15 • Affect and Social Information Acquisition: Sit Back, Relax, and Tell Me About Yourself

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ALTHOUGH considerable research attention has been directed to understanding the various baises and shortcomings that plague social decision makers (Kahneman, Slovic, & Tversky, 1982; Nisbett & Ross, 1980), relatively little work has been done to explain how persons acquire the social information they process. Snyder's work on hypothesis testing (see Snyder, 1981, for review) has revealed that when persons have a hypothesis they wish to test about another, they tend to ask questions that will confirm the existence of the hypothesized trait rather than ask questions that disconfirm its existence. However, Troupe and Bassok (1982) found that under certain conditions persons seek diagnostic information rather than confirmatory information about others. In addition to this line of research is a study by Major (1980) that revealed that persons utilize relatively little information made available to them when they are asked to make attributions about others.

In general, the hypothesis-testing research has placed persons in the position of asking questions in order to obtain information about target others. However, Berger (1979) suggested that social information seekers can employ three broad classes of strategies to seek information relevant to their goals: (1) passive, (2) active, and (3) interactive. Passive strategies involve

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the unobtrusive observation of target persons with no direct interaction between the observer and the target. Research directed toward understanding these strategies was reported by Berger and Perkins (1978, 1979) and by Berger and Douglas (1981). When using active strategies, observers structure a set of conditions to which the target person reacts, similar to the way in which a social scientist might set up a laboratory experiment. Active strategies do not involve direct interaction between observers and targets, however. Interactive strategies require direct interaction between observers and targets. Among the information acquisition modes that are possible here are interrogation, self-disclosure, and deception detection. Persons can ask questions to obtain information and/or disclose information about themselves with the hope that their partners will reciprocate their disclosures (Gouldner, 1960; Sermat & Smyth, 1973; Worthy, Gary, & Kahn, 1969).

In the domain of interactive strategies, Berger and Kellermann (1983) reported findings concerning patterns of question-asking in initial encounters. Their findings suggested that interactive information acquisition strategies might be placed in a two-dimensional space defined by *efficiency* and *social appropriateness.* Thus interrogation might be a relatively efficient way by which to acquire information from another, but it might be perceived to be socially inappropriate because of its intrusiveness. Self-disclosure, by contrast, is a more subtle way to acquire social information, but it might be somewhat less efficient because of its indirectness. A third strategy, not considered by Berger (1979) but mentioned by research participants in the Berger and Kellermann (1983) study, is that of *relaxing the target person* as a means of inducing him or her to reveal information. Obviously, this interactive strategy is extremely indirect and unobtrusive, but it may also be the least efficient of the three strategies discussed here. A relaxed target may reveal considerable amounts of information about himself or herself but not the particular information that the observer desires. Thus *control* of the interactive sequence underlies the efficiency dimension and is in tension with the social appropriateness of behaviors employed for seeking information. The focus of the present study is on the kinds of verbal and nonverbal behaviors displayed by persons who are attempting to extract information from their conversational partners using the relaxation strategy.

Psychotherapeutic literature dealing with therapist-client communication generally argues that in order to encourage clients to verbalize about their problems, therapists must establish a permissive (Ruesch, 1961) or a warm (Rogers, 1951) relationship with their clients. Both of these authors emphasize the necessity of establishing a nonevaluative atmosphere in which clients feel free to talk about their feelings and perceptions without fear of negative sanctions.

From the point of view of the information seeker, we argue that under most conditions seekers will attempt to ingratiate themselves to target persons in order to encourage them to reveal information about themselves. Employing relaxation as an information-gaining strategy involves two distinct steps: (1) inducing the target to like and feel at ease with the seeker; (2) as a consequence, the target becomes willing to talk about himself or herself. Extant theory and research have investigated both of these links. First, Jones (1964) and Jones and Wortman (1973) discussed and documented a number of strategies persons may use to ingratiate themselves to each other. In addition, Rosenfeld (1966) found that when persons were asked either to seek or to avoid gaining approval from others, there were a considerable number of differences in individuals' verbal and nonverbal behaviors. Approval seekers spoke more frequently and for longer durations than did avoiders. Moreover, seekers showed more smiles, positive head nods, and gesticulations than did their approval-avoiding counterparts. In a subsequent study, Rosenfeld (1967) reported that approving responses from an interviewer encouraged interviewees to reciprocate both smiles and positive head nods more frequently. In a similar study, Mehrabian and Williams (1969) found that persons who were asked to attempt to persuade another were more likely to display greater eye contact, increased rates of positive head nodding, gesticulation, facial activity, speech rate, speech volume, and intonation. Obviously, there is some degree of convergence between the findings of this study and Rosenfeld's (1966), even though participants in these studies were asked to achieve what are ostensibly different interaction objectives. One explanation for this convergence is that those persons in the persuasion study were employing the implicit hypothesis that to be persuasive with their targets they must first win their approval. In support of such reasoning, Clore and McGuire (1974) found that the primary determinants of attraction to conversational partners were the extent to which they displayed positive responses, negative responses, and dissimilarity statements during their interactions. Other studies (Bond, 1972; Coutts, Schneider, & Montgomery, 1980; Ickes, Patterson, Rajecki, & Tanford, 1982) examined the impact of preinteraction expectations on subsequent interaction behavior.

Research investigating the second link in our proposed chain has examined the relationship between liking and self-disclosure. Our concern here is with the proposition that liking induces self-disclosure rather than the opposite relationship, although attempts have been made to study both causal directions (for reviews, see Cozby, 1973; Taylor, 1979). Colson (1968) found that persons who received social approval from an interviewer were more likely to disclose information about themselves. Similarly, Taylor, Altman, and Sorrentino (1969) reported that persons receiving positive reinforcement

both talked more and disclosed more about themselves than did persons receiving negative reinforcement. However, Taylor et al. failed to find support for Aronson and Linder's (1965) gain-loss of esteem hypothesis, which asserts that persons who give constant approval to others will be less attractive to them than will persons who first give disapproval and then give approval.

While the research reviewed above supports the notions that persons who are given the goal of ingratiating themselves to others will display verbal and nonverbal behaviors that are different from those of persons not instructed to do so and that persons who are more attractive are more likely to receive both more talk and more intimate disclosures from others, there is no direct evidence to support the proposition that persons who are interested in gaining information from others will adjust their verbal and nonverbal behavior in ways that will make themselves potentially more likable to the targets of their information-seeking attempts.

Thus conversational participants in the present study were given one of the following three conversational goals: (1) find out as *much* as possible about their partner (High Seekers), (2) find out as *little* as possible about their partner (Low Seekers) or (3) carry out a "normal" interaction (Normals). Examination of verbal and nonverbal behaviors, observers' ratings, and participants' self-reports were performed to determine the ways in which persons given these conversational goals would differ from each other. Based upon the research reviewed earlier, we expected that persons placed in the High Seeker role would be most likely to display behaviors that would enhance their attractiveness and put their conversational partners at ease, while Low Seekers would be least likely to manifest such behaviors. We felt that normals would fall somewhere between the High and Low Seekers.

METHOD

Since the data analyzed in the present study are part of a larger project, another segment of which has been reported previously (Berger & Kellermann, 1983), only a summary of methods and procedures will be presented here. The interested reader can consult Berger and Kellermann (1983) for a more detailed discussion.

Participants

Participants in this study were 96 Northwestern University undergraduates enrolled in various communication courses. These individuals were paired in 48 dyads.

Procedure

Participants were randomly assigned to one of four conditions. The conditions were created by varying instructional sets given the participants before they entered the interaction situation. Participants were asked not to talk about their instructions during the interaction, and participants were strangers to each other. After reading their instructions, participants interacted for a period of five minutes, during which their interactions were videotaped with their knowledge. Participants were then ushered into separate rooms, where they indicated on audiotape what their goals were in the interaction and how they achieved those goals.

Manipulations

Three different sets of instructions were used to create four conditions. The first part of the instructions was identical for all participants. Those receiving High Seeker instructions were told to find out as much as possible about their partners during their conversations. Low Seekers were instructed to find out as little as possible about their conversational partners. The wording of these instructions was virtually identical, with the exception of the critical wording differences. Normal instructions said nothing about how much or how little information a participant was to acquire from his or her partner. The instructions contained no directions concerning how much or how little information participants should reveal about themselves, nor did the instructions indicate how long the conversations would last. No suggestions were made concerning how conversational goals might be reached. Four types of dyads were created randomly by pairing persons with similar or different instructions: High-High, Low-Low, High-Low, and Normal-Normal. The Normal-Normal dyads served as a baseline from which to assess between-condition differences.

Interaction Indices

Three sources of data were employed to investigate relaxation as an information-gaining strategy. First, coders who were blind to the experimental conditions of participants independently recorded judgments about the frequency and duration of various verbal and nonverbal behaviors. Second, judges made several global judgments (impressions) about the interaction participants on a number of rating scales. Finally, the postinteraction protocols were analyzed to determine the extent to which the participants could verbalize about their use of the relaxation strategy. For analytic purposes, the five-minute interactions were divided into ten 30-second intervals. The frequency and duration judgments were made on the basis of these intervals; however, the global judgments were made only once at the

Table 15.1
Relaxation Indices

	r	*n*
Frequency/Duration Indices		
questions (frequency)	.88	40
verbal backchannels (frequency)	.96	40
positive head nods (frequency)	.93	40
smiles (frequency)	.62	480
forward body lean (duration)	.99	50
vocalizations		
average duration	.79	10
total duration	.96	10
frequency	.86	10
pauses		
average duration	.83	10
total duration	.89	10
frequency	.77	10
switching pauses		
average duration	.82	10
total duration	.86	10
frequency	.82	10
floor possessions		
average duration	.89	10
total duration	.99	10
frequency	.85	10
simultaneous speech		
average duration	.68	10
total duration	.77	10
frequency	.80	10
Global Judgments		
evaluative-nonevaluative	.77	10
pleasant-unpleasant	1.00	10
directive-nondirective	.94	10
relaxation of self	.86	48
make partner comfortable	.95	48
encourage partner to talk	.68	48
fluency	.77	48
social appropriateness	.58	48
efficiency	.67	36

Note: For frequency/duration indices, n represents judgments across 10 time intervals for n/10 number of conversations. For global judgments, n represents ratings of n different individuals in n different conversations. Reliabilities are expressed as correlations between coders.

conclusion of the five-minute interaction. Both the frequency/duration measures and the global judgments were selected as empirical indicators of the relaxation strategy. These indices are displayed in Table 15.1, along with coder reliabilities for each index.

