions. Of 20 cues measured, correctness of objective cue instructions affected the cue utilization of 13 cues at the $p < .05$ level, whereas correctness of subjective cue instructions affected only 5 cue utilizations. However, the conclusions about improvement of accuracy based on these instructions are less definitive. Whereas the change in objective cue use instructions led to better cue use (9 of the 14 cues with $k > 1.00$ were more valid with correct instructions), the objective instructions did not strengthen or increase the magnitude of a participant’s reliance on any given cue! In other words, the objective
instructions decreased use of cues rather than improved use, but the change was from incorrect use to no use so the use became more valid. Subjective cue instructions, on the other hand, led to fewer improvements in judgment policies, but the perceivers used instructed cues in the manner in which they were directed.

Finally, although subjective cue instructions correctly affected the subjective cues included in the instructions and some other subjective cues, they had little (or the reverse) impact on objective cues. Conversely, objective instructions generally improved utilization of both cue types (with notable exceptions of cues included in the instructions). This may have implications for how cues are interpreted because subjective instructions appeared to affect only subjective cues, whereas objective instructions affected both types of cues.

Self-Awareness of Judgment Policies

As with Study 1, cue-use awareness scores were computed by correlating the perceivers’ self-reported cue use and the perceivers’ actual cue use on the set of 10 cues. Subjective cue awareness ($M_s = .31, SD_s = .36$) was greater than objective cue awareness ($M_o = .16, SD_o = .32$), $F(1, 135) = 15.00, p < .01$, replicating Study 1. As with Study 1, this effect was still present, although reduced, after controlling for variance in cue use, $F(1, 135) = 3.95, p < .05$.

STUDY 3

Although Study 2 replicated the finding that perceivers were more aware of subjective cue use, the impact of instructions on accuracy and cue use required further clarification. Subjective instructions did not improve rapport judgments for all participants, although the main effect was in the correct direction. In addition, objective instructions affected cue use more, although not necessarily in a manner that would increase accuracy. Both of these findings suggest the need for replication.

In addition, the definition of rapport used in Studies 1 and 2 contained subjective cues (i.e., involving, worthwhile, friendly). Thus, participants in all conditions received at least some of the treatment intended only for the “subjective cue instructions” condition. In Study 3, the definition of rapport was changed. Also, the incorrect instructions conditions were dropped.

METHOD

Participants and Design

Fifty-nine participants (23 men and 36 women) received extra credit for their participation in this study. A $2 \times 3$ (sex of participant) design was employed to test the hypotheses.

Materials

Perceivers viewed the trip-planning stimulus tape and completed the self-report measures for each set of cues as in Studies 1 and 2. Cue instructions were presented in written form and included the same information presented in the correct instructions conditions of Study 2. This time rapport was defined as “how well the interactants were getting along.”

Procedure

Participants were told that to improve their rapport judgment accuracy, they would receive information about what to attend to when making their judgments. They then received the cue instruction sheets. Following the judgment task, participants completed the self-reports of cue use.

RESULTS AND DISCUSSION

Effect of Instructions on Achievement

Cue utilizations and achievement were computed in the same manner as described in Study 1. Perceivers’ achievement coefficients were subjected to a $2 \times 3$ (criterion level instructions: none, subjective cue, objective cue) between-S ANOVA revealing a main effect for criterion level instruction, $F(2, 53) = 2.73, p = .07$. Post hoc Fisher’s least-significant $t$ tests ($\alpha = .05$) revealed that participants receiving subjective cue instructions attained greater judgment achievement ($M_s = .25, SD_s = .16$) than objective cue instructions ($M_o = .12, SD_o = .19$) but neither differed from the participants who received no instructions ($M_n = .20, SD_n = .20$). No other effects were found to be significant.

Effect of Instructions on Judgment Policies

As with Study 2, it was expected that cue use instructions should influence the validity of cue use for the cues included in the instructions. Planned contrasts compared cue utilization between the instruction and no instruction conditions for each of the cues. Contrast results are reported on Table 3. The subjective cue results were similar to the results from Study 2. Of the examined cues, 9 of 12 significant contrasts (2 others were in the right direction) matched the findings from Study 2. Of note, perceivers still did not use posture orientation appropriately. Also replicating Study 2, the instructions to use the subjective cues had less impact on cue use than did instructions highlighting the objective cues.

