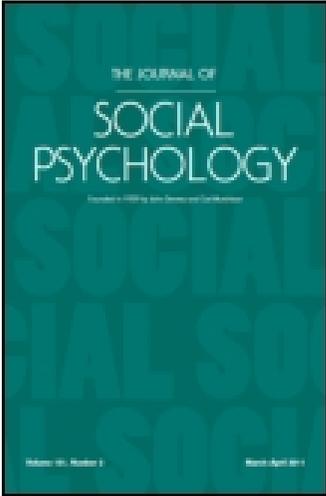


This article was downloaded by: [Arizona State University]

On: 14 March 2015, At: 12:17

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH,
UK



The Journal of Social Psychology

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vsoc20>

Relational Message Interpretations of Nonverbal Matching Behavior: An Application of the Social Meaning Model

Kory Floyd ^a & Larry A. Erbert ^b

^a School of Human Communication , Arizona State University , Tempe

^b Department of Communication , University of Texas , El Paso

Published online: 03 Apr 2010.

To cite this article: Kory Floyd & Larry A. Erbert (2010) Relational Message Interpretations of Nonverbal Matching Behavior: An Application of the Social Meaning Model, *The Journal of Social Psychology*, 143:5, 581-597, DOI: [10.1080/00224540309598465](https://doi.org/10.1080/00224540309598465)

To link to this article: <http://dx.doi.org/10.1080/00224540309598465>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with

primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Relational Message Interpretations of Nonverbal Matching Behavior: An Application of the Social Meaning Model

KORY FLOYD

*School of Human Communication
Arizona State University, Tempe*

LARRY A. ERBERT

*Department of Communication
University of Texas, El Paso*

ABSTRACT. The social meaning model asserts that some nonverbal behaviors have consensually recognized relational meanings within a given social community. According to this perspective, the interpretations made by encoders, decoders, and 3rd-party observers of the same nonverbal behavior should be congruent. The authors applied the model to the identification of relational message interpretations of nonverbal matching behavior. Confederates either matched or did not match the nonverbal behaviors of conversational participants while being watched by nonparticipant observers. All three nonconfederate participants provided interpretations of the confederates' relational messages. As the authors had expected, there were moderate correlations between the 3 perspectives, with observers usually providing less favorable assessments than the conversational participants. The authors also examined the influence of positive and negative stimulus behavior on relational message interpretations.

Key words: nonverbal messages, relational communication, social meaning

SCHOLARS HAVE LONG RECOGNIZED that nonverbal behaviors convey relational messages. For example, Burgoon, Buller, Hale, and deTurck (1984) reported that eye contact, proximity, forward lean, and smiles convey messages of intimacy, attraction, and trust. Other investigators have reported that touching communicates warmth and affection (Beier & Sternberg, 1977; Burgoon, Walther, & Baesler, 1992; Floyd, 1999a; Floyd & Voloudakis, 1999) and dominance and aggression (Henley, 1977; Major & Heslin, 1982).

Address correspondence to Larry A. Erbert, Cotton Memorial, Room 202, Department of Communication, University of Texas at El Paso, El Paso, TX 79968; lerbert@utep.edu (e-mail).

However, the extent to which two or more observers of the same behavior share such relational message interpretations is less clear. Kenny (1988) noted that “much recent thinking in interpersonal perception supposes that there is little or no consensus between two judges of a common target” (p. 251). Similarly, Duck and Sants (1983) argued that the degree of congruence or matching between relational partners might hinge on relationship history and private systems of meaning making. An observer’s agreement about shared meaning might be difficult if not impossible. Thus, a social constructionist perspective questions the extent to which relational participants share relational message interpretations and might not even consider the extent to which observers agree on those nonverbal relational message cues.

Other investigators have argued that some behaviors—usually nonverbal ones—should have consensually recognizable interpretations (e.g., Burgoon, Buller, & Woodall, 1989). That prediction lies at the heart of Burgoon and Newton’s (1991) social meaning model (SMM), the principles of which we address in the present investigation. The present study applies the model’s predictions to people’s relational message interpretations of nonverbal matching behavior.

The Social Meaning Model

To explore congruence in relational message interpretations of behaviors, Burgoon and Newton (1991) advanced their SMM. The SMM predicts that there are consensually recognized meanings for nonverbal behavior within a given social or language community. That is, some nonverbal behaviors “comprise a socially shared vocabulary of relational communication” (Burgoon & Newton, p. 96; see also Burgoon, Coker, & Coker, 1986; Burgoon, Manusov, Mineo, & Hale, 1985). Thus, all observers of a given behavior within such a community should similarly interpret the relational meaning of some nonverbal behaviors.

According to Burgoon and Newton (1991), support for the SMM position requires attention to at least three issues. First, the range of meanings that are attributable to a given nonverbal behavior should be identified. For example, immediacy behaviors can signal involvement, but the actor can also use it to convey power. Moreover, matching another’s nonverbal behaviors can communicate similarity and interconnectedness but might instead signal dominance. Second, support for the SMM requires evidence that encoders and decoders converge in their interpretations of a given behavior. That is, the senders’ intentions for the meaning of a behavior that they enact should be similar to the receivers’ interpretations of the behavior. Third, the congruence between the perspectives of participants and observers must be examined. The SMM predicts that, because behaviors have shared social meaning within a given community, conversational participants and third-party, nonparticipant observers should interpret behaviors similarly.

