

A CROSS-CULTURAL TEST OF UNCERTAINTY REDUCTION THEORY

Comparisons of Acquaintances, Friends, and Dating Relationships in Japan, Korea, and the United States

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A model of uncertainty reduction theory was tested that was derived from Berger and Calabrese's (1975) theory of initial interactions and recent extensions of the theory (e.g., Berger, 1979; Berger & Bradac, 1982) across three relationships (acquaintances, friends, and dates) in three cultures: Japan, Korea, and the United States. The model was tested using LISREL and found to be a reasonable fit to the data for all three relationships in all three cultures. The percentage of variance explained in attributional confidence was found to be lower for friends than for dates and acquaintances. For the United States data more variance was explained in attributional confidence in acquaintances than dates; however, the findings were reverse for the Japanese and Korean data. These findings were discussed in light of previous research on uncertainty reduction theory and relationship development. Shortcomings of the model also were pointed out based on early critiques of the theory (e.g., Bochner, 1978) and a recent elaboration that examined the context in which romantic relationships develop (Parks & Adelman, 1983).

Berger and Calabrese's (1975) uncertainty reduction theory focuses upon initial interactions. The central construct is uncertainty and the theory explicates the relationships of several variables (e.g., similarity, attraction, amount of communication) to the reduction of uncertainty

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in interactions with strangers. Berger's (1979) elaboration of the theory outlines three general strategies for uncertainty reduction: passive—reactivity search, social comparison, and disinhibition search; active—asking others about the target and environmental structuring; and interactive—interrogation, self-disclosure, and deception detection. There is research to support the role of passive strategies in initial encounters (Berger & Perkins, 1978; Berger & Douglas, 1981), reason to suspect the active strategies are used in interactions with strangers (Berger & Roloff, 1982), but little research on the interactive strategies vis-a-vis attributional confidence.

Recent refinements of the theory (e.g., Berger & Bradac, 1982) also argue that the psychological variables of self-monitoring (Snyder, 1974) and self-consciousness (Fenigstein, Scheier, & Buss, 1975) influence the use of uncertainty reduction strategies. To date, however, the impact of these variables on the interactive strategies has not been examined. Furthermore, the role of these variables has not been examined outside the initial interaction context. The purpose of this article is to begin to fill these gaps by presenting and cross-culturally testing a model of uncertainty reduction that includes the interactive uncertainty reduction strategies, as well as self-monitoring and self-consciousness across three types of relationships—acquaintances, friends, and dates—in Japan, Korea, and the United States.

UNCERTAINTY REDUCTION THEORY

The major explication of uncertainty reduction theory is Berger and Calabrese's (1975) theory of initial interactions.¹ The theory is presented in seven axioms and 21 theorems that specify the interrelationships among uncertainty, amount of communication, nonverbal affiliative expressiveness, information seeking, intimacy level of communication content, reciprocity, similarity, and liking. Prior to presenting the model of uncertainty reduction tested, it is necessary to overview briefly Berger and Calabrese's theory, the research supporting it, and recent elaborations of the theory.

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The first axiom of the theory posits a reciprocal relationship between amount of communication and uncertainty. This axiom was based on Lalljee and Cook's (1973) research, which found that speech acts increase and filled pause rates decrease as interaction between strangers progresses. Axiom 1 also is consistent with research on the desire to obtain information under conditions of uncertainty (e.g., Berlyne 1960, 1965; Weick, 1979). Not only does the amount of communication reduce uncertainty, but information seeking (Axiom 3) and similarity between communicators (Axiom 6) reduces it, too. Axiom 3 was derived from Frankfurt's (1965) research, which revealed that the number of questions strangers ask each other declines as a function of time. The posited relationship between similarity and uncertainty reduction is supported by the research of Clatterbuck (1979), Prisbell and Anderson (1980), and Parks and Adelman (1983).

Under high levels of uncertainty, responses to questions seeking information involve low levels of intimacy (Axiom 4); and high levels of uncertainty tend to decrease interpersonal attraction; liking tends to increase attributional confidence (Axiom 7). Axiom 4 is consistent with studies on relationship development (e.g., Altman & Taylor, 1973). Support for Axiom 7 can be found in Clatterbuck's (1979) research, which revealed that there is a positive correlation between several standard measures of attraction and attributional confidence and that people are more confident about their predictions for those they like than those they do not like.

According to Berger and Calabrese (1975), the amount of communication not only reduces uncertainty, it also is related positively to the intimacy level of the communication (Theorem 2), negatively related to information seeking (Theorem 3), positively correlated with liking (Theorem 5), and positively associated with similarity (Theorem 6). Lalljee and Cook's (1973) research constitutes direct support for Theorem 2 and indirect support for Theorem 3. Theorem 5 is justified by research on small group cohesiveness (e.g., Lott & Lott, 1961) and Moran's (1966) study of initial interaction; evidence for Theorem 6 is found in Schacter's (1959) research.

Uncertainty reduction theory further posits a negative relationship between similarity and information seeking (Theorem 18), a positive association between similarity and intimacy level (Theorem 15), as well as a positive correlation between similarity and liking (Theorem 21). Interpersonal attraction furthermore is hypothesized to be positively related to intimacy level of communication (Theorem 14) and negatively

related to information seeking. Theorem 21 is substantiated by the extensive research on the similarity-attraction hypothesis (e.g., Byrne, 1971). Berger and Calabrese (1975), in contrast, uncovered no direct empirical support for Theorems 15, 17, and 18, but they appear reasonable given the axioms from which they were generated.

Berger and Calabrese (1975) also argued that uncertainty produces high rates of reciprocity (Axiom 5). This axiom was generated in part from Jourard's (1960) research that found evidence of a "dyadic effect" with respect to the intimacy of self-disclosure. Specifically, he discovered that there is an association between what people disclose and what others disclose to them. The notion of self-disclosure reciprocity is consistent with some research (e.g., Feigenbaum, 1977), but other research suggests there is a difference depending upon the sex composition of the dyad (e.g., