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## TARGET ARTICLE

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### The Nature of Rapport and Its Nonverbal Correlates

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*The purpose of this article is to offer a conceptualization of rapport that has utility for identifying the nonverbal correlates associated with rapport. We describe the nature of rapport in terms of a dynamic structure of three interrelating components: mutual attentiveness, positivity, and coordination. We propose that the relative weighting of these components in the experience of rapport changes over the course of a developing relationship between individuals. In early interactions, positivity and attentiveness are more heavily weighted than coordination, whereas in later interactions, coordination and attentiveness are the more heavily weighted components. Because of the gestalt nature of the experience of rapport, it is not easy to identify nonverbal behavioral correlates of the components. We discuss two approaches to nonverbal measurement, molecular and molar, along with recommendations for their appropriate application in the study of rapport at different stages of an interpersonal relationship. We present a meta-analytic study that demonstrates the effect of nonverbal behavior, measured at the molecular level, on the positivity component of rapport, and we conclude with an outline of hypotheses relevant to the investigation of the nonverbal correlates of rapport.*

What a wonderful concept, rapport!  
Emblazoned in clinical lore.  
But it dwells in defiance  
Of the methods of science  
Until we examine its core.

Clinicians try to develop it with patients, sales personnel try to use it to make a deal, and new acquaintances try to predict from it the future of a relationship with one another. The concept of rapport is so familiar to psychologists, psychiatrists, counselors, social workers, ministers, managers, and the general public that almost everyone has a rough-and-ready working definition of it. These working definitions, usually descriptive of a generally positive interaction, are perfectly adequate for workaday applications. They are also adequate for research when the investigator is interested in an intuitively appealing and clinically appropriate summarizing label for positive interactional attributes. However, such working definitions neglect the richness of the implications of the term *rapport*. In recognition of this richness, a major purpose of this article is to describe the nature of rapport in terms of a dynamic structure of interrelating components that have affective and behavioral implications. The structure, we suggest, changes over the course of the development of a relationship between individuals.

From early in this century, the presence of a high degree of rapport between individuals has been thought to create powerful interpersonal influence and responsiveness. For example, rapport has been described as that relationship quality that occurs prior to or during the emergence of (a) a collective

mind in a crowd (Park & Burgess, 1924), (b) subject suggestibility to hypnosis, (c) transference in psychoanalytic treatment (Freud, 1914/1924), and, more recently, (d) patient compliance to medical regimens (DiMatteo & DiNicola, 1982). Because of the gestalt nature of the experience of rapport, it is not easy to identify behavioral correlates of rapport. But, to better understand what rapport is and how it is developed, such an undertaking is required. Therefore, based on our conceptualization of the nature of rapport, we consider implications for research into the behavioral correlates of rapport. We delimit our three-part discussion specifically to the nonverbal correlates. First, we argue that there are measurement methods that can be used to reveal relatively consistent nonverbal indicators of the components of rapport across a variety of contexts. Second, in support of this contention and as an example of research within this area, we describe a meta-analytic study that examined some nonverbal correlates of a component of rapport. Third, we conclude with an outline of hypotheses relevant to the investigation of the nonverbal correlates of rapport.

#### The Nature of Rapport

Our conceptualization of the nature of rapport is derived from an examination of the experience of rapport and the language of everyday conversation used to describe that experience (Tickle-Degnen & Rosenthal, 1987). Furthermore, our conceptualization is guided by our goal of uncovering the behavioral correlates of the experience of rapport. We seek to describe a simple model that reflects not only the affective

nature of rapport—that is, how it feels—but also reflects the behavioral expression of rapport.

Our description of the nature of rapport begins with the recognition that rapport exists only in interaction between individuals. It is not a personality trait although an individual may be particularly adept at developing rapport in certain situations. Individuals experience rapport as the result of a combination of qualities that emerge from each individual during interaction. This experience is expressed clearly when people say they “clicked” with each other, or felt the good interaction to be due to “chemistry.” The interaction itself during the experience of rapport becomes an entity not easily divisible into characteristics that each party brings to the interaction.

### Three Essential Components

During the experience of a high degree of rapport, participants in the interaction form a cohesiveness, become unified, through the expression of mutual attention to and involvement with one another. Their focus is directed toward the other, is other-involved. They experience the feeling as one of intense mutual interest in what the other is saying or doing. This *mutual attentiveness*, which creates the focused and cohesive interaction, is the first of three essential components that, we propose, form the structure of rapport.

The second essential component is the *positivity* present in the interaction. Interactants feeling in rapport with one another feel mutual friendliness and caring. Although positivity is closely related to the degree of involvement and attentiveness, a high level of one component does not necessarily imply a high level of the other component. Mutual attentiveness may be negative, as when teenage boys confront one another in verbal combat, or positive, as when boys engage in friendly banter. Feelings of rapport emerge more readily when both a high degree of mutual attention and positivity are present, although, as we see later, the relative importance of these components in the feeling and expression of rapport changes over the development of a relationship between individuals.

The third, and final, essential component of rapport is *coordination* between the participants. The terms *balance*, *harmony*, and “*in sync*” come to mind when thinking of the experience of rapport, and even though these terms have positive connotations, there is something more to them than just positive valence. In an interpersonal context they convey an image of equilibrium, of regularity and predictability, of coordination between the interactants. This high degree of behavioral coordination in informal social interaction has been described using analogies such as the smooth actions of a well-functioning athletic team (Altman & Taylor, 1973) or the rhythm and synchronization of the members of an orchestra (Schefflen, 1963). Park and Burgess (1924) aptly described the affective aspect of this coordination component of rapport: “*Rapport* implies the existence of a mutual responsiveness, such that every member of the group reacts immediately, spontaneously, and sympathetically to the sentiments and attitudes of every other member” (p. 893).