In a direct test of the model, Burgoon and Newton (1991) had nonparticipant observers watch videotaped interactions made by dyads in which a confederate

displayed either high or low nonverbal involvement behaviors. The observers indicated the extent to which the involvement behaviors conveyed relational messages such as intimacy, receptivity, depth, and formality, and Burgoon and Newton compared these perceptions with those of the receivers in the actual interactions. As predicted, Burgoon and Newton found that observers' and receivers' interpretations for intimacy, composure, and formality were positively correlated. Burgoon and LePoire (1999) reported similar results, concluding that "there is consensus among observers and participants in the ways in which nonverbal behaviors contribute to relational perceptions" (pp. 121–122).

Burgoon, Buller, Floyd, and Grandpre (1996) explored the perspectives of senders, receivers, and observers in an interpersonal deception situation. In that study, they induced confederates to be deceptive in a dyadic conversation with a naive receiver while a naive observer watched the conversation. Consistent with the SMM, Burgoon et al. found strong positive correlations between senders' and receivers' judgments of the truthfulness of the senders' information, the completeness of that information, and the senders' overall believability. The observers' and senders' assessments of the completeness of the senders' information and the extent to which the senders' made a good impression were also positively related.

In the present study, we applied the predictions of the SMM to people's relational message interpretations of nonverbal matching behavior.

Applying the SMM to Nonverbal Adaptation

In the present investigation, we applied the principles of the SMM to patterns of nonverbal adaptation in dyadic interactions among strangers. Specifically, we used communicators who either matched or did not match the nonverbal behaviors of their conversational partners, and we assessed the relational messages that the communicators themselves, their conversational partners, and nonparticipant observers attributed to those adaptation patterns.

Congruence in Perspectives

The SMM predicts congruence among these three personal perspectives. The model proposes that encoders—in this case, the communicators who are matching or not matching the behaviors of others—will assign interpretations to their behaviors that are similar to those of decoders and that the perspectives of participants should be similar to those of nonparticipant, third-party observers. These propositions led to the following hypotheses:

Hypothesis 1: Encoder and decoder interpretations are positively related.

Hypothesis 2: Participant and observer interpretations are positively related.

However, important differences in the roles of participants and observers qualify the congruence predicted by the SMM. That is, although participant and observer perspectives should be related, they might also differ in their central tendency as a result of discrepant exposure to information and different relational demands. By virtue of their roles, participants have access to situational and contextual information that can give them more accurate behavioral interpretations than those of third-party observers who do not have such information (Burgoon et al., 1996; Enzle, Harvey, & Wright, 1980; Harvey, Ickes, & Kidd, 1978; Jones & Nisbett, 1971). Moreover, observers are relatively free from the relational engagement that comes from conversational participation and the negotiation of self's and others' face needs.

The concept of *face*, which was first articulated by Goffman (1959, 1967), indicates a person's need or desire to maintain a positive public image. Thus, possible differences between observers and participants can translate into what some have referred to as a *negativity bias* (Kellerman, 1984; Manusov, 1993), whereby observers make less favorable assessments and interpretations of an interaction than do the participants themselves. Some investigators presume that this bias follows from the principle that, because participants' face needs are more important in interactions than are observers' face needs, participants have more investment in maintaining positive, nonthreatening interpretations and attributions about their conversational partners' behaviors (see Floyd, 2001). Therefore, although observers' and participants' interpretations should be related, they might also differ. We hypothesized the following, according to the negativity bias:

Hypothesis 3: Participants assign more favorable interpretations than do observers.

Burgoon and Hale (1984, 1987) did seminal work on relational interpretations of behavior, proposing that people process relational communication along a number of distinct continua, including immediacy, dominance, similarity, equality, and depth. Several empirical investigators have confirmed that people assign value judgments to these types of interpretations in a fairly systematic manner, so that positive relational communication has more immediacy, similarity, equality, depth, and receptivity and less dominance (see, e.g., Burgoon et al., 1984; Burgoon & LePoire, 1999).

Interpretations of Matching Behavior

Also at issue in the SMM are not only the consistency between the interpretations of encoders, decoders, and observers with respect to matched or unmatched behavior but also the nature of those interpretations. Conventional wisdom, like several theoretic perspectives, espouses that people should interpret matched, synchronous nonverbal behavior more favorably than they should interpret unmatched, asynchronous behavior. Thus, for example, one of the fundamental tenets of Byrne's (1971) attraction paradigm is that perceived similarity is linearly related to

interpersonal attraction. Thus, people should be more attracted to others whose behaviors are similar to their own than they should be to dissimilar others; moreover, a similarity in behavior between two people should indicate some level of attraction between them. Berger and Calabrese's (1975) uncertainty reduction theory (URT) similarly predicts a positive correlation between perceived similarity and liking. According to URT, individuals who perceive similarity with certain others will like them more and be more likely to engage in uncertainty-reducing behaviors with them than they will with dissimilar others.

Several theorists have extended the relationship between similarity and person perception into more specific predictions regarding the outcomes of behavioral congruence. For instance, Condon (1980), Schefflen (1964), Kendon (1970), and Charney (1966) have all proposed that behavioral congruence, synchrony, and/or matching signal interpersonal rapport. In particular, Schefflen (1963, 1964, 1966, 1973, 1974) has argued that congruence indicates association or connection between people; therefore, individuals feel more rapport with others who are behaving similarly. Moreover, because congruence is most likely to occur among intimates, friends, or others who know each other well, others judge those with congruent behavior as having greater rapport than those whose behavior is incongruent.

Results of a number of empirical studies have supported this prediction. Most investigators have explored the relationship between behavioral similarity and perceptions of rapport using data from either interlocutors or observers. For example, Bernieri (1988) had coders observe the degree of behavioral synchrony in 19 dyads of high school students engaging in a short teaching activity. He reported that the coders' reports of the degree of synchrony were positively related to the participants' self-reported feelings of rapport with each other. LaFrance and Broadbent (1976) reported similar results, after examining the relationship between observed congruence and self-reported rapport in 12 college seminar classes and finding them to be positively correlated (see also LaFrance, 1979).

An important limitation of these studies, as Trout and Rosenfeld (1980) pointed out, is that they are purely correlational in nature. The investigators did not experimentally induce or control congruence, leaving unanswered the question of whether congruence causes perceptions of rapport or merely covaries with them. In their study, they manipulated the level of congruence in videotaped client-therapist interactions and had raters indicate their perceptions of how much rapport the client and therapist had. As Trout and Rosenfeld predicted, they found that raters judged congruent client-therapist dyads as having significantly greater rapport than they did incongruent dyads.

However, more recently, Burgoon, Stern, and Dillman (1995) introduced their interaction adaptation theory (IAT), which rejects the notion that the adaptation pattern—whether matching or nonmatching—itself dictates the outcomes associated with it. Rather, IAT proposes that, although people will prefer matching positive behavior over not matching it, nonmatching negative behavior will produce more positive outcomes than will matching behavior. In other words, when the

stimulus behavior is negative, the communicator will produce more positive messages and get more favorable assessments by not matching the behavior—so as not to reciprocate the negativity—than they would by matching the behavior.

Some empirical evidence supports IAT's position. Honeycutt (1991) examined the association between responses to preinteraction expectancies and subsequent evaluations in interactions within 66 same-gender dyads. Consistently with IAT's prediction, he found that participants in an unfriendly expectancy condition who behaved incongruently (by increasing affiliative gaze) were judged by their dyadic partners as more likeable and more sociable, although the same effect with verbal expressiveness did not obtain.

Several investigators of marital interaction have illustrated that satisfied couples are more likely than distressed couples to reciprocate positive affect cues (e.g., Manusov, 1995). Moreover, investigators have shown that distressed couples are more likely to reciprocate negative affect cues than satisfied couples (Gottman, 1979; Pike & Sillars, 1985). These findings indicate that congruence with negative stimuli (in this case, negative affect cues) is associated with relational distress; indeed, reciprocation of negative affect can produce an escalating spiral of negativity in which each person's anger and hostility prompt more negativity from the other (see Burggraf & Sillars, 1987).

Similarly, Newton and Burgoon (1990) demonstrated that those who compensated for antagonistic behavior from others had more persuasive success than did those who matched it. Conversely, other studies have demonstrated that reciprocating involvement behaviors is associated with greater liking (e.g., Burgoon, Newton, Walther, & Baesler, 1989; Burgoon, Olney, & Coker, 1987; Coker & Burgoon, 1987).

In the present study, we compared these two theoretic positions by asking a research question as follows:

Research Question 1: Does matching alone determine the favorability of relational message interpretations to a greater extent than does the interaction between matching and stimulus valence?

Method

Participants

The participants were 96 unacquainted adults between the ages of 20 years and 42 years ($M = 23.33$ years, $SD = 4.14$ years)¹ comprising 32 participant-participant-observer triads. There were 16 triads in each of the matched and non-matched conditions, with 8 involving positive stimulus behavior and 8 involving negative stimulus behavior. The triads were equally divided by gender, with 16 all-male and 16 all-female triads.² The participants, who received course credit, were enrolled in undergraduate communication and business courses at a large southwestern university.

Procedure

During the recruiting process, we asked the participants not to sign up with people that they knew. We used strangers to avoid the possibility that the participants would enact adaptation patterns idiosyncratic to their relationships and evaluate and interpret them accordingly.

On the basis of their order of arrival at the communication laboratory, we assigned the participants to the roles of Person A, Person B, and Person C. We told them that Persons A and B would engage in a short conversation with each other that Person C would observe and that afterward we would ask each to indicate his or her perceptions of the conversation. Participants consented and then separately completed premeasures. Then, we took Person C to the observation room, a dark room that a one-way window separated from the interaction portion of the lab. Persons A and B completed measures of their prior lack of familiarity with each other, and then each read written instructions corresponding to their respective manipulations.

After Persons A and Persons B read their instructions, we conferred with each individually to answer any questions. We then seated them in the interaction portion of the lab, a converted living room with bookshelves, a coffee table, and comfortable swivel chairs. For their conversation, we asked them to discuss a series of four situations of moral dilemma that we had adapted from Hale and Burgoon's (1984) research. The participants received a sheet of paper describing the situations, which included (1) a sibling's theft of a friend's valuables, (2) one's Catholic friend's contemplation of an abortion, (3) the infidelity of a best friend's fiancée, and (4) the impending visit of a cohabiting couple's unsuspecting parents to their home. These situations served as material for the conversation and were selected because they allow for multiple positions and opinions and because of their demonstrated utility in generating conversation (see Hale & Burgoon, 1984; White, 1996). The order in which the participants described and discussed the situations was counterbalanced across conditions.