Consistent with previous research on approval seeking and positive reinforcement, the frequency of questions (Mehrabian, 1971), verbal backchannels (Yngve, 1970), positive head nods (Mehrabian & Ksionzky, 1971), and smiles (Mehrabian, 1971) was coded by one of three pairs of observers. Frequency counts were also made for speech parameters of vocalizations, pauses, switching pauses, floor possessions, and simultaneous speech, employing Jaffe and Feldstein's (1970) definitions.[1] These speech parameters have been isolated as important expressive behaviors (for review, see Cappella, 1981; Harper, Wiens, & Matarazzo, 1978; Siegman & Feldstein, 1979). In addition, the average and total durations of these speech parameters were obtained. Duration information was also collected on forward body lean (Mehrabian & Ksionzky, 1971). These behaviors have been identified by Mehrabian (1971) as affiliative, relaxing, or ingratiation-based behaviors. Intercoder reliabilities were calculated over 30-second intervals for a varying number of conversations, with four as a minimum. As can be seen from Table 15.1, the coders were able to count and time reliably these behavioral indices of relaxation.

The global judgments employed to index the relaxation strategy were obtained by having observers rate each participant on the extent to which the participant was pleasant (Mehrabian & Ksionzky, 1971), evaluative, and directive, measures suggested by the psychotherapeutic literature (Rogers, 1951). Furthermore, observers made global judgments about the extent to which participants were relaxed or comfortable (self-relaxation), the extent to which participants tried to make their partner relaxed or comfortable (other-comfortableness), and the extent to which participants encouraged their partners to talk (encouragement). A dyadic rating was made of the fluency of the conversation and assigned to each participant in the conversation. For theoretic purposes, participants were judged on the social appropriateness of their behavior and the efficiency with which they pursued their interaction goal. Given the nature of the efficiency judgment, raters were informed of each participant's goal; Normals, who were not given an explicit interaction goal, were not rated. Seven-point scales were used for all ratings of global judgments (1 = low; 7 = high).

Postinteraction Protocols

The postinteraction protocols were analyzed in two different ways. First, two judges, blind to the condition of the participants, read each protocol and estimated which instruction set the participant had received and

Table 15.2
Distribution of Relaxation-Related Techniques as Reported by Participants

Technique	Frequency of Mention			
	High Seekers	Low Seekers	Normals	Totals
Encouragement	4	1	0	5
Discouragement	1	3	0	4
Comfort (total)	7	0	7	14
make self comfortable	(0)	(0)	(4)	(4)
make other comfortable	(6)	(0)	(1)	(7)
make conversation comfortable	(1)	(1)	(1)	(3)
Discomfort (total)	0	5	0	5
make self uncomfortable	(0)	(2)	(0)	(2)
make other uncomfortable	(0)	(1)	(0)	(1)
make conversation uncomfortable	(0)	(2)	(0)	(2)
Positive feedback (total)	7	2	2	11
behavior	(5)	(2)	(0)	(7)
appearance	(2)	(0)	(2)	(4)
Negative feedback (total)	0	16	0	16
behavior	(0)	(6)	(0)	(6)
appearance	(0)	(10)	(0)	(10)
Positive self-presentation	2	0	3	5
Negative self-presentation	0	3	0	3
Noncontrolling	6	1	2	9
Controlling	0	3	0	3
Total strategies mentioned				75

whether the instructions had been understood. The two judges agreed 100 percent of the time on these estimates. The postinteraction protocols were also coded by two judges with reference to the strategies that participants indicated they used to achieve their goals. Persons who indicated that they utilized relaxation or discomfort strategies in some way were coded into one of the categories shown in Table 15.2.

Strategy coding was done in two steps. First, judges independently read each protocol and decided whether or not the participant indicated that he or she had used relaxation or discomfort to achieve the objective. Across all participants' protocols, the two judges agreed 94.7 percent of the time on this

judgment. Disagreements were discussed until a decision could be made. For those participants identified as using relaxation or discomfort, the specific techniques mentioned were then coded into the categories shown in Table 15.2. Since a participant could mention more than one technique, some individuals contributed multiple responses to the categories shown in Table 15.2. Of the 75 strategies mentioned, two judges agreed on the placement of these strategies into categories 93.4 percent of the time. As before, disagreements were discussed until they could be placed into a category.

The encouragement and discouragement categories in Table 15.2 refer to the extent to which the participant aided or hindered talking by the conversational partner; whether the partner was "drawn out" or "interrupted" and "cut off." The comfort and discomfort categories refer to the ease (informality) or awkwardness (formality) of the interaction. Positive feedback behavior includes head nods, backchannels ("uh-huh," saying "yes") and other positive cues, whereas negative feedback behavior references gaze avoidance, crossed arms, crossed legs, distant body position, and negative cues. Positive feedback appearance refers to such behaviors identified as "appearing interested," while negative feedback appearance includes "reacting strangely," "being nonresponsive," and "being silent." A positive self-presentation includes being "friendly," "interesting," "expressive," and "pleasant," whereas "rudeness" and "insensitivity" define the negative self-presentation category. Noncontrolling and controlling refer to directing the action in the conversation, noncontrolling including such ideas as "don't push," "don't direct conversation," "just talk," and "listen." Controlling is referenced by such statements as "direct conversation" and "dominate conversation."

RESULTS

For all results to be reported, one participant from each dyad was randomly deleted from the analysis to assure independence of observations in the various conditions. This procedure was deemed necessary because between-dyad correlations within conditions revealed significant correlations on many of the measures. This deletion procedure presents spurious interactions stemming from mutual influence effects from being reported (Kraemer & Jacklin, 1979). Thus the data from 48 individuals (one individual per dyad) were used in all analyses.

Manipulation Checks

All of the participants included in this analysis accurately identified their interaction goal related to information seeking. Furthermore, judges reliably ($r = .92$) made ratings on five-point scales of the extent to which each

participant sought information from his or her partner. A one-way ANOVA by the participant's condition (High Seeker, Low Seeker, Normal) on these information-seeking ratings revealed a significant main effect ($F = 31.24$, $df = 2/93$, $p < .001$), with the mean for Normals at 3.15, High Seekers at 3.88, and Low Seekers at 2.11. Newman-Keuls tests indicated that each group was significantly different from every other group ($p < .05$). Thus not only were the participants aware of their information-seeking instructions, but judges were able to detect differences in information-seeking behavior that were consistent with the instruction sets.

That the use of the relaxation strategy varied significantly by the participant's information-seeking condition was demonstrated in two ways. First, inspection of the postinteraction protocol data presented in Table 15.2 reveals that High Seekers reportedly encouraged their partners to talk; made themselves, their partners, and the conversations comfortable; used positive feedback; employed positive self-presentations; and were noncontrolling in the conversation. Low Seekers, by contrast, discouraged their partners from talking; made themselves, their partners, and the conversation uncomfortable; employed negative feedback; offered negative self-images; and controlled the conversation. Second, the extent to which participants tried to make their conversational partners comfortable was analyzed. Ratings of information seeking correlated .41 with ratings of other-comfortableness. A one-way ANOVA by participant's information-seeking condition revealed that other-comfortableness varied significantly as a function of the participant's condition ($F = 4.87$, $df = 2/45$, $p < .01$). Newman-Keuls tests indicated that High Seekers ($M = 5.03$, $SD = 1.44$) and Normals ($M = 5.33$, $SD = 1.33$) tried significantly more than did Low Seekers ($M = 3.77$, $SD = 1.69$) to make their conversational partners comfortable. Thus not only was the experimental induction of information seeking successful, but the underlying assumption of variations in relaxation strategy use was verified as well.

Intermeasure Relationships

Given the potential for the various measures employed as indices of relaxation to be correlated, a factor analysis was conducted to determine if combined measures could be constructed. In order to include the behavioral measures (frequency/duration ratings), a total for each behavior was computed for the conversation. A principal components factor analysis with orthogonal rotation was conducted on all totaled behavioral measures and on all global judgments excluding social appropriateness and efficiency; information seeking was included. Caution in interpreting the results is necessary, as the matrix to be decomposed was nearly singular, one negative eigenvalue occurred, and the iterative procedure was stopped after only two iterations because the communalities exceeded one.