The somewhat weaker results from the subjective instructions in Study 3 represent the fact that the instructions from Study 2 were influenced to a large degree by the cue use within the incorrect instructions.
condition. Whereas the number of significant $t$ tests declined in this study, the cue utilizations differed little from those found in the correct conditions in Study 2. As in Study 2, the objective cue instructions affected both objective and subjective cues, whereas subjective cue instructions affected primarily subjective cues. Also, instructions to use objective cues appeared to decrease cue utilization overall.

Of interest, cue utilizations of expressivity, enjoyment, mutual involvement, and positivity within the no instructions condition in Study 3 decreased from their levels observed in Study 2. The reduction in use of these subjective cues likely represents the change in the rapport definition given to the participants.

**Self-Awareness of Judgment Policies**

As with Studies 1 and 2, cue-use awareness scores were computed by correlating the perceivers’ self-reported cue use and the perceivers’ actual cue use. Subjective cue awareness ($M_s = .29$, $SD_s = .40$) was greater than objective cue awareness ($M_o = .16$, $SD_o = .35$), $F(1,53) = 4.72, p < .05$. Unlike the previous studies, this effect was eliminated after controlling for variance in cue use, $F(1,53) = 0.99, ns$. However, the decrease in effect size was consistent, reducing approximately 80%.

**GENERAL DISCUSSION**

All three experiments demonstrated that perceivers were more aware of their judgment policy regarding subjective cues. Also, subjective cue utilizations were greater in magnitude, suggesting that perceivers’ judgments of rapport are more fully determined by subjective cues than objective cues. Awareness often implies control. It was predicted that awareness, control, and ultimately judgment accuracy would covary. This was not observed. Despite being more aware of their subjective cue use, participants did not show an increased ability to control their reliance on these cues relative to the set of objective cues.

One possible explanation we can offer is that subjective cue policies might have been more resistant to change precisely because they were more salient to the perceiver. If a social perceiver is aware that they “see” rapport through expressivity, then this implies a pre-existing implicit theory or understanding regarding rapport. To follow the experimental instructions, one must reject their own implicit theory derived through life experience. However, when instructed to pay attention to, say, posture shifts, which is an objective cue that the perceiver has been unaware of in the past, no pre-existing theory or schema need be rejected. In other words, social perceivers may be more resistant to modify their subjective cue policies because they may be more schematic and more meaningful than objective policies, which may appear arbitrary and situation specific.

If participants had an implicit theory linking rapport to subjective cues more strongly than to objective cues, self-reported ratings of their reliance on subjective cues should be higher than their ratings of objective cues. This hypothesis was supported because self-reported reliance on subjective cues was higher than for objective cues in all three studies: Study 1, $F(1,48) = 25.54$, $p < .01$; Study 2, $F(1,117) = 9.67$, $p < .01$; Study 3, $F(1,57) = 12.32$, $p < .01$. Thus, perceivers of rapport were reporting that their judgment policies are determined more strongly by cues that are subjective than by cues that are objective in nature.

We posited earlier that perceivers might need to be primed to attend to objective cues to become aware of their relevance to the judgment process. The fact that objective cue use was altered after receiving instructions may suggest that this is correct. However, this effect on judgment policy did not lead to improved accuracy. In general, perceivers used the cues included in the objective instructions more appropriately, but in a manner that reduced the absolute magnitude of their usage. For all measured cues, the cue utilizations in the correct objective cue instructions condition moved toward zero. In contrast, after receiving correct instructions for subjective cues, the absolute magnitude of some utilizations increased. A few examples include synchrony, male enjoyment, and male gestures.

The difference between the subjective and objective cue instructions could be that subjective instructions made the perceiver more aware of their implicit rapport theory, whereas objective instructions made the perceiver more aware of behaviors, which we earlier argued might be considered more arbitrary and situation specific. In essence, subjective cues made the perceiver think about the relationship between rapport and its theoretical correlates, whereas the objective cue instructions served to make the link between rapport and behavior more arbitrary and idiosyncratic.