We instructed Persons A and B to discuss how they would deal with each situation. We allowed them to interact for up to 10 min, while Person C observed the interaction. After the conversation, all participants completed postmeasure forms, and we debriefed and dismissed them.

Manipulations

The experimental procedure had a 2 (positive vs. negative behavioral stimulus) \times 2 (matched vs. nonmatched response pattern) factorial design. Persons A were the positive or negative confederates. We asked those in the positive condition to exhibit a very positive demeanor during the conversation; specifically, we told them to engage in high levels of gazing, smiling, and touching; to sit close to their partners and face them directly; to maintain an open posture with neither

arms nor legs crossed; and to compliment their partners on their ideas. We gave those participants in the negative condition the opposite instructions. We had adapted these inductions from Manusov (1993).

Persons B were the matched or nonmatched confederates. We asked those in the matched condition to match their partners' posture and seating position; to mirror what their partners did with their arms, legs, head, and trunk; and to reciprocate their partners' movements and postural changes (e.g., if their partners leaned forward, we wanted Persons B to also lean forward). We asked those in the nonmatched condition to maintain postures and movements that were distinct from those of their partners. For example, we wanted Persons B to sit differently and to do something with their arms and legs that was different from what Persons A were doing. Further, we wanted Persons B to compensate for their partners' movements and postural changes. For example, if their partners leaned forward, we wanted Persons B to lean backward.

Measures

To ensure that prior to their participation they were not familiar with each other, we had Persons A and B complete two measures of *prefamiliarity* that we had adapted from Palmer and Simmons's (1995) study. Participants responded to the first question—"How well would you say that you and your partner know each other?"—on a 7-point Likert-type scale anchored at 1 = *not at all* and at 7 = *very well*. For the second question—"How would you describe your relationship with this person?"—we gave participants the following response options: *stranger*, *acquaintance*, *frequent acquaintance*, *friend*, and *close friend*. Persons C completed these measures in reference to Persons A and B.

Following the interaction, Persons A, B, and C assessed Person B's *relational messages*, using six subscales that we had taken from the factor-based Relational Communication Scale (Burgoon & Hale, 1987). The scale operationally defines Burgoon and Hale's fundamental topoi of relational communication, focusing on several distinct but nonorthogonal dimensions of communication within ongoing personal relationships. The subscales included immediacy (Cronbach's $\alpha = .80$), similarity ($\alpha = .70$), receptivity or trust ($\alpha = .60$), composure ($\alpha = .88$), dominance ($\alpha = .87$), and equality ($\alpha = .84$).

Results

Manipulation Checks

To ensure that the experiment involved interaction between strangers, we examined frequency scores on premeasures of familiarity. Participants had indicated how well they knew each other on a 7-point scale, on which higher scores indicated greater familiarity. Persons A reported low familiarity with Persons B ($M = 1.40$, $SD = 0.87$) as did Persons B with Persons A ($M = 1.48$, $SD = 0.83$).

Likewise, Persons C reported that they were unfamiliar with Persons A ($M = 1.52$, $SD = 1.05$) and Persons B ($M = 1.32$, $SD = 0.75$).

Participants also indicated the relationship that they had with each other by selecting from among five choices: *stranger*, *acquaintance*, *frequent acquaintance*, *friend*, and *close friend*. In all cases, *stranger* was the modal response. Nearly all Persons A considered Persons B to be a stranger (60.4%) or an acquaintance (37.5%). Persons B considered Persons A to be either a stranger (52.1%) or an acquaintance (47.9%). Nearly all Persons C considered Persons A to be a stranger (76%) or an acquaintance (20%) and likewise considered Persons B to be a stranger (72%) or an acquaintance (20%).

To check the experimental manipulations, we had Persons A rate their success at communicating positively or negatively by indicating their agreement with three statements: (1) "During this conversation I intentionally tried to communicate in a positive manner," (2) "During this conversation I was trying to make our interaction very negative" (reversed), and (3) "During this conversation I made an effort to be especially nice to my partner." They recorded answers on 7-point Likert-type scales anchored at 1 = *strongly disagree* and at 7 = *strongly agree* ($\alpha = .98$). Those in the positive condition saw themselves as having communicated significantly more positively ($M = 6.68$, $SD = 0.47$) than did those in the negative condition ($M = 1.29$, $SD = 0.64$), $F(1, 46) = 1113.35$, $p < .0001$. Likewise, Persons C rated the success of Persons A in enacting their designated manipulation (α for Persons C = .88). According to Persons C, Persons A in the positive condition communicated significantly more positively ($M = 5.52$, $SD = 1.07$) than did those in the negative condition ($M = 3.98$, $SD = 1.94$), $F(1, 40) = 10.16$, $p = .003$.

Persons B rated their success in enacting the adaptation manipulation by indicating their agreement with three items: (1) "I acted very differently than my partner did during our conversation" (reversed), (2) "I matched the way my partner was acting in the conversation," and (3) "I acted in a way that was similar to what my partner was doing." Higher scores on this scale indicated greater matching ($\alpha = .88$). A planned 1-*df* contrast revealed that those in the matched condition ($M = 5.26$, $SD = 0.85$) scored significantly higher on matching than those in the unmatched condition ($M = 2.17$, $SD = 0.62$), $t(30) = 15.15$, $p < .001$.