Table 15.3
Factor Analysis of Overall Measures

	Factors						
	Talk Time	*Atmosphere*	*Monologue Rhythm*	*Control*	*Turn Taking*	*Interaction Rhythm*	*Nonverbal Backchannels*
Measure	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Average vocalization duration	.68						
Total vocalization duration	.93						
Average floor possession length	.75						
Total floor possession length	.89				−.41		
Fluency		.59					
Self-comfort		.66					
Other-comfort		.76					
Pleasantness		.67					
Vocalization frequency			.70		.59		
Pause number			.91				
Total pause length			.89				
Information seeking				.79			
Question frequency				.75	.42		
Directiveness				.69			
Encouragement		.42		.67			
Switching pause frequency					.64		
Floor possession frequency					.92		
Average switching pause duration						.88	
Total switching pause duration						.92	
Head nods							.80
Smiles							.69
Eigenvalue	6.70	4.29	3.41	1.80	1.52	1.35	1.20
% variance explained	23.90	15.30	12.20	6.40	5.40	4.80	4.30

For the 28 variables entered into the factor analysis, 7 factors emerged (with eigenvalues greater than one) explaining 72 percent of the variance. Of the 28 variables, 7 failed to load on any of the seven factors—average pause duration, average simultaneous speech duration, total simultaneous speech duration, simultaneous speech frequency, evaluation, body lean duration, and verbal backchannels. Table 15.3 summarizes the results of the factor analysis for the seven factors that did emerge. The first factor, labeled "talk time," essentially refers to utterance duration. The second factor, "atmosphere," is based on perceptions of relaxation, comfort, and pleasantness. The third factor, "monologue rhythm," is defined by speech parameters governing verbal production *within* a floor possession. The "control" dimension (Factor 4) appears to define the extent to which a participant directs the conversation—that is, controls it. "Turn-taking" (Factor 5) is self-explanatory: the number of switching pauses must necessarily (by definition) be correlated with the number of floor possessions. Factor 6, "interaction rhythm," defines the patterning *between* speaker changes of the floor. Factor 7, "nonverbal backchannels," indicates that head nods and smiles are highly related.

It is clear the factor solution is not optimal. The potentially unreliable results stemming from problems in the rotation process, and the fact that 28 measures are reduced to only 7 factors and 7 leftover measures, seriously undermine the ability to analyze the data in reduced form. Furthermore, similar loadings of totaled behavioral measures does *not* imply that similar trends in these measures will occur over time. Consequently, the factor analysis was used only as a guideline for generating expectations about which measures might perform similarly across conditions and over time. No reduced or composite measures were constructed.

Information Seeking and Relaxation

It was hypothesized that the participant's information-seeking set would influence the use of the relaxation strategy. One-way ANOVAs were employed to analyze the global judgments; repeated measures ANOVAs were used to analyze the behavioral indicators that were repeated over the ten 30-second intervals. Since no interaction effects were located for information-seeking conditions over time, the main effects for all measures will be reported as a group in order to assess the hypothesized differences in relaxation strategy use. The results will be grouped according to the factors emerging in the factor analysis.

Nonverbal backchannels (head nods, smiles) operated similarly across information-seeking conditions; that is, neither varied significantly. However, the number of verbal backchannels was found to be different across information-seeking conditions ($F = 3.15$, $df = 2/45$, $p < .05$). Newman-

Keuls tests indicated that High Seekers (M = 22.26, SD = 11.99) and Normals (M = 20.00, SD = 7.68) engaged in more verbal backchanneling than did Low Seekers (M = 14.53, SD = 6.73). These data indicate that the *form* of backchanneling, verbal or nonverbal, matters in discriminating the use of a relaxation strategy. Like nonverbal backchannels, forward body lean duration did not differ significantly across information-seeking conditions.

Talk time speech parameters (total and average vocalization length, total and average floor possession duration) also failed to vary significantly by the condition of the participant. Similarly, monologue rhythm speech parameters did not vary in response to differences in participants' information-seeking levels. However, a significant condition of participant (High Seeker, Low Seeker) × condition of partner (High Seeker, Low Seeker) interaction did occur for vocalization frequency ($F = 4.45$, $df = 1/32$, $p < .04$). Analysis of the simple effects revealed that when High Seekers were paired with Low Seekers (M = 77.57, SD = 27.07), the frequency of vocalization was higher ($F = 7.77$, $df = 1/32$, $p < .05$) than when Highs were paired with other Highs (M = 56.33, SD = 13.87) or when Lows were paired with other Lows ($F = 5.45$, $df = 1/32$, $p < .05$; M = 55.17, SD = 17.53). Lows paired with High Seekers (M = 62.60, SD = 20.68) produced equivalent frequencies of vocalizations as Lows paired with other Lows or Highs paired with Highs. Thus vocalization frequency is higher for High-Low dyads than for any other pairing. In general, however, talk time and monologue rhythm parameters tend not to be affected by differing levels of information seeking.

The turn-taking parameters did not differ significantly by information-seeking conditions; however, the interaction parameters (average and total switching pause duration) did vary as a function of information-seeking conditions (average switching pause duration: $F = 3.32$, $df = 2/45$, $p < .04$; total switching pause duration: $F = 4.43$, $df = 2/45$, $p < .02$). While Newman-Keuls tests were unable to locate the between-groups differences for average switching pause duration (Highs: M = 1.33, SD = .65; Normals: M = 1.32, SD = .50; Lows: M=2.46, SD = 2.31), the means are dispersed in a manner similar to the means of total switching pause duration. In the case of total switching pause duration, Newman-Keuls tests revealed that Lows (M = 52.77, SD = 47.27) spent significantly more total time engaging in switching pauses than did Normals (M = 27.50, SD = 14.10) or Highs (M = 24.79, SD = 16.17). The frequencies underlying rhythms of floor exchange, therefore, appear less important than the time/duration parameters in discriminating use of a relaxation strategy. Closely related to these results is the finding that Low Seekers paused significantly longer, on the average, than did High Seekers or Normals ($F = 5.47$, $df = 2/45$, $p < .007$; Highs: M = 1.43, SD = .62; Normals: M = 1.63, SD = .83; Lows: M = 2.58, SD = 1.56). Thus duration of various pausing behaviors appears to be

a strong indicator of strategies of relaxation or discomfort. Simultaneous speech in terms of average length, number of interruptions, or total length did not differ significantly by information-seeking conditions.

The behavioral measures indicate that that High Seekers, compared to Lows and Normals, used more verbal backchannels, paused for less time within their own vocalizations, and paused for less time when gaining possession of the floor. These behavioral measures correlate with the extent to which participants made their partners comfortable (verbal backchannels: $r = .36$; average pause duration: $r = .45$; average switching pause duration: $r = -.45$; total switching pause duration: $r = -.44$), suggesting that these differences in behavior are related to varying use of relaxation and/or discomfort strategies.

The perceptual correlates of relaxation were analyzed as well. The effects of global judgments loading on the atmosphere dimension (fluency, self-relaxation, other-comfortableness, pleasantness) did not perform similarly when analyzed as a function of information-seeking conditions. Fluency did not vary significantly across instructional sets. It was reported earlier that High Seekers and Normals attempted to make their partners more comfortable than did Low Seekers. In a similar manner, pleasantness was found to differ across information-seeking conditions ($F = 3.87$, $df = 2/45$, $p < .03$). High Seekers ($M = 4.58$, $SD = 1.12$) and Normals ($M = 4.42$, $SD = .90$) were judged to be significantly more pleasant than were Lows ($M = 3.71$, $SD = .85$). These findings indicate that other-directed behavior (other-comfortableness, pleasantness) more likely discriminates use of relaxation or discomfort strategies than do self-directed (fluency, self-relaxation) behaviors in creating an atmosphere for the interaction.

Such attempts as are made to create a more positive atmosphere might be the result of high levels of control behavior; that is, individuals exhibiting control in the interaction might try to decrease any negative effects of such control by creating a more positive atmosphere with reference to the conversational partner. Measures of control differed significantly across information-seeking conditions (directiveness: $F = 6.42$, $df \neq 2\%45$, $p < .004$; encouragement: $F = 4.84$, $df = 2/45$, $p < .01$; information seeking: $F = 13.88$ $df = 2/45$, $p < .001$; question asking; $F = 7.45$, $df = 2/45$, $p < .002$). In contrast to the information-seeking analyses reported earlier, Newman-Keuls tests indicate that while Low Seekers are less directive ($M = 3.24$, $SD = 1.82$), less encouraging of talk ($M = 4.24$, $SD = 1.48$), and less inclined to ask questions ($M = 5.65$, $SD = 4.77$) than are High Seekers (directiveness: $M = 5.21$, $SD = 1.55$; encouragement: $M = 5.50$, $SD = .99$; question asking: $M = 13.78$, $SD = 8.26$), Normals cannot be differentiated from Highs on the basis of directiveness ($M = 4.33$, $SD = 1.56$), encouragement ($M = 5.38$, $SD = 1.46$), or question asking ($M = 12.92$, $SD = 6.79$). Thus,

contrary to their self-reports, High Seekers employed control techniques more than did Lows.

The evaluative aspects of verbal interaction did not differ significantly by the participant's information-seeking condition. These findings indicate that High Seekers did attempt to make their conversational partners more comfortable than did Lows while seeking social information, indicated by the differences in the use of verbal backchanneling, switching pause duration, and pause duration. Furthermore, Highs were perceived as being more pleasant, directive, and encouraging than were Lows.

Determinants of Relaxation

Given that relaxation is not the sole interactive strategy individuals might employ to seek social information from others, exploratory data analyses were conducted to assist in the isolation of behaviors and judgments that typically accompany relaxation strategy use. Participants were divided into three approximately equal groups based on the extent to which they were judged to have made their partners comfortable, as this measure indi-

Table 15.4
Discriminant Analysis of Other Comfort

Standardized Discriminant Coefficients	
Variable	*Coefficient*
fluency	.91
pause frequency	.90
total switching pause duration	.84
question frequency	.66
self-relaxation	.60
positive head nod frequency	.50
average floor possession length	−.44
body lean duration	.37
verbal backchannels	.28
efficiency	−.22

Group Centroids	
low other-comfort	−1.56
medium other-comfort	1.08
high other-comfort	1.26

Classification Analysis (percentages)

	lows	mediums	highs	
lows	85.0	15.0	0.0	
mediums	8.7	73.9	17.4	
highs	0.0	20.0	80.0	
			79.17	correct

cates use of relaxation most directly. A stepwise discriminant analysis was conducted to isolate the most important indices of the relaxation strategy. Although two discriminant functions are possible, sufficient discriminating information did not remain after the first discriminant function to justify use and/or examination of a second (Wilks's lambda = .70, chi-square = 14.54, df = 9, $p < .10$). The canonical correlation for the first discriminant function was .83. Table 15.4 summarizes the results of the discriminant analysis, including information on the standardized discriminant coefficients, group centroids, and the classification analysis summary table.