These data suggest that Gillis et al.’s (1995) conclusions should be reevaluated. Gillis et al. provided information about four objective cues (proximity, female gestures, smiling, and mutual silence) and one subjective cue (expressivity). Coincidently, only the objective cues—but not smiling—were to be utilized because participants were told explicitly that the subjective cue expressivity should be ignored in this task. They found that these instructions did not improve judgment policies of rapport in a debating situation. The data reported here suggest that their unfortunate focus on objective cues may be the reason judgment policies did not improve. Had they instructed participants to increase their use of valid subjective cues, perhaps judgments
would have become more accurate, but only if the theoretical importance of these subjective cues was consistent with the participants’ preexisting implicit theories. As was evident in Study 3, instructions to use subjective cues in judging rapport yielded significantly more accurate judgments than instructions to use objective cues.

A Continuum of Concreteness and Meaning

There is undoubtedly a continuum of social and interpersonal percepts ranging from the most objectively definable cues (e.g., eye blinks, foot tapping, etc.) to the overarching and abstract subjective cues (e.g., attractiveness, positivity, etc.). On one end are stimulus cues that convey concrete information about the behaviors that are occurring but vary greatly in the potential psychological meaning they convey (see also Heider, 1958; Rosenthal, 1983). For example, when people blink repeatedly, they could be trying to remove some particle from their eye or they could be tired. Without contextual information and under ambiguous conditions, blinking conveys no clear psychological meaning. On the other end of the continuum are stimulus cues that convey psychological information (e.g., emotional positivity) that guides more systematically our understanding of the target but the precise physical attributes that determine emotional positivity are unreliable from target to target and context to context. Heider (1958) refers to these types of cues as having ambiguous mediation. Asch’s (1946) discussion of central personality traits may be another example. The traits of warm and cold were considered by him to be most central, yet it is difficult to discern precisely what specific attributes or behaviors determine these traits. The research presented here supports Heider’s (1958) contention that social perceivers may be more fully aware of these overarching, abstract, subjective cues than they are of the more concrete, physically defined, and perhaps more arbitrary cues.

Researchers have argued that perceivers have little awareness of the influences on their perceptions (Lewicki, 1986; Lewicki, Czyzewska, & Hoffman, 1987; Nisbett & Wilson, 1977; Uttal, 2000). Uttal (2000), for example, summarized a plethora of scientific studies that demonstrated participants’ self-reports and behaviors do not match. Others have argued that we do have conscious awareness of the influences on our judgments (Reilly & Doherty, 1989, 1992; White, 1988). An appreciation that our units of our perception lie on a continuum of abstraction and that their location on this continuum determines their susceptibility to our willful control and manipulation may integrate these discrepancies in awareness research. Perhaps by making a simple distinction between objectively defined behaviors and subjectively defined constructs and then studying the relationship between the two, both positions can be supported.

In fact, researchers who study the relationship between judgments and behaviors have already examined this relationship (cf. Bernieri et al., 1996; Berry et al., 1992; Gifford, 1994).

When discussing awareness or control of stimuli when making judgments, a researcher must consider the nature of the stimuli. Baesler and Burgoon (1987; Burgoon & Baesler, 1991) stated that the first measurement issue to consider is whether to measure behavior in terms of (a) objective physical properties, (b) perceptions and interpretations, or (c) some combination of both. The current studies confirm that this measurement issue does have important implications to the outcome of the studies. If the sole purpose of this project was to determine whether perceivers were aware of their own judgment policies and only objective behaviors were considered, our conclusions would have been considerably different. Researchers need to be aware of the nature of their stimuli when discussing the issue of insight into judgment policies.

CONCLUSION

Interpersonal cues fall on a continuum ranging from concrete descriptions of behavior with no psychological meaning to those that are psychologically meaningful, with no one-to-one correspondence with a concrete physical attribute. The data reported here suggest that people may be more aware of the cues conveying psychological meaning than cues revealing purely physical attributes. Also, there is reason to expect that despite being more aware of how they employ subjective cues, social perceivers might be more resistant to modifying their subjective cue-use policies to the extent that the modification is discrepant to their established “theories” about how these mental constructs are interrelated. In contrast, objective cues may be more easily influenced (i.e., manipulated) because perceivers are not forced to alter an existing expectation about them. However, there is yet little evidence that they are controlled in the sense that people can use them in the precise manner that they are attempting. In this manner, there may exist an interesting exception within interpersonal perception to the rule that control generally follows from awareness. At least in the few studies examining the judgment of ongoing streams of interpersonal behavior (i.e., in contrast to written vignettes) the relationship between judgment policies, awareness, and control remains tenuous at best. We believe, however, that our understanding of these relationships will be greatly enhanced by taking into account the objective-subjective continuum along which the perceptual cues being processed fall.
APPENDIX
Description of 20 Cues Included in These Studies