Although the positivity and coordination components of rapport are closely linked, they are not equivalent. There may be a high degree of positivity and a low degree of coordination in an interaction, in which individuals, with unrestrained eagerness, vie with one another to tell a funny

story to a newcomer to the group. Alternatively, an interaction may display low positivity and high coordination, for example, as expressed when old friends are engaged in a heated argument. The attentional component of rapport, likewise, is associated with coordination, but not equivalent to it. Individuals coordinating their movements in a busy crosswalk do not usually pay much attention to one another, or feel interest in the others.

In our discussion thus far, we have moved freely between describing the components of rapport as representing both the feelings of the participants during the experience of rapport and behaviors related to those feelings. The components have been identified and defined in such a way as to enable us to use them in describing the experiential quality of rapport as well as its behavioral correlates. As we elaborate in a later section, the feeling of mutual interest and focus during interaction is related to mutual attention behavior, the feeling of friendliness and warmth is related to positive behavior, and the feeling of balance and harmony is related to coordinated interaction. For ease and consistency, we refer to the three components as being the attention, positivity, and coordination components.

### Development and Maintenance of Rapport

We would expect that the frequency with which the word *rapport* would co-occur in everyday speech with the words *build* and *develop* would be very high. To examine the construct of rapport without taking into consideration this dynamic, temporal aspect, would do injustice to the very nature of rapport. What follows is a discussion of the expectations and behaviors that seem to occur in interactions earlier and later in a relationship between individuals. This discussion suggests that the structure of rapport consists of the same components over time, but that the relative importance of these components within the structure changes.

What is typical of an initial interaction between individuals? Upon interacting with a new acquaintance, the talk is circumspect, the behavior polite. We have a repertoire of socially appropriate behaviors that we engage when coming into contact with a heretofore stranger, though the range of behaviors may be slightly different depending on the context of the meeting. For example, an informal conversation with another patient in a physician’s waiting room would not call forth the exact range of behaviors that would be summoned by a discussion with a new physician about a physical ailment. Nonetheless, the behavior in both cases would be molded by norms of social propriety. Because the other individual would be unfamiliar, the interaction might feel a bit awkward or constrained. This unfamiliar other would not be as predictable as a known other, nor would he or she necessarily fulfill basic norms of social propriety in the manner to which we are accustomed. Basically, however, we would probably try to be attentive and pleasant toward the other, and present ourselves in a favorable light, unless our motives were to terminate the interaction, or the social propriety aspects of the situation were not salient (as in an initial encounter with a physician to whom we had turned for emergency care).

Should interactions extend with a particular person beyond a single encounter, we might see a change in the behavioral repertoire used between the interactants. Although the behaviors might continue to be socially delimited to a degree,

we would expect to feel more at ease with the other, especially if the relationship were proceeding happily. The other's communication style would become more predictable, and we would learn how to accommodate ourselves to it, as would the other to ours. Over time, we would likely feel less constrained to present ourselves continuously in a favorable or pleasant light. With a sense of stability gained from the knowledge and experience of the other, would come variability in our behavior toward the other. We might feel at ease in expressing dissent one minute and assent the next.

These scenarios of initial and later interactions are consistent with the work of theorists in the field of interpersonal relationship development (Altman & Taylor, 1973; Duck, 1977; Hinde, 1979). They have proposed that initial encounters are rigidly circumscribed by culturally acceptable and stereotypical behavior. Because of the participants' lack of experience with one another, there tends to be some awkwardness and misunderstanding in communication. In addition, the participants are intently engaged in evaluating (positively or negatively) one another, but they usually do not reveal their evaluation to the other. Duck (1977) characterized the participants of initial interactions as being focused on the external attributes of each other, with partners acting as stimulus objects to which the other responds. This characterization is consistent with Altman and Taylor's (1973) thoughts about the early stages of the social penetration process in which the participants communicate information about themselves that is superficial and nonintimate.

Later, with increased familiarity between participants, interactions tend to be more loosely structured. The theorists agree that participants, rather than following more culturally defined communication conventions, would develop their own conventions and show more diversity in the ways they communicate thoughts to one another. There should be an increase in communication efficiency and coordination and fewer misunderstandings of communication meaning. Participants would then cease to function as separate stimulus objects for one another and operate more as a unified, dynamic system in which stimulus and response functions could not be easily distinguished (Duck, 1977). Although evaluation forces would not be as salient as in early interaction, the participants would exchange praise and criticism more freely (Altman & Taylor, 1973).

The proposed developmental trajectories of interpersonal relationships can be applied to understanding the structural properties of rapport during earlier and later interactions. Regardless of the time at which we assess rapport, the three components would still make up the structure. Therefore, feelings and behaviors reflecting mutual attention, positivity, and coordination should still be present, at some level, in initial as well as later encounters reflecting a high degree of rapport. On the other hand, the relative importance or *weighting* of these components in the overall experience of rapport would be different at different times. The basis of these weightings would be the participants' expectations for what a good initial interaction should be and, likewise, what a good later interaction should be. The expectations about relationship development would conform to the trajectory already discussed.