Of the 29 measures in Table 15.1, 10 are contained in the first discriminant function, although the frequency of interruptions (simultaneous speech), average vocalization duration, and encouragement to talk were entered and then removed. The most important discriminators of the relaxation strategy are fluency, pause frequency, and switching pause duration; as these measures increase, more extensive use of the relaxation strategy occurs. Relaxation is also positively related to the number of questions asked and the relaxation of the target. As head nods, duration of forward body lean, and verbal backchannel frequency increase, the social information seeker is perceived as increasing the attempt to make his or her conversational partner comfortable. Shorter floor possessions are also indicative of relaxation strategy use. In partial confirmation of the two-dimensional space posited to underlie interactive information-seeking strategies, efficiency was perceived to decrease as employment of a relaxation strategy increased. The classification analysis indicates that the discriminant function has a great deal of power, in that almost 80 percent of the participants could be correctly classified into their actual group.

Relating Behaviors to Judgments

The results of the factor analysis suggested that behavioral indicators of relaxation do not overlap to any significant degree with judgments of relaxation. To explore further the behavioral basis of the various global judgments, a series of stepwise regression analyses were conducted. Each global judgment was regressed on behavioral measures totaled for the conversation as a whole. The control factor (question-asking, information seeking, directiveness, encouragement) can be viewed as a relatively stable factor given the ANOVA results across information-seeking conditions. Similarly, the regression analyses isolate consistent predictor measures that are behaviorally based. Given that question-asking is a *behavioral* measure, it was expected that interrogation frequency should serve as a significant predictor of other control factors. As can be seen in Table 15.5, question-asking frequency is an important behavioral cue in all three remaining control measures—directiveness, information seeking, and encouragement. The total switching

Table 15.5
Regression Analyses on Control Factor Measures

Dependent Variable	R^2	*Adj* R^2	*Predictors*	*Beta*	*F*	*p*
Information seeking	.60	.57	question frequency	.61	37.16	.001
			total switching pause duration	−.39	13.57	.001
			total simultaneous speech duration	−.27	6.94	.012
Directiveness	.46	.41	question frequency	.54	16.46	.001
			floor possession frequency	−.44	9.74	.003
			total switching pause duration	−.28	5.72	.021
			vocalization frequency	.27	4.30	.044
Encouragement	.48	.46	question frequency	.53	22.63	.001
			total switching pause duration	−.31	7.88	.007

pause duration is another consistent cue in all three judgment control factors; the more time allotted to switching pauses, the less controlling the participant is perceived to be—the less directive, the less encouraging, the less seeking of information.

While the judgment measures of control have similar behavioral bases, these judgments can be differentiated in terms of behavioral cues only serving as predictors of one of the judgments. For example, the more time a dyad is engaged in simultaneous speech, the less a participant is perceived to be seeking information. Directiveness also has behavioral correlates of floor possession and vocalization frequency; as the number of floor possessions increases, directiveness decreases, whereas vocalization frequency is related positively to directiveness. More exchanges of the floor apparently permit less dominate or directive behavior by one participant in the dyad. Similarly, attempts to gain the floor rapidly (simultaneous speech, short switching pause duration) are used as cues for judgments of control.

The atmosphere factor (fluency, self-relaxation, other-comfortableness, pleasantness) tends not to be as cohesive in terms of the behavioral correlates of the individual measures. Table 15.6 summarizes the regression results for the atmosphere factor measures. While the ANOVA results indicated pleasantness and other-comfortableness performed similarly across information-seeking conditions, the regression analyses suggest that the behavioral cues for fluency and other-comfortableness are most similar. For

Table 15.6
Regression Analyses of Atmosphere Measures

Dependent Variable	R^2	*Adj* R^2	*Predictors*	*Beta*	*F*	*p*
Fluency	.41	.40	average pause duration	−.64	31.70	.001
Self-relaxation	.13	.11	switching pause frequency	−.36	7.02	.011
Other-comfortableness	.37	.34	average pause duration	−.62	24.53	.001
			pause frequency	.33	7.07	.011
Pleasantness	.25	.23	verbal backchannel frequency	.50	15.13	.001

these latter two judgments, average pause duration is inversely correlated. While pausing behavior of some kind tends to be the cue for most of the atmosphere measures, verbal backchannels serve as a behavioral predictor of pleasantness. As verbal backchannels and average pause duration are negatively correlated ($r = -.27$), the filling of pauses appears to be the cue for pleasantness judgments.

Relaxation Behaviors Over Time

The factor analysis of relaxation measures was computed on totals for the behavioral indices across the conversation. While totals for behavioral indices may load similarly on dimensions, trends over time may differ. However, the factor analysis results will serve as guidelines for expectations about the form of trends over time. Repeated measures ANOVAs over the ten 30-second intervals were conducted to examine the consistency of the use of behavioral relaxation techniques over the course of the conversation.

Nonverbal backchannels (head nods, smiles) behave differently over time. The frequency of head nods did not vary significantly over time, whereas the frequency of smiles did ($F = 5.35$, $df = 9/405$, $p < .001$). A trend analysis revealed significant linear ($F = 21.10$, $df = 1/45$, $p < .001$), quadratic ($F = 7.01$, $df = 1/45$, $p < .01$), and octal ($F = 5.65$, $df = 1/45$, $p < .02$) components. Figure 15.1, which displays the relationship of smiles to

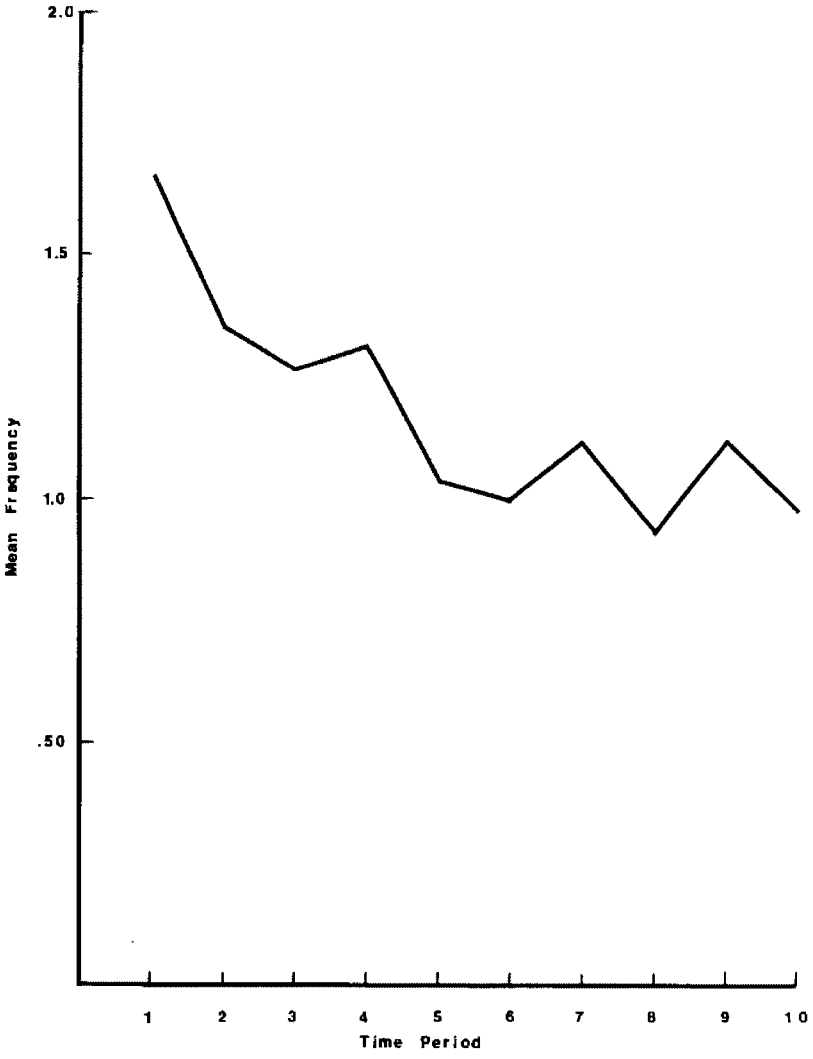

Figure 15.1. Smile frequency over time.

time, indicates the cyclical and downward trend in smile frequency during the conversation.

Verbal backchannel frequency also varied significantly as a function of time ($F = 2.71$, $df = 9/405$, $p < .055$). A trend analysis reveals significant quartic ($F = 6.61$, $df = 1/45$, $p < .01$) and quintic ($F = 4.81$, $df = 1/45$, $p <$

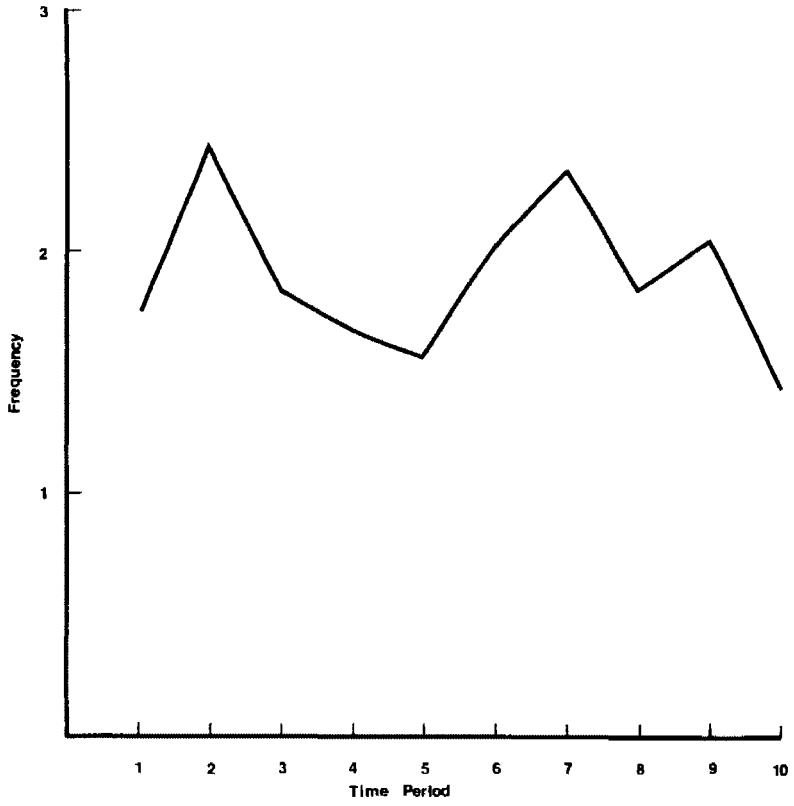

Figure 15.2. Verbal backchannel frequency over time.