Persons C also rated the success of Persons B ($\alpha = .89$). Again, planned contrasts revealed that Persons C judged those in the matched condition ($M = 4.59$, $SD = 1.70$) as matching more than those in the unmatched condition ($M = 2.00$, $SD = 0.65$), $t(29) = 5.55$, $p < .001$.

Hypotheses and Research Question

Hypothesis 1 and Hypothesis 2 predicted positive relationships between the perspectives of encoders and decoders: Persons A and Persons B, respectively. Hypothesis 1 and Hypothesis 2 also predicted positive relationships between the perspectives of participants and observers: Persons A and Persons C, respective-

ly; and Persons B and Persons C, respectively. Table 1 shows one-tailed Pearson correlations on each of the six relational themes.

Hypothesis 1 received partial support. As the correlations reveal, encoders' and decoders' perspectives were related for judgments of immediacy and dominance. Greater support obtained for Hypothesis 2, with observers' (Persons' C) perspectives correlating with those of encoders (Persons B) on immediacy, similarity, receptivity, and dominance; and with those of decoders (Persons A) on immediacy and similarity. The results support Hypothesis 1 and Hypothesis 2 with respect to some relational communication behaviors.

Hypothesis 3 concerned the difference in perspectives between observers and conversational participants. Specifically, it predicted that observers—Persons C—would less favorably assess Persons B than would Persons A and B. We tested this prediction by comparing mean scores on the dependent measures for Persons A, B, and C. Table 2 provides these values.

The results supported Hypothesis 3 for some relational communication interpretations. Observers—Persons C—attributed significantly less immediacy to Persons B than did Persons A. Also, observers—Persons C—attributed less equality to Persons B than did Persons A or B. Means were in the expected direction for similarity and composure too, although the differences did not achieve statistical significance. Hypothesis 2 received moderate support.

Research Question 1 concerned the nature of the judgments made both by participants and by observers about those in each of the four experimental conditions: matched positive (MP), matched negative (MN), nonmatched positive (NP), and nonmatched negative (NN). Some theorists predict a main effect for matching, so that matched behavior is judged more favorably than unmatched behavior. Other theorists suggest that the interaction of matching and valence determine outcomes, so that the most positive assessments are made of those in the MP and NN conditions, and those in the MN and NP conditions are judged both by participants and by observers most negatively.

TABLE 1. Correlations for Dependent Variables Across Participants

Variable	Persons A and B	Persons A and C	Persons B and C
Immediacy	.46**	.41*	.41*
Similarity	-.06	.42**	.50**
Receptivity	.14	.08	.49**
Composure	.10	-.10	-.13
Dominance	.57**	.11	.33*
Equality	.18	-.11	.20

* $p < .05$. ** $p < .01$.

Answering Research Question 1 involved comparing judgments made of Persons B in each of the treatment conditions in three 2 (matched vs. unmatched) \times 2 (positive vs. negative stimulus) completely crossed factorial multivariate analyses of variance, one each for the data provided by Person A, Person B, and Person C, respectively. Bartlett tests for sphericity confirmed that multivariate analyses were appropriate in each case.³

A significant multivariate matching-by-valence interaction effect was obtained only for Persons C, $\Lambda = .65$, $F(6, 22) = 1.98$, $p = .05$, $R^2 = .35$. This was accompanied by significant univariate interaction effects for immediacy, $F(1, 27) = 5.64$, $p = .025$, $\eta^2 = .17$; and for receptivity, $F(1, 27) = 8.24$, $p = .008$, $\eta^2 = .23$. A trend was also obtained for equality, $F(1, 27) = 3.02$, $p = .094$, $\eta^2 = .10$. Table 3 provides means, which indicate that in all cases, the most favorable assessments were made by observers of those participants in the MP and NN conditions, whereas those in the MN and NP conditions were judged most negatively.

However, significant multivariate main effects for matching were obtained

TABLE 2. Comparisons of Means of Dependent Variables Across Participants

Variable	Person A	Person B	Person C
Immediacy	4.44 _a	4.16	3.85 _b
Similarity	3.40	3.59	3.38
Receptivity	4.60	4.61	4.64
Composure	4.69	4.55	4.26
Dominance	2.80	3.28	3.02
Equality	5.79 _a	5.58 _a	4.76 _b

Note. Means with different subscripts differ from each other at $p < .05$.

TABLE 3. Means for Observers' Assessments of the Relational Messages of the Behaviors of Persons B

Variable	Behavior	Matched <i>M</i>	Unmatched <i>M</i>
Immediacy	Positive	4.29	3.36
	Negative	3.21	4.50
Receptivity	Positive	5.51	3.50
	Negative	4.69	4.72
Equality	Positive	5.31	4.21
	Negative	4.13	5.31

TABLE 4. Univariate Results and Means for Matching Main Effect

Variable	<i>F</i> (1, 28)	<i>p</i>	η^2	Matched <i>M</i>	Unmatched <i>M</i>
<i>Person A</i>					
Receptivity	2.94	.097	.10	4.93	4.19
Dominance	10.53	.003	.27	2.00	3.84
<i>Person B</i>					
Similarity	21.26	< .001	.43	4.25	2.94
Receptivity	64.51	< .001	.70	5.95	3.27
Dominance	20.28	< .001	.42	2.13	4.44
<i>Person C</i>					
Receptivity	8.77	.006	.25	5.11	4.13

Note. Probabilities are two-tailed.

for all three participants.⁴ These accompanied significant univariate effects for receptivity (of Persons A, B, and C), dominance (of Persons A and B), and similarity (of Persons B). Table 4 shows the univariate results and the accompanying means. A perusal of the means reveals that in every case, those who matched were judged by all participants more favorably—that is, as conveying more receptivity and similarity and less dominance—than were those who did not match.