Objective cues

*Gestures* refer to nonverbal acts that have direct verbal translations (e.g., the “OK” sign) or are used to illustrate or punctuate speech (e.g., pointing and fist pounding).

*Monopolizing money* refers to whether the interactants shared responsibilities for the manipulation of the play.

*Mutual eye-contact* refers to the time the interactants were gazing into each other’s eyes.

*Mutual silence* refers to the total time spent in which interactants were simultaneously silent for periods longer than 1.5 secs.

*Orientation* refers to whether a person’s trunk was oriented directly toward his or her partner.

*Posture shifts* refer to the frequency with which the interactants changed their posture.

*Proximity* is a variable that represents the average distance separating the interactants’ noses, chairs, and closest knees.

*Racial similarity* refers to the similarity of the racial composition of the interaction dyads.

*Smiling* refers to the total time spent by both interactants smiling and laughing.

Subjective cues

*Agreeableness* (male or female) refers to the extent to which the interactants were compassionate toward one another in thoughts, discussion, and behavior.

*Dominance* refers to the extent to which one member of the dyad controlled the interaction.

*Enjoyment* (male or female) refers to the extent to which the interactants were pleased and happy to be working on the task.

*Expressivity* refers to the extent to which an individual’s total behavior was active, animated, and exaggerated.

*Mutual involvement* refers to the extent to which the interactants’ behavior was cohesive, unified, and involved.

*Nervous behavior* refers to any action or activity that suggested someone is scared, anxious, uncomfortable, or nervous.

*Positivity* refers to the extent to which the interactants were experiencing pleasant emotions.

*Synchrony* refers to the extent to which the behaviors and the behavioral stream of each interactant were similar to and coordinated with (i.e., synchronized) each other.

NOTES

1. Participants completed the Affective Communications Test (ACT) (Friedman, Prince, Riggio, & DiMatteo, 1980), the Condensed NEO-25 (Bernieri, 1997), and the Davis Empathy Scale (Davis, 1983). These measures have been associated with social perception accuracy; however, no specific hypotheses were advanced for the present investigation.

2. Perceivers reported separately their use of subjective and objective cues. Self-reported cue use was measured in three ways: pairwise comparisons, rankings of the cues, and ratings of the cues. A pairwise comparison measure was created such that each cue was paired with each other cue within a given set (objective or subjective). Perceivers indicated which cue in the pair had a greater impact on their judgment of rapport. Two complete sets of pairwise comparisons were created: one for subjective cues and one for objective cues. In addition to the above procedure, perceivers ranked each set of cues from the most influential to the least influential and considered each cue separately and rated its impact on their rapport judgment. Correlations between the three methods were positive and of sufficient magnitude ($Mdn r = .40$) to form an overall self-reported cue use measure by averaging the three measures.

3. Whereas 56 participants completed the study, only 36 were included in the analyses because the three cue-awareness statistics were combined for an overall statistic and some participants did not correctly complete the rank order measure of cue use.

4. The same analyses also were conducted using partial correlation coefficients (all 19 other variables removed) between the cue and rapport judgments. This is consistent with the methods suggested by Cooksey (1996) to eliminate shared variance. This analysis revealed results consistent with the original analyses. Awareness scores still demonstrated that perceivers had greater awareness of their subjective cue use ($M_2 = 40, SD_2 = .24$) than their objective cue use ($M_1 = .16, SD_1 = .28$), $F(1, 54) = 21.26, p < .001$. The Cue Awareness x Sex interaction also was present using these analyses, $F(1, 54) = 3.92, p = .06$, with the same pattern of means.

5. This point was suggested to us during the review process.

6. We would like to thank an anonymous reviewer for this suggestion.

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