.03) components to changes in verbal backchannel frequency over time. In Figure 15.2 it can be seen that verbal backchannels *cycle* upward and downward around an equilibrium of the sample mean ($M = 1.90$, $SD = .98$). Backchanneling, whether verbal or nonverbal, clearly depends on the exact type of backchanneling behavior when considering time effects. Positive head nods remain relatively stable, smiles cyclically decrease, and verbal backchannels cycle around an equilibrium.

Forward body lean duration evidenced a significant time × partner's information-seeking condition interaction ($F = 2.55$, $df = 9/288$, $p < .008$). As can be seen in Figure 15.3, except at intervals 1 and 4, participants conversing with High Seeking partners exhibited significantly different forward body lean duration than did participants conversing with Low Seeking part-

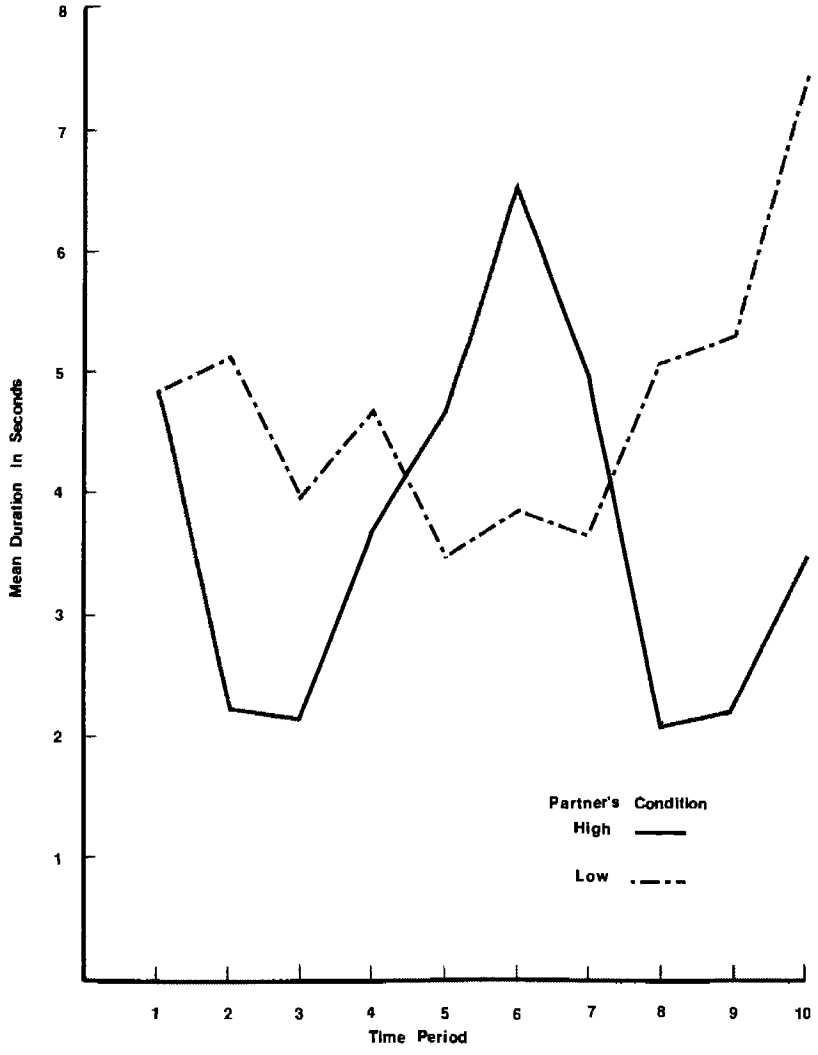

Figure 15.3. Body lean duration by condition of partner.

ners. Where one type of dyad peaks, the other reaches a trough. Participants with High Seeking partners appear to have sped up the overall cycle of forward body lean duration by four or five intervals; a phase shift appears to be occurring.

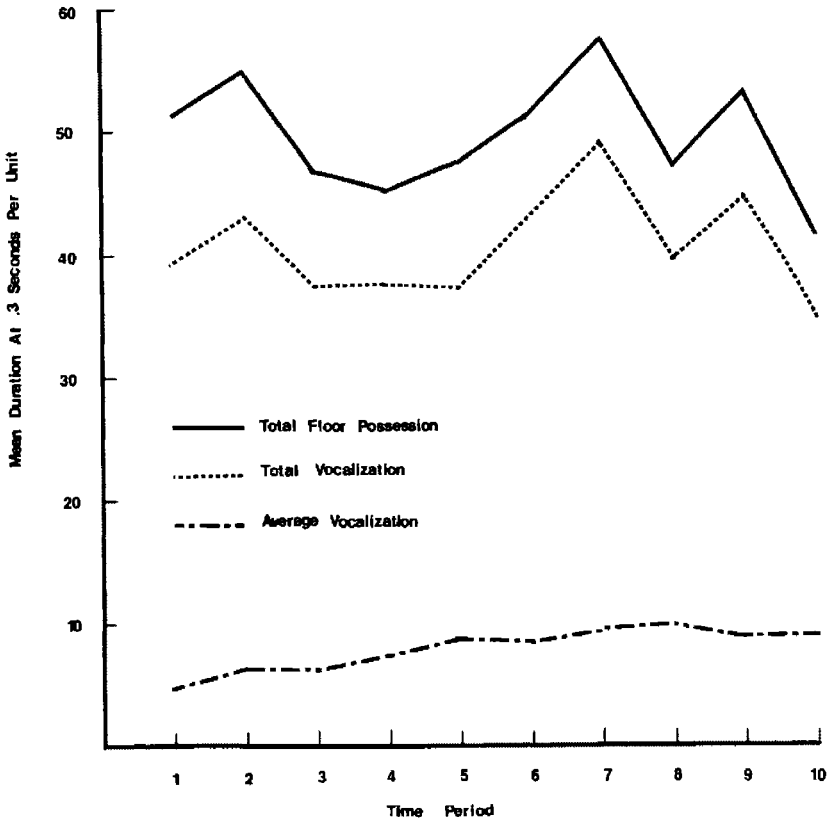

Figure 15.4. Talk time parameters over time.

All but one of the talk time measures varied significantly over the course of the conversation. Only average floor possession length fails to change significantly over time. Average vocalization duration ($F = 2.47$, $df = 9/405$, $p < .01$), total vocalization duration ($F = 3.19$, $df = 9/405$, $p < .001$), and total floor possession duration ($F = 3.15$, $df = 9/405$, $p < .001$) are not stable over time, though the trend analyses do not yield completely similar results. As Figure 15.4 illustrates, total vocalization duration and total floor possession duration have almost identical trajectories over time; both evidence a significant cubic component to the trend (total vocalization duration: $F = 11.38$, $df = 1/45$, $p < .002$; total floor possession duration: $F = 12.37$, $df = 1/45$, $p < .001$) and a significant quartic component (total vocalization duration: $F = 4.31$, $df = 1/45$, $p < .04$; total floor possession duration: $F = 4.32$, $df = 1/45$,

$p < .04$). A trend analysis of average vocalization duration, by contrast, yielded significant linear ($F = 15.51$, $df = 1/45$, $p < .001$) and quartic ($F = 5.92$, $df = 1/45$, $p < .02$) components. Thus total floor possession and vocalization duration, parameters ignoring the *frequency* of each event, cycle around their respective means (total vocalization duration: $M = 40.50$, $SD = 14.34$; total floor possession duration: $M = 49.64$; $SD = 14.31$), whereas average vocalization duration (including frequency and duration components) tends to increase over time even with some downward motion.

The monologue rhythm measures index the timing of speech within floor possessions. While including vocalization frequency, total pause duration, and pause frequency, only the frequency speech parameters evidenced significant time effects (vocalization frequency: $F = 9.71$, $df = 9/405$, $p < .001$; pause frequency: $F = 2.67$, $df = 9/405$, $p < .005$; total pause duration: $F = 1.81$, $df = 9/405$, $p < .06$). Figure 14.5 graphs the frequency monologue rhythm measures over time. A trend analysis of vocalization frequency revealed significant linear ($F = 54.38$, $df = 1/45$, $p < .001$), quadratic ($F = 4.59$, $df = 1/45$, $p < .04$), cubic ($F = 6.75$, $df = 1/45$, $p < .003$), and septic ($F = 6.75$, $df = 1/45$, $p < .01$) components. The pause frequency trend had significant quartic ($F = 4.95$, $df = 1/45$, $p < .03$) and septic ($F = 5.07$, $df = 1/45$, $p < .03$) components. As can be seen in Figure 15.5, vocalization frequency is decreasing cyclically over time, whereas pause frequency is cycling around its mean ($M = 2.43$, $SD = 1.65$).