Relationship development theory has more implications for the components of positivity and coordination than for mutual attention. Because evaluative forces are so strong in initial encounters, it is reasonable for participants to expect

that developing rapport in initial encounters be indicated strongly by the presence of positivity, or warmth and friendliness. Participants in later interactions, however, would judge the level of rapport more from the degree of coordination they felt. They would expect the interaction to feel less awkward—more smoothly run—and to involve fewer communication misjudgments. Early on, smooth coordination would be not expected as much, because the participants would recognize that their lack of experience with one another would preclude this quality to some degree. However, warmth and friendliness from the other participant would not require previous experience with one another and would be expected to be present early on in the fulfillment of social norms. In later interactions (when participants are less constrained by impression management concerns, when they have developed stable perceptions of the other, and when they have felt relatively consistent rapport with one another), they would expect more interactional coordination relative to positivity.

It is harder to determine to what degree mutual attention would be weighted in early and later interactions. Theorists have not addressed this component as clearly in their ideas about relationship development. It seems reasonable to argue, however, that participants would expect a high level of mutual attention both during interaction early on, when rapport is developing, and later on, when it is being maintained. The initial attentiveness may signal interest, a precondition to a positive forecast for the continuation of the relationship, whereas the later attentiveness would signal the unity of the dyad members, both in terms of the unity of their experience and the mutuality of their relationship goals. Therefore, the weighting of mutual attention would not change but the experiential quality of this component would. Figure 1 demonstrates the relative importance given to each of the three components from early to late interactions.

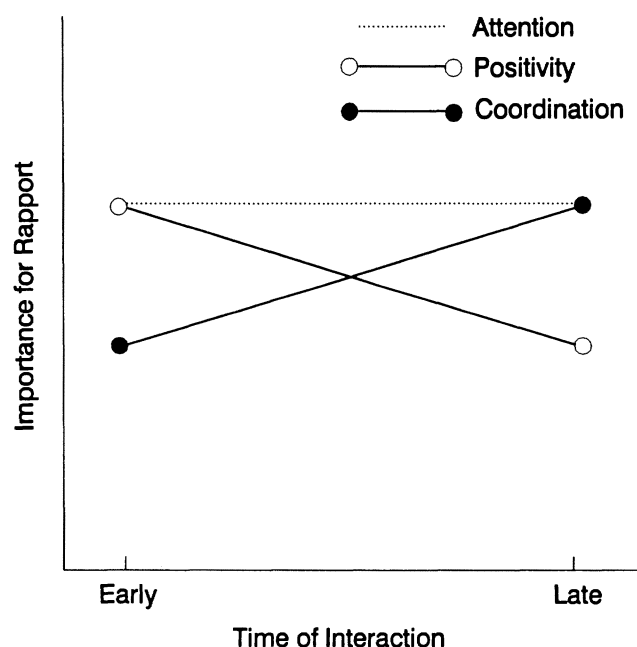


Figure 1. Relative importance of the three components of rapport from early to late interactions.

### Nonverbal Correlates of Rapport

Nonverbal behavior, as a particularly powerful medium of affective communication, would be a key element in the mediation and emergence of feelings of rapport between participants. In their first interactions with one another, as we have described, participants would have a keen awareness of the evaluative climate surrounding the interaction. Each individual would be watching the other for cues that signaled whether or not approach and continued interaction were desired and, simultaneously, would be deciding whether or not approach and continued interaction were desirable. Positivity and attentiveness cues would be exchanged if the individuals felt warmth toward and interest in one another. An individual would not feel rapport if he or she had positive and attentive feelings toward the other, but these feelings were not reciprocated, at least partially, in the form of nonverbal cues. Of course, it is possible that participants could exhibit attentiveness and positivity cues when they did not feel interest or warmth but wanted the other to believe that they had these feelings. This condition of deception, or, at least, lack of genuineness, could lead to a feeling of rapport in the other participant.

It follows from our discussion in the previous section, that, in these early interactions, the feeling of rapport would be less dependent on cues related to coordination than on those related to positivity and attentiveness. Although the rudiments of relational harmony may be present in the form of shared nonverbal styles and skilled enactment of social conventions, behavioral coordination would not be maximized. Problems of coordination would be due to the participants' lack of experience with one another, or to the overapplication of social conventions (such as undue politeness). Some degree of awkwardness, then, would be discounted at this stage of the relationship. Later on, participants should know each other well enough and should be able to adopt the other's perspective readily enough to achieve smooth and efficient interactional coordination. An inability to adopt each other's perspective may reveal itself simply in the mistiming of the exchange of speaker and listener roles, or in awkward pauses. Indications that they are not, at this stage, a relational unit with a shared behavioral style that facilitates communication would result in feelings associated with a lack of rapport. Coordination cues are complex and less available to conscious control than are positivity and attentiveness cues. As a result, one participant could not exhibit coordination with another easily if the basis for coordination (i.e., the ability to adopt the other's perspective) were not present.

### Variability and Consistency of Nonverbal Behavior Across Contexts

Although it is relatively straightforward to discuss how nonverbal behavior is related to rapport, it is another matter to try to determine the specific nonverbal correlates of rapport. When individuals are experiencing rapport with one another, do they display consistent nonverbal behavior that signals this rapport? Until now, we have spoken as if such were the case. However, this question is open to empirical testing. In this section, we discuss the following issues surrounding the identification and measurement of nonverbal behavior as related to rapport:

1. The variability and context dependency of the social meaning of particular nonverbal behaviors.
2. The differential use of molecular and molar methods for the measurement of the nonverbal correlates of rapport depending on (a) which of the three components of rapport is being assessed and (b) whether the interaction is an earlier or later one in the relationship between two individuals.
3. Factors contributing to the finding of consistent relationships between nonverbal behavior and the components of rapport.

Assessing the nonverbal correlates of rapport is not easy. Nonverbal behavior is a continuous stream of action with movements and expressions occurring simultaneously and in fluid temporal succession to one another. In it, there is an interplay of movement among the limbs of the body, shifts in posture, fluctuations in facial expressions, and so on. Out of this continuous stream of action, the human observer perceives socially meaningful discrete events, as revealed by words used to describe these events, for example, "she smiled," or "he nodded."

Although there is little argument that these behavioral events can be perceptually extracted from the flow of behavior, it could be argued that no particular class of behavioral events, such as smiling, is associated with an invariant social meaning (Scherer & Ekman, 1982). For example, the relationship between nonverbal behavior and positivity in an interaction is complex. The same types of nonverbal behavior may occur in negative or positive interactions, and their interpretation depends on the roles that participants are playing in an interaction, the history of the relationship of the individuals, and the perceived function of the interaction for the participants (Ekman, 1965; Patterson, 1983). Most research on the context-dependent meaning of nonverbal behavior has employed eye contact (Kleinke, 1986). Under conditions of cooperative tasks among peers, for example, eye contact is indicative of positive feelings, yet under conditions in which the interactants feel personal threat or competitiveness toward one another, it may indicate aggressiveness. Likewise, smiling may be a positive expression of warmth or a negative expression of anxiety (Ekman, Friesen, & Ancoli, 1980) such as in situations of anticipated unpleasant interactions (Ickes, Patterson, Rajcecki, & Tanford, 1982). The use of specific nonverbal acts in research must be viewed as context dependent, and generalization from a particular context to another is justifiable to the degree that the new context can be shown to be structurally similar to the previously investigated one. However, given that it is understood that the context of an interaction is one in which the individuals have basically friendly, cooperative goals, we can determine what types of nonverbal behavior appear to be correlates of rapport.

Our discussion so far assumes that nonverbal behavior be defined at a molecular level of measurement. Molecular measures of nonverbal behavior consist of counts or durations of specific behaviors such as head nodding or eye contact (e.g., see Harrigan & Rosenthal, 1986). This molecular level of specification of nonverbal behavior may not be the most appropriate level for investigating all three components of rapport. The discrete nonverbal acts in a molecular analysis are typically measured for each participant separately, neglecting the interactional nature of rapport. Variables that

combine the discrete acts of both participants may be more appropriate for relating nonverbal behavior to rapport. Mutual gaze (e.g., Ickes, Robertson, Tooke, & Teng, 1986) and postural mirroring (Charny, 1966; Kendon, 1970; LaFrance, 1979, 1985; Scheflen, 1964) are examples of this type of nonverbal variable. Another variable might employ a sequence of discrete acts that occur in interaction, such as the turn-taking cues involved in the coordination of speaking and listening roles (Duncan & Fiske, 1977). At a slightly higher level of integration are the nonverbal variables such as interactional synchrony (Condon & Ogston, 1967; Kendon, 1970), where the discrete acts themselves are not as important as the cotemporal variations in the movement of the individuals. Finally, at an even higher level of integration—the molar level of measurement—nonverbal variables can be defined in terms of the psychological impression (Rosenthal, 1982, 1987), gestalt image (Bales & Cohen, 1979), or perceived function (Patterson, 1983) they create. Using a method similar to that devised for assessing sensitivity to nonverbal communication (Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979), Babad, Bernieri, and Rosenthal (1987, 1989) operationalized nonverbal behavior at the molar level to study teacher behavior. Teachers were videotaped while teaching in their classrooms. From each videotape segment, 10-sec clips were created for each of nine channels of communication: face only (no audio); body only (no audio); face and body (no audio); audio only; face and audio; body and audio; face, body, and audio; transcript of speech; and mechanically content-filtered speech. Fifteen judges were asked to rate each clip on various qualities, for example, warmth and dominance. In such a manner, the researchers obtained reliable measures of judge-perceived teacher facial warmth, judge-perceived teacher bodily warmth, and so on for each quality within each channel. The use of 10-sec clips gives judges little contextual information, but nonverbal behavior operationalized in this manner provides more contextual information than nonverbal behavior operationalized at the molecular level. The judges make ratings that are derived from a gestalt impression of movement and expression. The impression of facial warmth, for example, is based on the movements of the mouth, the eyes, the brow, and the head in concert with one another. In the molecular approach, discrete behaviors are counted or timed. Each behavior, then, is decontextualized from the overall expression.

The nonverbal correlates of rapport may be measured at both the molecular and molar levels of measurement for all three components. However, whereas the molecular level would be appropriate for the attention and positivity components (especially in early interactions), the molar level would be more appropriate for the coordination component (especially in later interactions). Attention and positivity can be conceptualized easily as appearing in what Mehrabian (1971) called “abbreviated forms” of approach or immediacy, such as the direction of gaze, trunk lean, and orientation of the body toward another. Especially in early interactions, these behaviors may be assessed because of the predominance of basic approach-and-avoidance forces and the evaluative demands of the situation. The stereotypicality and rigidity of expression in the early interactions would result in relatively static approach-and-avoidance cues that could be measured easily at the molecular level. With the development of rapport across time, stereotyped, static cues

would be replaced with idiosyncratic, dynamic cues (Duck, 1977; Hinde, 1979), making measurement of attentiveness and positivity at a molar level more appropriate. Judges would rate the degree of attentiveness and positivity perceived in clips from nonverbal channels of videotaped behavior.