Discussion

An important issue in the relational meanings of nonverbal behaviors is whose perspective is being considered. Some investigators would suggest that different observers of the same behavior are likely to make different interpretations of the behavior and that investigators should not expect congruence in the different perspectives. By contrast, the SMM asserts that the degree of congruence among perspectives exceeds intuitive expectations. According to the SMM, many nonverbal behaviors have consensually recognized relational meanings. Therefore, investigators can expect senders, receivers, and observers of a given behavior to converge in their interpretations of the behavior. The prediction of SMM has received empirical support in such areas as nonverbal involvement, pleasantness, and deception behaviors.

The present study applied the SMM to interpretations of nonverbal matching behavior, and the present results moderately supported SMM's predictions. The perspectives of senders (those enacting the matching behavior) and receivers correlated for judgments of how much immediacy and dominance the matching

behaviors represented. Similarly, observers' interpretations correlated with those of senders and receivers on several relational messages, including immediacy, similarity, receptivity, and dominance.

Although the SMM predicts linear relationship between participants' perspectives, it also recognizes that the perspectives might differ in their central tendency. Specifically, observers' interpretations have been shown to be less favorable than those of senders and receivers. In the present study, this pattern only partially emerged, with observers attributing less immediacy to matching behaviors than did receivers and attributing less equality to the behaviors than did senders or receivers. Mean differences were in the predicted direction for judgments of similarity and composure (and for dominance when compared to senders but not receivers). With a larger sample size, the mean differences might attain statistical significance.

Collectively, the present results support the SMM with respect to some aspects of relational communication. Thus, they contribute to a growing body of research that concerns multiple perspectives on the same behavior. Several empirical investigators of relational communication have collected data from only one member of a group or relationship on the assumption that the perceptions of one person correctly apply to the relationship as a whole (see Dainton & Aylor, 2002; Hullett, 2002). However, other investigators have suggested that this assumption can be dubious. For example, Floyd (1996) had pairs of adult brothers describe the experience of closeness in their relationships and found that brothers' descriptions matched in only 5 dyads out of 80 (see also Matthews, Delaney, & Adamek, 1989). As the present study demonstrates, the experiences of senders, receivers, and observers converge on some perspectives but not on others.

Therefore, the meaning for relational communication research is twofold. First, it indicates the efficacy of examining multiple perspectives on a given behavior or interaction and toward eschewing the assumption that any one perspective will be entirely characteristic of the collective judgment. Second, however, it eschews the assumption that congruence among multiple perspectives will be trivial. Rather, as the SMM suggests, within a speech community relational interpretations of certain behaviors should be shared.

In addition to examining the congruence between interpretations that senders, receivers, and observers make, we also addressed the nature of those interpretations. Two theoretic traditions make somewhat competing predictions about the ways in which people will judge nonverbal matching behavior. The first tradition suggests that matching will always be preferable to nonmatching. The second tradition suggests that this preference will only arise when one is matching positive behavior and that with negative behavior, an incongruent behavioral style is preferred. A research question addressed these competing perspectives.

Although some support emerged for each position, the first position received the most support. The interaction between matching and stimulus valence affected only the observers' relational message interpretations; the observers' judgments of immediacy, receptivity, and equality followed the pattern that the sec-

ond theoretic position predicted. However, matching produced a main effect on the perceptions of all three participants, affecting judgments of receptivity, dominance, and similarity in the manner predicted. That is, all three participants saw those who matched their partners' nonverbal behaviors as communicating more receptivity and similarity and less dominance than those who did not match. These findings support the conclusions of multiple theorists who have suggested a linear relationship between nonverbal matching and perceptions of intimacy, rapport, and interpersonal connectedness (e.g., Bernieri, 1988; Condon, 1980; Kendon, 1970; Trout & Rosenfeld, 1980), demonstrating that a similar pattern holds for other relational message interpretations.

One methodological aspect of the present study that might have affected results is the nonrandom assignment of participants to roles. We assigned participants to the roles of Person A, Person B, or Person C according to their order of arrival at the laboratory. We used this procedure instead of random assignment to mitigate the potential problems introduced by no-shows. However, nonrandom assignment always introduces the possibility of systematically affecting results and thereby supports a competing explanation. However, whether this methodological aspect actually affected the present results is an empirical question and one that we must defer to later studies.

Two aspects of the present study might limit the generalizability of its results and suggest important directions for future research. First, although participants ranged in age from 20 to 42 years, the average age was just over 23 years, only moderately older than the prototypical college sample. It seems possible that age and life experience can moderate the relational message interpretations assigned to nonverbal behaviors. Whether that possibility is real is another empirical question that we must defer to future investigations.