The turn-taking measures both evidence significant variation over the course of the conversation (switching pause frequency: $F = 5.11$, $df = 9/405$, $p < .001$; floor possession frequency: $F = 14.46$, $df = 9/405$, $p < .001$). Switching pause frequency evidences significant linear ($F = 20.54$, $df = 1/45$, $p < .001$), quadratic ($F = 5.89$, $df = 1/45$, $p < .02$), and cubic components ($F = 7.11$, $df = 1/45$, $p < .01$) to its trend over the conversation; floor possession frequency follows a similar trajectory (linear: $F = 101.21$, $df = 1/45$, $p < .001$; quadratic: $F = 12.78$, $df = 1/45$, $p < .001$; cubic: $F = 6.12$, $df = 1/45$, $p < .02$). Examination of Figure 15.6 reveals, however, that switching pause frequency cycles through its trend about two intervals before floor possession frequency; the valleys and troughs of switching pause frequency occur just prior to the valleys and troughs of floor possession frequency. However, both turn-taking parameters, even though cyclically varying, decrease over time.

The interaction parameters (average and total switching pause duration) do not follow the same trajectory over the course of the conversation; average switching pause duration remains stable, whereas total switching pause duration varies significantly ($F = 2.35$, $df = 9/405$, $p < .02$). A trend analysis for switching pause duration revealed significant linear ($F = 4.71$, df

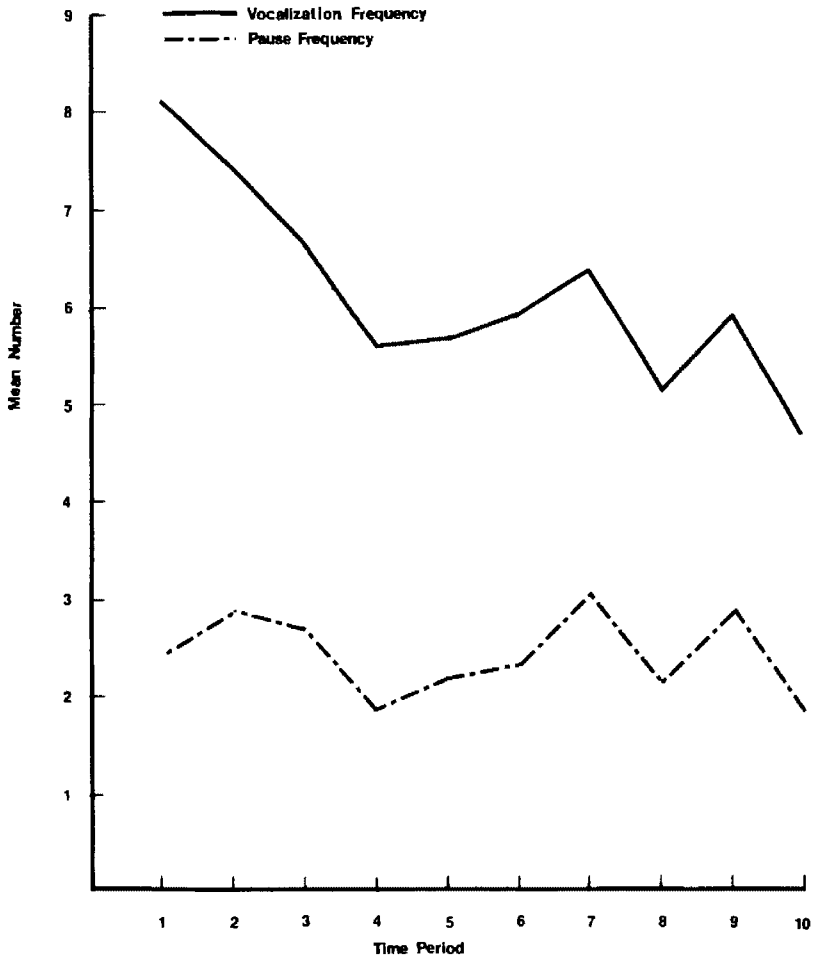

Figure 15.5. Monologue rhythm measures over time.

= 1/45, $p < .04$) and quadratic components ($F = 4.26$, df = 1/45, $p < .05$). As can be seen in Figure 15.7, switching pauses are longer in the initial stages of a conversation than in later stages. Average pause duration, average simultaneous speech duration, total simultaneous speech duration, and simultaneous speech frequency failed to show any significant changes over time.

In sum, many of the behavioral indices of relaxation exhibited cyclical

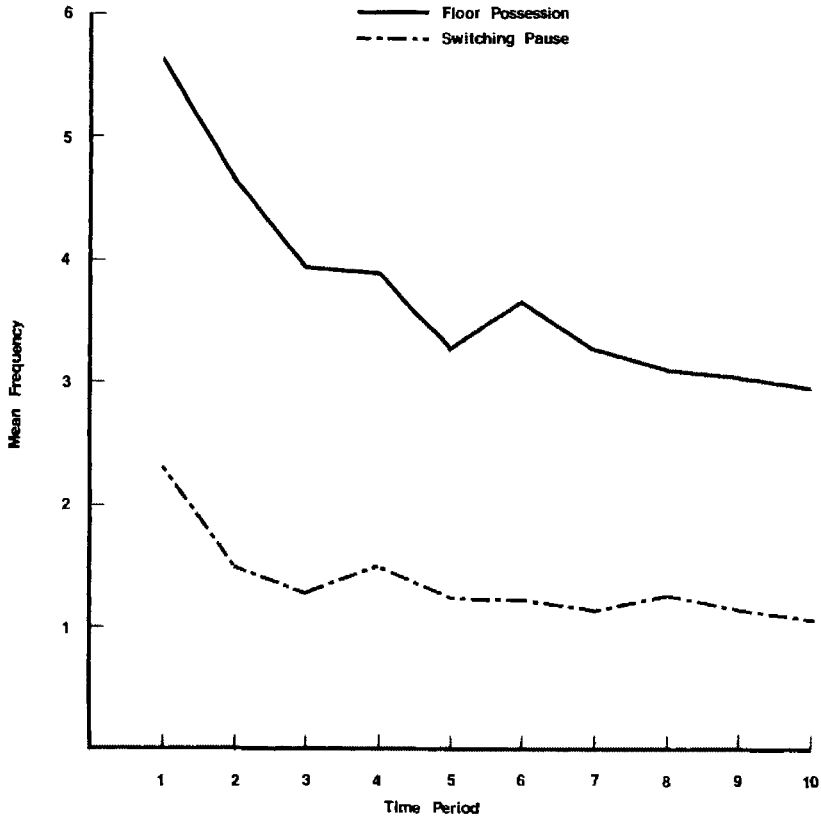

Figure 15.6. Turn-taking measures over time.

trajectories over time. It is important to note that the pause and vocalization frequency trends tend to match the trends for question-asking reported earlier by Berger and Kellermann (1983). Furthermore, the total switching pause duration trajectory tends to peak when question-asking troughs, and vice versa. The verbal backchannels frequency trend is quite similar to those of total floor possession duration and total vocalization duration. The behavioral measures of relaxation thus appear to vary over time in related trajectories.

DISCUSSION

The findings of the present study suggest a number of different tactical variations individuals employ when seeking social information in interaction

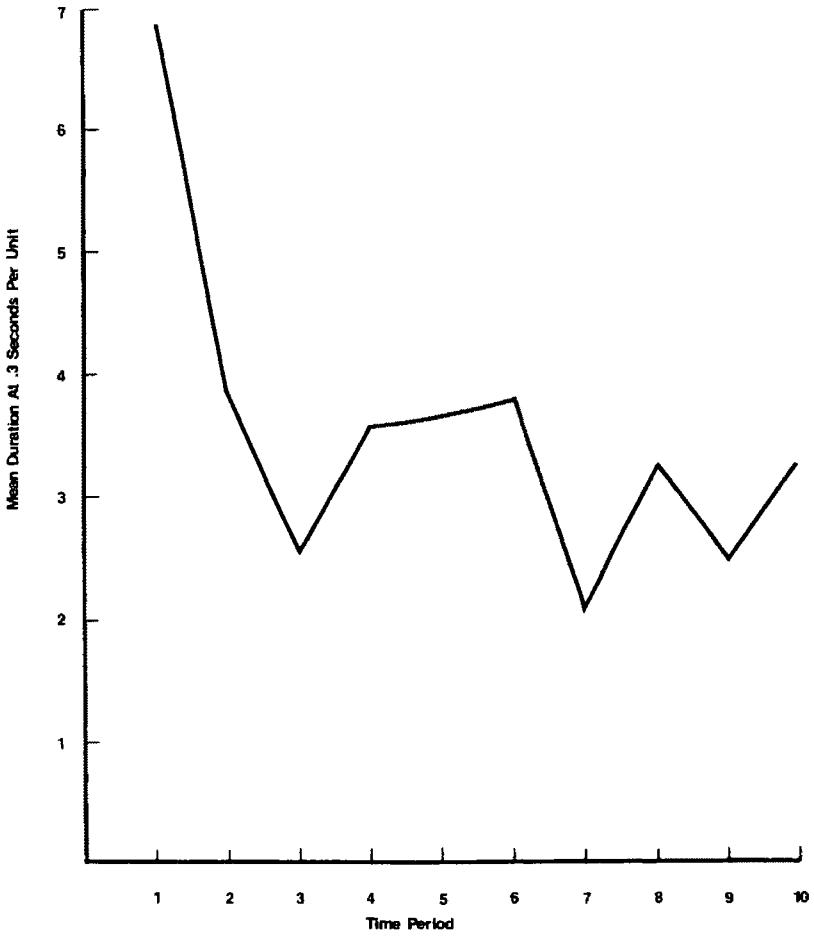

Figure 15.7. Total switching pause duration over time.

contexts through a strategy of relaxing their conversational partners. High Seekers employed a number of behavioral techniques in pursuit of this relaxation goal. In contrast to Lows, Highs behaviorally engaged in more verbal backchannels and questions, and less lengthy pauses and switching pauses. Furthermore, High Seekers were perceived as more pleasant, more directive, and more encouraging than were Lows. While Highs attempted to control the conversation more so than Lows, they simultaneously engaged in behaviors that made the interaction more pleasant for their conversational partners. The results of the discriminant analysis on other-comfortableness indicate that a relaxation strategy is employed *in conjunction* with behaviors

typically associated with an interrogation strategy (Berger & Kellermann, 1983). Use of relaxation techniques might therefore be a means of offsetting potentially intrusive interrogation sequences while still allowing information-seeking goals to be accomplished efficiently. In other words, continuous and relentless interrogation might be considered socially inappropriate; to maximize efficiency without violating social norms, a relaxation strategy may be implemented to balance optimally the tension between appropriateness and efficiency.