Regardless of the point in the development of rapport, it would be most practical to measure coordination at the molar rather than molecular level. Coordination behavior is made up of an almost infinite set of discrete behaviors, and the definition and transcription of these behaviors becomes a tremendously difficult project (see Cappella, 1981, 1984). Communication style meshing (Cappella, 1984), behavioral meshing (Hinde, 1979), and interactional synchrony (Bernieri, 1988; Bernieri, Resnick, & Rosenthal, 1988) are constructs that describe the dynamic, coordinative aspect of interaction. Bernieri (1988) argued that judges are able to perceive directly, in a gestaltlike manner, the behavioral coordination during interaction. Bernieri et al. (1988) developed a method for defining interactional synchrony that does not rely on the analysis of specific, discrete movement changes in interactants. They studied whether judges would make differential judgments about the synchrony present in three forms of split-screen interactions recorded on videotape: (a) interaction between a mother and her own child, (b) interaction between a mother and an unfamiliar child, and (c) an artificial interaction created by the experimenter splicing together mothers and children who were not actually interacting with each other at the time. In this way, the researchers were able to determine a baseline level of synchrony from the perceived degree of synchrony in “interactions” that never took place. Against this baseline, they could examine the levels of synchrony perceived in real interactions. The results of the study, as well as a replication with true interactions and pseudointeractions between high-school students (Bernieri, 1988), demonstrated that the judges perceived synchrony above baseline in true interactions, thus, supporting the validity of using gestalt judgments as a basis for determining synchrony.

In summary, then, we propose that depending on some basic qualifications, nonverbal behavior can be measured in such a way as to demonstrate consistent relationships with participants’ experienced rapport. These qualifications are that consistency will be found more readily (a) across interactions that are similar in context (defined in terms of participant roles), (b) for early interactions measured at a molecular or molar level (especially for attention and positivity correlates), and (c) for later interactions measured at the molar level (especially for coordination correlates). Table 1 describes the levels of nonverbal measurement ideally used

**Table 1.** *Levels of Nonverbal Measurement Recommended for Assessing the Three Rapport Components During Early and Late Interactions*

Rapport Component	Time of Interaction	
	Early	Late
Attention	More molecular	More molar
Positivity	More molecular	More molar
Coordination	More molar	Most molar

when assessing the three components at different times in a relationship.

In the next section, we provide an example of how research was conducted to assess correlates of the positivity component of rapport. In this particular example, behavioral correlates were assessed at the molecular level and primarily for first encounters between individuals.

### Nonverbal Correlates of a Rapport Component: A Meta-Analytic Example

Elsewhere (Tickle-Degnen & Rosenthal, 1987), we described in detail some nonverbal correlates of the components of rapport. In that work, we discussed how the attentiveness correlates of rapport would be the spatial configurations and bodily postures of the participants that provide and signal communication accessibility. The positivity correlates of rapport would be behaviors, such as smiling and head nodding, that indicate participant liking and approval of one another. The coordination correlates, on the other hand, would be those behaviors that signal that the participants are "with" one another, functioning as a coordinated unit, such as postural mirroring and interactional synchrony. Our conclusions regarding these correlates were based primarily on a qualitative review of the published literature, but also, for the positivity correlates, on the preliminary results of a quantitative review of the literature.

Since that work, a completed quantitative, or meta-analytic, review has demonstrated that we may validly conclude that there are nonverbal correlates associated with the positivity component of rapport (Tickle-Degnen, Rosenthal, & Harrigan, 1989). The primary purpose of the review was to determine the magnitude of the average effect of eight classes of nonverbal behavior (smiling, directed gazing, head nodding, forward trunk lean, direct body orientation, posture mirroring, uncrossed arms, and uncrossed legs) on the favorability of evaluators' impressions. Although the meta-analytic review examined the favorability of participants' impressions of a partner or partners as well as the favorability of outside observers' impressions of individuals who were interacting, for the purposes of this article, we are concerned with the participants' impressions, or experienced rapport, only. Therefore, the effect being discussed here is the degree to which a partner's nonverbal behavior was related to a participant's favorable impression, or feeling of positivity. Favorable impression was broadly defined to encompass the evaluative or positivity dimension of an impression (Os-good, Suci, & Tannenbaum, 1957). This dimension was rated primarily through the use of scales that measured the participant's feelings concerning the partner's warmth, empathy, understanding, genuineness, friendliness, or liking of the participant. But because of the tremendous variability in the operationalization of this dimension among researchers, scales assessing participant's feelings related to the partner's attentiveness toward and coordination with the participant were often also assessed. In fact, several studies used relationship inventories or composite scores on a variety of scales that reflected all the components of rapport. Therefore, the correlates described here, though primarily related to the positivity component of rapport, are related somewhat to the more general rapport construct.

Because of the importance of context effects on the meaning of nonverbal behavior, we examined the magnitudes of

the nonverbal effect on participant impressions separately for situations in which the participant was interacting with a physician, nurse, counselor, psychotherapist, or peer counselor—in other words, formal helping contexts—and for situations in which the participant was interacting with an interviewer, interviewee, new acquaintance, instructor, or other individuals in nonhelping contexts. There were too few studies to make finer distinctions than this global one.

Table 2 presents the results of the meta-analytic review separately for each nonverbal behavior and each context. According to Cohen's (1977) guidelines for interpretation of the effect size ( $r$ ), a large effect is represented by an  $r$  of at least .50, a moderate effect by .30, and a small effect by .10. An examination of the table reveals different effect sizes for the nonhelping and helping contexts. During nonhelping interactions, the findings suggest that moderate-to-large positive relationships exist between participants' evaluative impressions and their partners' forward trunk lean, smiling, nodding, direct body orientation, and uncrossed arms. Directed gaze and posture mirroring also appear to be moderately positively related to participants' evaluative impressions. During helping interactions, on the other hand, all relationships appear to be rather small, except for posture mirroring.