Second, the present experiment involved interactions primarily between strangers. This relationship between participants was intentional to avoid the possibility that participants would assign interpretations to their partners' behaviors that were idiosyncratic to their relationship. However, future researchers should attempt to replicate the present findings using participants with varying types of relational engagement (e.g., friends, family, romantic partners) to ascertain whether relationship type affects the interpretations of nonverbal matching behaviors.

NOTES

1. The triads participated in a larger experiment on adaptation that Floyd (1999b) described in an article that also described portions of the present procedures.

2. We used same-gender triads because previous research has suggested that gender role socialization that encourages accommodation to men by women can influence patterns of interaction in cross-gender dyads (see Giles, Coupland, & Coupland, 1991), which might introduce an implicit power differential that can confound the interpretations of adaptation patterns.

3. Bartlett test results were 57.15 for Persons A, 65.27 for Persons B, and 65.02 for Persons C. All results were significant at $p < .00001$.

4. Multivariate effects were for Persons A, $\Lambda = .57$, $F(6, 23) = 2.94$, $p = .028$, $R^2 = .43$; for Persons B, $\Lambda = .21$, $F(6, 23) = 14.78$, $p < .001$, $R^2 = .79$; and for Persons C, $\Lambda = .62$, $F(6, 22) = 2.29$, $p = .072$, $R^2 = .39$.

REFERENCES

- Beier, E. G., & Sternberg, D. P. (1977). Subtle cues between newlyweds. *Journal of Communication*, 17, 92–96.
- Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research*, 1, 99–112.
- Bernieri, F. (1988). Coordinated movement and rapport in teacher-student interactions. *Journal of Nonverbal Behavior*, 12, 120–138.
- Burggraf, C. S., & Sillars, A. L. (1987). A critical examination of sex differences in marital communication. *Communication Monographs*, 54, 276–294.
- Burgoon, J. K., Buller, D. B., Floyd, K., & Grandpre, J. (1996). Deceptive realities: Sender, receiver, and observer perspectives in deceptive conversations. *Communication Research*, 23, 724–748.
- Burgoon, J. K., Buller, D. B., Hale, J. L., & deTurck, M. A. (1984). Relational messages associated with nonverbal behaviors. *Human Communication Research*, 10, 351–378.
- Burgoon, J. K., Buller, D. B., & Woodall, W. G. (1989). *Nonverbal communication: The unspoken dialogue*. New York: Harper & Row.
- Burgoon, J. K., Coker, D. A., & Coker, R. A. (1986). Communicative effects of gaze behavior: A test of two contrasting explanations. *Human Communication Research*, 12, 495–524.
- Burgoon, J. K., & Hale, J. L. (1984). The fundamental topoi of relational communication. *Communication Monographs*, 51, 193–214.
- Burgoon, J. K., & Hale, J. L. (1987). Validation and measurement of the fundamental themes of relational communication. *Communication Monographs*, 54, 19–41.
- Burgoon, J. K., & LePoire, B. A. (1999). Nonverbal cues and interpersonal judgments: Participants and observer perceptions of intimacy, dominance, composure and formality. *Communication Monographs*, 66, 105–124.
- Burgoon, J. K., Manusov, V., Mineo, P., & Hale, J. L. (1985). Effects of eye gaze on hiring, credibility, attraction and relational message interpretation. *Journal of Nonverbal Behavior*, 9, 133–146.
- Burgoon, J. K., & Newton, D. A. (1991). Applying a social meaning model to relational message interpretations of conversational involvement: Comparing observer and participant perspectives. *Southern Communication Journal*, 56, 96–113.
- Burgoon, J. K., Newton, D. A., Walther, J. B., & Baesler, E. J. (1989). Nonverbal expectancy violations and conversational involvement. *Journal of Nonverbal Behavior*, 13, 97–120.
- Burgoon, J. K., Olney, C. A., & Coker, R. A. (1987). The effects of communicator characteristics on patterns of reciprocity and compensation. *Journal of Nonverbal Behavior*, 11, 146–165.
- Burgoon, J. K., Stern, L. A., & Dillman, L. (1995). *Interpersonal adaptation: Dyadic interaction patterns*. New York: Cambridge University Press.
- Burgoon, J. K., Walther, J. B., & Baesler, E. J. (1992). Interpretations, evaluations, and consequences of interpersonal touch. *Human Communication Research*, 19, 237–263.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.
- Charney, J. E. (1966). Psychosomatic manifestations of rapport in psychotherapy. *Psy-*

- chomatic Medicine*, 28, 305–315.
- Coker, D. A., & Burgoon, J. K. (1987). The nature of conversational involvement and nonverbal encoding patterns. *Human Communication Research*, 13, 463–494.
- Condon, W. S. (1980). The relation of interaction synchrony to cognitive and emotional processes. In M. E. Key (Ed.), *The relationship of verbal and nonverbal communication* (pp. 49–65). New York: Mouton.
- Dainton, M., & Aylor, B. (2002). Routine and strategic maintenance efforts: Behavioral patterns, variations associated with relational length, and the predication of relational characteristics. *Communication Monographs*, 69, 52–66.
- Duck, S. W., & Sants, H. K. A. (1983). On the origin of the species: Are personal relationships really interpersonal states? *Journal of Social and Clinical Psychology*, 1, 27–41.
- Enzle, M. E., Harvey, J. H., & Wright, E. F. (1980). Personalism and distinctiveness. *Journal of Personality and Social Psychology*, 39, 542–552.
- Floyd, K. (1996). Brotherly love I: The experience of closeness in the fraternal dyad. *Personal Relationships*, 3, 369–386.
- Floyd, K. (1999a). All touches are not created equal: Effects of form and duration on observers' perceptions of an embrace. *Journal of Nonverbal Behavior*, 23, 283–299.
- Floyd, K. (1999b). To match or not to match: Effects of behavioral congruence on interpersonal connectedness. *The Journal of Social Psychology*, 139, 309–322.
- Floyd, K. (2001). Attributions for nonverbal expressions of liking and disliking: The extending self-serving bias. *Western Journal of Communication*, 64, 385–404.
- Floyd, K., & Voloudakis, M. (1999). Affectionate behavior in adult platonic friendships: Interpreting and evaluating expectancy violations. *Human Communication Research*, 25, 341–369.
- Giles, H., Coupland, J., & Coupland, N. (Eds.). (1991). *Contexts of accommodation*. New York: Cambridge University Press.
- Goffman, E. (1959). *The presentation of self in everyday life*. New York: Doubleday.
- Goffman, E. (1967). *Interaction ritual: Essays in face-to-face behavior*. Chicago, IL: Adrine.
- Gottman, J. M. (1979). *Marital interaction: Experimental investigations*. New York: Academic Press.
- Hale, J. L., & Burgoon, J. K. (1984). Models of reactions to changes in nonverbal immediacy. *Journal of Nonverbal Behavior*, 8, 287–314.
- Harvey, J. H., Ickes, W., & Kidd, R. F. (1978). A conversation with Edward E. Jones and Harold H. Kelley. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 369–388). Hillsdale, NJ: Erlbaum.
- Henley, N. M. (1977). *Body politics*. Englewood Cliffs, NJ: Prentice-Hall.
- Honeycutt, J. M. (1991). The role of nonverbal behaviors in modifying expectancies during initial encounters. *Southern Journal of Communication*, 56, 161–177.
- Hullett, C. R. (2002). Charting the process underlying the change of value-expressive attitudes: The importance of value-relevance in predicting the matching effect. *Communication Monographs*, 69, 158–178.
- Jones, E. E., & Nisbett, R. E. (1971). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Wiener (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79–94). Morristown, NJ: General Learning Press.
- Kellerman, K. (1984). The negativity effect and its implications for initial interaction. *Communication Monographs*, 51, 37–55.
- Kendon, A. (1970). Movement coordination in social interaction: Some examples described. *Acta Psychologica*, 32, 1–25.
- Kenny, D. A. (1988). Interpersonal perception: A social relations analysis. *Journal of Social and Personal Relationships*, 5, 247–261.

- LaFrance, M. (1979). Nonverbal synchrony and rapport: Analysis by the cross-lag panel technique. *Social Psychology Quarterly*, 42, 66–70.
- LaFrance, M., & Broadbent, M. (1976). Group rapport: Posture sharing as a nonverbal indicator. *Group and Organization Studies*, 1, 328–333.
- Major, B., & Heslin, R. (1982). Perceptions of cross-sex and same-sex non-reciprocal touch: It is better to give than to receive. *Journal of Nonverbal Behavior*, 6, 148–162.
- Manusov, V. (1993). "It depends on your perspective": Effects of stance and beliefs about intent on person perception. *Western Journal of Communication*, 57, 27–41.
- Manusov, V. (1995). Reacting to changes in nonverbal behaviors: Relational satisfaction and adaptation patterns in romantic dyads. *Human Communication Research*, 21, 456–477.
- Matthews, S. H., Delaney, P. J., & Adamek, M. E. (1989). Male kinship ties: Bonds between adult brothers. *American Behavioral Scientist*, 33, 58–69.
- Newton, D. A., & Burgoon, J. K. (1990). The use and consequences of verbal influence strategies during interpersonal disagreements. *Human Communication Research*, 16, 477–518.
- Palmer, M. T., & Simmons, K. B. (1995). Communicating intentions through nonverbal behaviors: Conscious and nonconscious encoding of liking. *Human Communication Research*, 22, 128–160.
- Pike, G. R., & Sillars, A. L. (1985). Reciprocity of marital communication. *Journal of Social and Personal Relationships*, 2, 303–324.
- Schefflen, A. E. (1963). Communication and regulation in psychotherapy. *Psychiatry*, 26, 126–136.
- Schefflen, A. E. (1964). The significance of posture in communication systems. *Psychiatry*, 27, 316–331.
- Schefflen, A. E. (1966). Natural history method in psychotherapy: Communicational research. In L. A. Gottschalk & A. H. Auerbach (Eds.), *Methods of research in psychotherapy*. New York: Appleton-Century-Crofts.
- Schefflen, A. E. (1973). *Communicational structure: Analysis of a psychotherapy transaction*. Bloomington, IN: Indiana University Press.
- Schefflen, A. E. (1974). *How behavior means*. Garden City, NY: Anchor Press-Doubleday.
- Trout, D. L., & Rosenfeld, H. M. (1980). The effect of postural lean and body congruence on the judgment of psychotherapeutic rapport. *Journal of Nonverbal Behavior*, 4, 176–190.
- White, C. H. (1996). *Adaptation and communicative design: The effects of deception on patterns of interaction*. Unpublished doctoral dissertation, University of Arizona, Tucson.

Received December 7, 2001

Accepted August 15, 2002