The rather consistent results indicating that Normals are comparable to High Seekers on almost all relaxation techniques suggests that a ceiling effect on this optimization process may occur, at least with respect to employment of relaxation behaviors. Earlier research (Berger & Kellermann, 1983) reported that Highs and Normals were relatively similar with respect to interrogation strategy use. It may well be that our initial interaction scripts (Abelson, 1976, 1981; Berger & Roloff, 1980, 1982; Schank & Abelson, 1977) cognitively direct information seeking to be optimally appropriate and efficient.

This optimality hypothesis is consistent with the assumptions and predictions of uncertainty reduction theory (Berger, 1979; Berger & Calabrese, 1975). In this theory, information seeking is posited to be a primary means of reducing uncertainty about, or coming to know, other individuals. Furthermore, this optimization hypothesis implies that the differences between High and Low Seekers are due to Low Seekers engaging in *discomfort* strategies rather than High Seekers employing relaxation strategies to any greater extent than individuals typically do in routine social encounters. Initial social interaction might therefore be characterized as balancing the competing desires of seeking information efficiently and acting appropriately. Engaging in a discomfort strategy would thus be indicative of a minimal desire to reduce uncertainty through the suppression of information-seeking behaviors and the engagement of discomfort behaviors.

It is clear that the tension between efficiency and appropriateness is not directly perceived by social actors. High Seekers indicated in their post-interaction protocols that they did *not* engage in controlling behaviors, whereas Low Seekers reported they attempted to control the conversation. All behavioral and observer-perceived measures of control, however, were highest for the High Seekers and correlated with efficiency. These results verify the hypothesis that control is the distinguishing feature of efficiency. A potential explanation for the disjunction between High Seekers' behavior and cognition about control can be found in work on inconsistent messages in the psychotherapeutic literature. While therapists *verbally* report the desire for, and actuality of, use of nondirective interaction strategies with clients, Truax (1966) found that nonetheless *nonverbal* cues were used to

shape the behaviors of clients. Haley (1963) argues that the therapist may be sending inconsistent messages—nondirective verbally but directive nonverbally. Mehrabian (1970) argues that such inconsistent messages are beneficial for camouflaging intentions, an outcome social information seekers as well as therapists may desire. The effectiveness of a Rogerian therapist can thus "be attributed in some measure to his use of implicit reinforcers in a context which, explicitly at least, [he] claims to wish not to openly influence the patient" (Mehrabian, 1970, p. 81).

The efficient but socially appropriate social information seeker may be analogous to a Rogerian therapist—masking intentions by giving inconsistent cues but nonetheless reinforcing information provision by conversational partners through nonverbal relaxation techniques. The regression analyses revealed that switching pause duration, floor possession number, vocalization frequency, and question-asking frequency—all nonverbal cues—are the behaviors underlying judgements of directiveness and control of a conversation. While no judgments were made solely on the directiveness of verbal content, it is likely that observers were basing their directiveness judgments on nonverbal cues while High Seekers were reporting directiveness of verbal content. Earlier research reported a bias in the postinteraction protocols for content-related information rather than structure or strategy information (Berger & Kellermann, 1983). Thus it is likely that efficient and appropriate information seeking utilizes inconsistent messages of control to balance optimally the tension between efficiency and appropriateness.

The inconsistent message hypothesis also may be used to explain Low Seekers' disjunction between cognition and behavior. While Lows may have verbally attempted to control the conversation, their nonverbal behaviors may have granted directing power to High Seekers. Such an explanation is reasonable given the longer pause and switching pause durations exhibited by Low Seekers, indicating *abdication* of control rather than assumption of control.

If the constraint of efficiency in seeking information were removed, fewer control behaviors might be exhibited. The discriminant analysis of the three other-comfortableness groups (High, Medium, Low) are supportive of this expectation. Behaviors Mehrabian (1971) identified as affiliative, ingratiating, or relaxing are variables in the discriminant function. Furthermore, many of these measures—fluency, pause frequency, self-relaxation, positive head nods, floor possession duration, forward body lean duration—do not discriminate across information-seeking conditions where efficiency constraints may be present. However, switching pause duration, verbal backchannels, and question-asking frequency are not only variables in the discriminant function but also serve to differentiate High Seekers from Low Seekers. Such findings imply that constraints related to participants' achieving their information-seeking goals interfered with performance of

behaviors that would maximize the conversational partner's comfortableness at the expense of efficiency. Examining conversations where so-called pure forms of interrogation and relaxation strategies occur would be useful for verifying these optimization hypotheses.

The results of this study also lend support to the two-step chain model of goal achievement described earlier. Behaviors other researchers have identified as promoting attitude change, attraction, approval-seeking, or approval-inducing goals were employed here by individuals to facilitate social information seeking. That identical behaviors are employed to achieve different and seemingly unrelated goals suggests that some common process is mediating the movement from goal acceptance to goal fulfillment. It is our belief that when goal fulfillment depends on the actions or reactions of another person, an individual will first attempt to induce the target to like or feel at ease with the individual, under the assumption that positive regard will promote more favorable target response. For this mediation hypothesis to become operative, the goal seeker must perceive himself or herself to be *dependent* on others for goal fulfillment: ingratiation and positive regard would seemingly be unnecessary when an individual could achieve a goal independently. Increasing dependence upon another for achievement of some goal has been shown to elevate information-seeking behaviors (Berscheid, Graziano, Monson, & Dermer, 1976; Swann, Stephenson, & Pittman, 1981; Tjosvold & Fabrey, 1980).

This interdependence hypothesis suggests the operation of a generic schema in which the superordinate goal—in this case the acquisition or nonacquisition of social information—is achieved by reaching the subordinate goal of gaining or failing to gain social approval. While we have suggested that gaining social approval might also be employed to reach the superordinate goal of persuading a target person, social approval might not always be employed as a means to achieve various social goals. Obviously, both persuasion and information acquisition can be accomplished through a number of less positive means, such as threat and intimidation. Here again note that while such means for achieving persuasion or information may be potentially efficient, assuming that one has the requisite power to make threats credible, they are toward the low end of the social appropriateness dimension.

Regardless of the information-seeking goal of the social actor, relaxation behaviors tend to exhibit cyclical trajectories over time. While some cyclically decrease, others cycle around an equilibrium point. Such cyclicity was also revealed for interrogation behaviors (Berger & Kellermann, 1983). Perhaps most interesting is the patterning of the cycles across behavioral measures. Trajectories for pause and vocalization frequencies tend to match trends for question-asking frequency, whereas switching pause duration follows a trajectory cyclically opposite that of question-asking. In other words,

when switching pause durations start on the downward part of a cycle, question-asking frequency tends to increase. Such findings provide even stronger support for the "power up-glide" hypothesis suggested by Berger and Kellermann (1983). Immediately following longer pausing between floor possessions, it appears that questions are asked to "power up" the conversation, letting it "glide" until the next time "powering up" is required. McLaughlin and Cody (1982) recently reported that a question-answer sequence is a "verified behavior sequence" following conversational lapses. What the present study adds is the cyclical nature of such conversational lapses and the interaction between lapses and question-asking behavior over time.

The patterns of cyclicity evidenced by the behavioral measures clearly differ over the course of initial interactions. Both total and average duration measures for pausing, simultaneous speech, average duration for floor possessions and switching pauses, and frequency measures for positive head nods and simultaneous speech are insensitive to conversational length, remaining stable throughout initial conversations. Cyclically decreasing patterns occur for total switching pause duration and the frequency measures for vocalizations, switching pauses, floor possessions, and smiles. Cyclicity around an equilibrium occurs for the frequency of verbal backchannels and pauses, as well as for the total durational measures for forward body lean, floor possession, and vocalizations. Only average vocalization duration evidences an increasing cyclical pattern.

Except for vocalization duration, all *average* measures of speech parameters remain stable over the course of initial conversational encounters. Although such stability might be indicative of actual conversational regularities, the stability is more likely an artifact of measurement. Average measures are confounded, having total duration as well as frequency components. In all cases but simultaneous speech, the frequency and total duration components are not stable across the conversational encounter. Frequency components decrease cyclically while total duration components cycle around an equilibrium, except for total switching pause duration and pause frequency, wherein the cyclical patterns are inverted. Smile frequency and forward body lean duration also maintain the speech parameter cyclical differences in frequency and duration.

Why do frequency measures tend to decrease cyclically and total durational measures cycle around an equilibrium? It would be tempting to argue that decreases in frequency with simultaneous equilibria in duration would lead to increases in average duration. However, only average vocalization duration demonstrates such a cyclical increase. Shifts in behavior must therefore be occurring across behaviors; that is, the expected increases in average duration of floor possessions, switching pauses, and the like are

translated into an increase in average vocalization duration over time. In the framework of uncertainty reduction theory, the need to prevent information power decreases as uncertainty decreases, thus allowing for more and longer distortions from the point of "equal" power. An indicator that uncertainty has probably decreased can be seen in the shift away from switching pauses as a regulator of turn-taking behavior over the course of initial interactions; both total switching pause duration and frequency decrease over time. As switching pauses are often perceived as indicators of stress or anxiety (see, for example, Harper et al., 1978), a reduction in stress may allow for more synchronized behavior between interactants (Cappella, 1981) that provides a larger confidence band around deviations from the power equilibrium. Thus relaxation may be an implicit goal of most initial interactions regardless of the strategy employed to achieve it.