Because nonhelping and helping context effects were assessed using different studies (i.e., no study was found that compared these particular context effects within the same study), a possible explanation for the differences in the findings may be a methodological one. To determine whether differences in methods used in the two types of studies were related to effect size, studies were categorized as either demonstrating high or low internal validity and high or low ecological validity. Studies were coded as demonstrating higher internal validity if they had experimentally manipulated the partner's nonverbal behavior (as opposed to having measured naturally occurring behavior) and had exercised control over the verbal behavior of the partner. On the other hand, studies

**Table 2.** Average Effect Size for the Relationship Between Classes of Nonverbal Behavior and Participant Impression for Two Types of Context

Behavior	Type of Context			
	Helping		Nonhelping	
	Mean $r^a$	$k^b/N^c$	Mean $r^a$	$k^b/N^c$
Directed Gaze	.14	8/472	.24	18/1,589
Smiling	.16	3/141	.45	6/354
Head Nodding	.10	3/111	.40	5/264
Forward Lean	.15	8/302	.47	6/321
Direct Body Orientation	.13	6/196	.45	2/137
Posture Mirroring	.40	1/80	.28	5/187
Uncrossed Arms	—	0/0	.38	1/41
Uncrossed Legs	.07	3/114	—	0/0

<sup>a</sup>A positive effect size ( $r$ ) indicates that the more the amount/degree/duration of the class of the partner's nonverbal behavior, the more positive the impression formed by the participant.

<sup>b</sup>The number of studies that contributed to the average effect size.

<sup>c</sup>The total number of subjects across studies that contributed to the average effect size.

were coded as demonstrating lower internal validity if either of these conditions had not been met. Studies were coded as having higher ecological validity if the interaction between the participant and partner was a somewhat natural, real interaction (as opposed to a simulated or role-played interaction) and the participant was involved in a live interaction, without the use of audiovisual media to display the partner. A coding of lower ecological validity was given if either of these conditions had not been met.

Table 3 shows the effects for helping and nonhelping contexts separately for the internal and ecological validity conditions. To have enough data to enable this breakdown, the effect sizes were collapsed across the eight classes of nonverbal behavior. No studies demonstrated both lower ecological and lower internal validity. It appears that if studies used a design that demonstrated either lower ecological or lower internal validity, the effects for both contexts were on the smaller side. If, on the other hand, the studies had designs that had both higher internal and higher ecological validity, the effects for both contexts were moderate. More helping studies (83%) than nonhelping studies (50%) had either low internal or low ecological validity, a situation that may account for the smaller effects in the helping context.

Besides this methodological explanation for discrepant findings across contexts, other factors may be operating as well. There may be substantive differences between the two contexts that moderate the relationship between nonverbal behavior and positivity impressions of participants. For example, when a participant is being helped professionally for a personal problem, the type of behavior expected of the helper may be different from that in other types of interaction. It is possible that clients or patients feel rapport not only because of the socioemotional behavior of their professional helpers, but also because of the technical expertise behavior of their helpers (see Hall, Roter, & Katz, 1988). Another explanation is that the participants in helping contexts have more anxiety than participants in nonhelping contexts and, therefore, are less observant of nonverbal cues. It has been shown that patients tend to forget the verbal information that they are given by health practitioners (see DiMatteo & Di-Nicola, 1982, for a review). Perhaps the same factors that interfere with transfer of verbal information in helping in-

teractions (e.g., confusion, anxiety, personal agendas, and values that conflict with those of the practitioners) also interfere with the transfer of nonverbal information.

In summary, the meta-analytic findings suggest that, in nonhelping contexts, a partner's smiling, head nodding, forward lean, and direct body orientation aid in creating a positive interaction. A partner's posture mirroring and directed gaze are slightly less associated with positivity. There are too few studies of uncrossed arms and legs in nonhelping contexts to draw conclusions. For helping contexts, the examined nonverbal behaviors had either a low effect on positive impressions *or* had a larger effect that was not found because of methodological qualities of the studies. Almost all the research gathered for the meta-analytic study examined initial encounters between new acquaintances. Unfortunately, the studies (LaFrance, 1979; Lochman & Allen, 1981) that were found in which later interactions had been examined were so few that it is difficult to draw any summarizing conclusions concerning the nonverbal positivity correlates of rapport, at least those measured at the molecular level of analysis, for later interactions.

**Variables Moderating the Relationship Between Nonverbal Behavior and Rapport**

The meta-analytic study is an example of an attempt to better understand some nonverbal correlates of one of our proposed components of rapport. We could follow this research strategy separately for each of the other components of rapport as well. Another direction for research is to examine rapport and its nonverbal correlates in terms of its structure of interrelating components. Specifically, we could ask in our research, how the different categories of behavior—that is, attention, positivity, and coordination behaviors—are related to the participants' overall experience of rapport. Based on our earlier discussion of the nature of rapport, we suggest that the three categories of behavior would be weighted differently in their relationship with experienced rapport under different conditions. The following factors are hypothesized to moderate this relationship: (a) the types of roles of the participants and their goals for the interaction, (b) whether rapport development was in an early stage versus a later stage, and (c) whether experienced rapport was being assessed by the participants themselves or by observers not involved in the interaction.

First, to examine the weighting of the nonverbal correlates in the overall structure of rapport, it is important to define the context of the interaction in terms of the roles of the participants and their goals for the interaction. For example, mutual attention might be the most highly weighted category of behavior in a situation in which a physician is conducting a medical history with a patient. Attention would be critical for the fulfillment of the obligations of the physician and patient, and for achieving the goal of the interaction—the clear and in-depth exchange of information necessary for diagnosis and treatment. On the other hand, a person meeting a new acquaintance at a party might weight more heavily (in his or her experience of rapport) positivity behavior, the context of the party setting up expectations for friendliness and fun. In a team management meeting, when efficient and effective decision-making is of prime importance, behavioral coordination may be the most heavily weighted component of experienced rapport. It should be emphasized that in these three

**Table 3.** Average Effect Sizes (Mean *r*) Across All Classes of Nonverbal Behavior for Level of Ecological Validity by Level of Internal Validity by Context Type

Internal Validity	Context	Ecological Validity	
		Higher	Lower
Higher	Helping	.29 (2)	.18 (3)
	Nonhelping	.33 (12)	.16 (5)
Lower	Helping	.15 (7)	— (0)
	Nonhelping	.18 (7)	— (0)

Notes: Number of studies given in parentheses. Because of missing information concerning internal and ecological validity, not all studies involved in the meta-analyses appear here.



contexts, attentiveness, positivity, and coordination all must be present to some degree: It is the weighting of the importance of these behavioral categories in the experience of rapport that would differ.

A second factor moderating the correlations and relative weightings between nonverbal behavior and experienced rapport would be the stage of rapport development. It is expected that the weighting in earlier interactions would be in favor of positivity behavior whereas in later interactions it would be in favor of coordination behavior. To summarize from our discussion earlier, the reasons for this change in weighting would be due, on the one hand, to a decrease over time of evaluative forces and cultural requirements supporting positive behavior and, on the other hand, to an increase in idiosyncratic and efficient communication conventions between participants, and expectations for ease of communication.

A third factor not yet addressed but potentially important for understanding the relationship between nonverbal behavior and experienced rapport is the manner in which the participants' experienced rapport is assessed. Most studies of nonverbal behavior and impression formation have been conducted using outside observers' impressions (Tickle-Deggen et al., 1989). Under this paradigm, observers are asked to observe one or both participants during an interaction and judge the rapport-building qualities of a participant or the degree of rapport present in an interaction. Researchers then assess the correlation between particular classes of nonverbal behavior and these judgments. We would expect that in judging rapport observers would be especially influenced by culturally defined parameters of the "good interaction" and would tend to ignore contextual factors in their weighting of rapport components, unless those contextual factors were readily apparent and salient. Participants, with their acute knowledge of the context, would show more variation in their weighting of the components across contexts. This argument is similar to the one held by attribution theorists (see Jones & Nisbett, 1971) in their discussion of differences between actor and observer explanations of causality during interaction. Because of their knowledge of the relationship history, participants in later interactions with high degrees of rapport would be less likely to expect consistent positive behavior from one another, because they would have had a history of positive behavior in earlier interactions. Outside observers, normally would not be privy to this relationship history and, therefore, would more likely give the same weight to positivity behavior in their judgment of rapport as they would in early interactions.

The implications of these different factors that moderate the relationship between nonverbal behavior and rapport can be summarized in a set of testable hypotheses:

1. The weighting of the three behavioral components of rapport will be different for interactions with different goals. More specifically, interactions in which a higher priority is placed on attention in the fulfillment of goals will show stronger relationships between attentional nonverbal behaviors and participants' experienced rapport. Likewise, those interactions in which a higher priority is placed on positivity or coordination in the fulfillment of goals will show stronger relationships between positivity or coordination nonverbal behaviors and rapport.

2. The weighting of the three behavioral components of

rapport will be different for interactions at different stages of rapport development. More specifically, positivity behaviors will receive more weighting than coordination in early interactions, whereas coordination behaviors will receive more weighting in later interactions as correlates of experienced rapport.

3. The weighting of the three behavioral components of rapport will differ according to whether experienced rapport is assessed through participants' reports of rapport or outside observers' judgments of participants' rapport. Specifically, the weighting across different contexts and stages of relationship will vary more for participants' than for observers' perceptions of rapport. This difference will decrease as contextual factors become more accessible to observers.

It is clear that before these hypotheses can be tested, the nonverbal correlates of the three components of rapport must be clearly delineated. Whether this delineation proceeds from a molecular or molar measurement of nonverbal behavior must be determined in future research. The molecular approach to measurement seems appropriate for early interactions, but may not be useful for later interactions when static and culturally defined cues have given way to more dynamic and idiosyncratic cues. In addition, compared to the molar approach, the molecular approach, with its identification of specific behaviors, may be less appropriate for finding nonverbal correlates across a variety of contexts.

This article has presented a model of rapport that has enabled an examination of a commonplace construct in a form that recognizes the richness and complexity of that construct. The model was developed to facilitate the determination of behavioral correlates—in particular, nonverbal correlates—of experienced rapport. By providing a model, an example of a meta-analytic study relevant to uncovering behavioral correlates, and an outline of testable hypotheses related to conditions that moderate the relationships of nonverbal behavior to rapport, we hope to contribute to bringing rapport from the realm of everyday use into the realm of scientific scrutiny. Our purpose is to develop our knowledge about human interaction in one of its most pleasant and influential forms. By understanding the nature of rapport in terms of behavioral correlates, we may not only be able to determine when an interaction demonstrates a high degree of rapport, but also how an interaction can be nudged toward the production of this quality.

## Notes

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## References

- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York: Holt, Rinehart & Winston.
- Babad, E., Bernieri, F., & Rosenthal, R. (1987). Nonverbal and verbal behavior of preschool, remedial, and elementary school teachers. *American Educational Research Journal*, 24, 405-415.
- Babad, E., Bernieri, F., & Rosenthal, R. (1989). Nonverbal communication and leakage in the behavior of biased and unbiased teachers. *Journal of Personality and Social Psychology*, 56, 89-94.

- Bales, R. F., & Cohen, S. P. (1979). *SYMLOG: A system for the multiple level observation of groups*. New York: Free Press.
- Bernieri, F. (1988). Coordinated movement and rapport in teacher-student interactions. *Journal of Nonverbal Behavior*, *12*, 120-138.
- Bernieri, F., Resnick, J. S., & Rosenthal, R. (1988). Synchrony, pseudo-synchrony, and dissynchrony: Measuring the entrainment process in mother-infant dyads. *Journal of Personality and Social Psychology*, *54*, 243-253.
- Cappella, J. N. (1981). Mutual influence in expressive behavior: Adult-adult and infant-adult dyadic interaction. *Psychological Bulletin*, *89*, 101-132.
- Cappella, J. N. (1984). The relevance of the microstructure of interaction to relationship change. *Journal of Social and Personal Relationships*, *1*, 239-264.
- Chamy, E. J. (1966). Psychosomatic manifestations of rapport in psychotherapy. *Psychosomatic Medicine*, *28*, 305-315.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences* (rev. ed.). New York: Academic.
- Condon, W. S., & Ogston, W. D. (1967). A segmentation of behaviour. *Journal of Psychiatric Research*, *5*, 221-235.
- DiMatteo, M. R., & DiNicola, D. D. (1982). *Achieving patient compliance*. New York: Pergamon.
- Duck, S. (1977). *The study of acquaintance*. Westmead, England: Saxon House.
- Duncan, S. D., Jr., & Fiske, D. W. (1977). *Face-to-face interaction: Research, methods, and theory*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Ekman, P. (1965). Communication through nonverbal behavior: A source of information about an interpersonal relationship. In S. S. Tomkins & C. E. Izard (Eds.), *Affect, cognition, and personality* (pp. 390-442). New York: Springer.
- Ekman, P., Friesen, W. V., & Ancoli, S. (1980). Facial signs of emotional experience. *Journal of Personality and Social Psychology*, *39*, 1125-1134.
- Freud, S. (1924). On the history of the psycho-analytic movement. In J. Riviere (Trans.) & E. Jones (Ed.), *Collected papers* (Vol. 1, pp. 287-359). London: Hogarth. (Original work published 1914)
- Hall, J. A., Roter, D. L., & Katz, N. R. (1988). Meta-analysis of correlates of provider behavior in medical encounters. *Medical Care*, *26*, 657-675.
- Harrigan, J. A., & Rosenthal, R. (1986). Nonverbal aspects of empathy and rapport in physician-patient interaction. In P. D. Blanck, R. Buck, & R. Rosenthal (Eds.), *Nonverbal communication in the clinical context* (pp. 36-73). University Park: Pennsylvania State University Press.
- Hinde, R. A. (1979). *Towards understanding relationships*. London: Academic.
- Ickes, W., Patterson, M. L., Rajecki, D. W., & Tanford, S. (1982). Behavioral and cognitive consequences of reciprocal versus compensatory responses to preinteraction expectancies. *Social Cognition*, *1*, 160-190.
- Ickes, W., Robertson, E., Tooke, W., & Teng, G. (1986). Naturalistic social cognition: Methodology, assessment, and validation. *Journal of Personality and Social Psychology*, *51*, 66-82.
- 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. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79-94). Morristown, NJ: General Learning Press.
- Kendon, A. (1970). Movement coordination in social interaction. *Acta Psychologica*, *32*, 100-125.
- Kleinke, C. L. (1986). Gaze and eye contact: A research review. *Psychological Bulletin*, *100*, 78-100.
- LaFrance, M. (1979). Nonverbal synchrony and rapport: Analysis by the cross-lag panel technique. *Social Psychology Quarterly*, *42*, 66-70.
- LaFrance, M. (1985). Postural mirroring and intergroup relations. *Personality and Social Psychology Bulletin*, *11*, 207.
- Lochman, J. E., & Allen, G. (1981). Nonverbal communication of couples in conflict. *Journal of Research in Personality*, *15*, 253-269.
- Mehrabian, A. (1971). *Silent messages*. Belmont, CA: Wadsworth.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. Urbana: University of Illinois Press.
- Park, R. E., & Burgess, E. W. (1924). *Introduction to the science of sociology*. Chicago: University of Chicago Press.
- Patterson, M. L. (1983). *Nonverbal communication: A functional perspective*. New York: Springer-Verlag.
- Rosenthal, R. (1982). Conducting judgment studies. In K. R. Scherer & P. Ekman (Eds.), *Handbook of methods in nonverbal behavior research* (pp. 287-361). Cambridge, England: Cambridge University Press.
- Rosenthal, R. (1987). *Judgment studies: Design, analysis, and meta-analysis*. New York: Cambridge University Press.
- Rosenthal, R., Hall, J. A., DiMatteo, M. R., Rogers, P. L., & Archer, D. (1979). *Sensitivity to nonverbal communication: The PONS test*. Baltimore: Johns Hopkins University Press.
- 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.
- Scherer, K. R., & Ekman, P. (1982). Methodological issues in studying nonverbal behavior. In K. R. Scherer & P. Ekman (Eds.), *Handbook of methods in nonverbal behavior research* (pp. 1-44). Cambridge, England: Cambridge University Press.
- Tickle-Degnen, L., & Rosenthal, R. (1987). Group rapport and nonverbal behavior. In C. Hendrick (Ed.), *Review of personality and social psychology: Vol. 9. Group processes and intergroup relations* (pp. 113-136). Newbury Park, CA: Sage.
- Tickle-Degnen, L., Rosenthal, R., & Harrigan, J. (1989). *Nonverbal behavior as determinant of favorableness of impressions formed: Eight meta-analyses*. Unpublished manuscript.