If this reasoning is valid, behaviors cycling around an equilibrium should promote relaxation of the partner more so than behaviors decreasing cyclically. Our results indicate that most of the behavioral measures with an equilibrium cycle discriminate use of a relaxation strategy, whereas only one of the measures with a decreasing cycle serves a similar function. Particularly interesting is the phase shift occurring in forward body lean behavior dependent on the goal of the partner. Participants with High Seeking partners went through the cycle of forward body lean duration prior to participants with Low Seeking partners. As increases in forward body lean are related to increases in relaxation (Mehrabian & Williams, 1969), High Seeking partners were more successful in creating the state of relaxation in participants and maintaining that state than were Low Seeking partners. However, forward body lean duration is the only behavior evidencing differences across information-seeking sets and over time. The lack of set differences over time serves as strong evidence for a relaxation goal, implicit or explicit, for social actors in initial encounters. The issue then becomes the strategy of achieving such a goal—its appropriateness and efficiency. Our data indicate that initial social interaction can be modeled as a cyclical phenomenon, with a goal of information seeking through optimally efficient and socially appropriate behaviors. Although not all initial interactions would necessarily adhere to this model, typical interactions (as indexed by our Normal participants) closely align themselves to such a perspective.

NOTE

1. A button box was constructed and attached to a two-track tape recorder. Two chronographers were trained to depress their button when the participant they were viewing on the videotape was speaking. Each participant in a dyad was "button-pressed" onto a separate track of the tape. When the buttons were depressed, a tone was placed on the appropriate tracks of the tape. The tape served as the input for analog to digital conversion on a PDP-12 computer. Computer programs were written to sample the tape at 200/minute, "reading" the

tape for sound or silence. These readings then served as input to a computer program designed to calculate the frequency and duration of speech parameters according to Jaffe and Feldstein's (1970) six-state model.

REFERENCES

Ableson, R. P. (1976). Script processing in attitude formation and decision-making. In J. S. Carroll & J. W. Payne (Eds.), *Cognition and social behavior.* Hillsdale, NJ: Lawrence Erlbaum.

Abelson, R. P. (1981). Psychological status of the script concept. *American Psychologist, 36,* 715-729.

Aronson, E., & Linder, D. (1965). Gain and loss of esteem as determinants of interpersonal attractiveness. *Journal of Experimental Social Psychology, 1,* 156-171.

Berger, C. R. (1979). Beyond initial interaction: Uncertainty, understanding, and the development of interpersonal relationships. In H. Giles & R. St. Clair (Eds.), *Language and social psychology.* Oxford, England: Basil Blackwell.

Berger, C. R., & Calabrese, R. J. (1975). Some explanations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research, 1,* 99-112.

Berger, C. R., & Douglas, W. (1981). Studies in interpersonal epistemology: III. Anticipated interaction, self-monitoring, and observational context selection. *Communication Monographs, 48,* 183-196.

Berger, C. R., & Kellermann, K. A. (1983). To ask or not to ask: Is that a question? In R. N. Bostrom (Ed.), *Communication yearbook 7.* Beverly Hills, CA: Sage.

Berger, C R., & Perkins, J. W. (1978). Studies in interpersonal epistemology: I. Situational attributes in observational context selection. In B. D. Ruben (Ed.), *Communication yearbook 2.* New Brunswick, NJ: Transaction.

Berger, C. R., & Perkins, J. W. (1979). *Studies in interpersonal epistemology. II. Self-monitoring, involvement, facial affect, similarity, and observational context selection.* Paper presented at the Speech Communication Association convention, San Antonio, Texas.

Berger, C. R., & Roloff, M. E. (1980). Social cognition, self-awareness and interpersonal communication. In B. Dervin & M. Voigt (Eds.), *Progress in communication sciences* (Vol. 2). Norwood: ABLEX.

Berger, C. R., & Roloff, M. E. (1982). Thinking about friends and lovers: Social cognition and relational trajectories. In M. E. Roloff & C. R. Berger (Eds.), *Social cognition and communication.* Beverly Hills; CA: Sage.

Berscheid, E., Graziano, W., Monson, T., & Dermer M. (1976). Outcome dependency: Attention, attribution, and attraction. *Journal of Personality and Social Psychology, 34,* 978-989.

Bond, M. H. (1972). Effect of an impression set on subsequent behavior. *Journal of Personality and Social Psychology, 24,* 301-305.

Cappella, J. N. (1981). Mutual influence in expressive behavior: Adult-adult and infant-adult dyadic interaction. *Psychological Bulletin, 89,* 101-132.

Clore, G., & McGuire, H. (1974). *Attraction and conversational style.* Paper presented at the Society of Experimental Social Psychology Meetings, Urbana, Illinois.

Colson, W. N. (1968). *Self-disclosure as a function of social approval.* Unpublished master's thesis, Howard University.

Coutts, L. M., Schneider, F. W., & Montgomery, S. (1980). An investigation of the arousal model of interpersonal intimacy. *Journal of Experimental Social Psychology, 16,* 545-561.

Cozby, P. C. (1973). Self-disclosure: A literature review. *Psychological Bulletin, 79,* 73-91.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25,* 161-178.

Haley, J. (1963). *Strategies of psychotherapy.* New York: Grune & Stratton.

Harper, R. G., Wiens, H. N., & Matarazzo, J. D. (1978). *Nonverbal communication: The state of the art.* New York: John Wiley.

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.

Jaffe, J., & Feldstein, S. (1970). *Rhythms of dialogue.* New York: Academic.

Jones, E. E. (1964). *Ingratiation.* New York: Appelton-Century.

Jones, E. E., & Wortman, C. (1973). *Ingratiation: An attributional approach.* Morristown, NJ: General Learning Press.

Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgment under uncertainty: Heurisitics and biases.* Cambridge: Cambridge University Press.

Kraemer, H. C., & Jacklin, C. N. (1979). Statistical analysis of dyadic social behavior. *Psychological Bulletin, 86,* 217-224.

Major, B. (1980). Information acquisition and attribution processes. *Journal of Personality and Social Psychology, 39,* 1010-1023.

McLaughlin, M. L., & Cody, M. J. (1982). Awkward silences: Behavioral antecedents and consequences of the conversational lapse. *Human Communication Research, 8,* 299-316.

Mehrabian, A. (1970). *Tactics of social influence.* Englewood Cliffs, NJ: Prentice-Hall.

Mehrabian, A. (1971). Nonverbal communication. In J. K. Cole (Ed.), *Nebraska Symposium on Motivation* (pp. 107-162). Lincoln: University of Nebraska Press.

Mehrabian, A., & Ksionzky, S. (1971). Factors of interpersonal behavior and judgment in social groups. *Psychological Reports, 28,* 483-492.

Mehrabian, A., & Williams, M. (1969). Nonverbal concomitants of perceived and intended persuasiveness. *Journal of Personality and Social Psychology, 13,* 37-58.

Nisbett, R., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment.* Englewood Cliffs, NJ: Prentice-Hall.

Rogers, C. R. (1951). *Client-centered therapy: Its current practice, implications, and theory.* Boston: Houghton-Mifflin.

Rosenfeld, H. M. (1966). Approval-seeking and approval-inducing functions of verbal and nonverbal responses in the dyad. *Journal of Personality and Social Psychology, 4,* 597-605.

Rosenfeld, H. M. (1967). Nonverbal reciprocation of approval: An experimental analysis. *Journal of Experimental Social Psychology, 3,* 102-111.

Ruesch, J. (1961). *Therapeutic communication.* New York: W. W. Norton.

Schank, R., & Abelson, R. (1977). *Scripts, plans goals and understanding: An inquiry into human knowledge structures.* Hillsdale, NJ.: Lawrence Erlbaum.

Sermat, V., & Smyth, M. (1973). Content analysis of verbal communication on the development of a relationship: Conditions influencing self-disclosure. *Journal of Personality and Social Psychology, 26,* 332-346.

Siegman, A. W., & Feldstein, S. (Eds.). (1979). *Of speech and time: Temporal speech patterns in interpersonal contexts.* Hillsdale, NJ: Lawrence Erlbaum.

Snyder, M. (1981). Seek and ye shall find: Testing hypotheses about other people. In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), *Social cognition: The Ontario symposium on personality and social psychology.* Hillsdale, NJ: Lawrence Erlbaum.

Swann, W. B., Stephenson, B., & Pittman, T. S. (1981). Curiosity and control: On the determinants of the search for social knowledge. *Journal of Personality and Social Psychology, 40,* 635-642.

Taylor, D. A. (1979). Motivational bases. In G. J. Chelune & Associates (Eds.), *Self-disclosure: Origins, patterns, and implications of openness in interpersonal relationships.* San Francisco: Jossey-Bass.

Taylor, D. A., Altman, I., & Sorrentino, R. (1969). Interpersonal exchange as a function of rewards and costs and situational factors: Expectancy confirmation-disconfirmation. *Journal of Experimental Social Psychology, 5,* 324-339.

Tjosvold, D., & Fabrey, L. (1980). Motivation for perspective taking: Effects of interdependency and dependence on interest in learning others' intentions. *Psychological Reports, 46,* 755-765.

Troupe, Y., & Bassok, M. (1982). Confirmatory and diagnosing strategies in social information gathering. *Journal of Pesonality and Social Psychology, 43,* 22-34.

Truax, C. B. (1966). Reinforcement and nonreinforcement in Rogerian psychotherapy. *Journal of Abnormal Psychology, 71,* 1-9.

Worthy, M., Gary, A. L., & Kahn, G. M. (1969). Self-disclosure as an exchange process. *Journal of Personality and Social Psychology, 13,* 59-64.

Yngve, V. H. (1970, April). *On getting a word in edgewise.* Paper presented at the sixth regional meeting of the Chicago Linguistic Society.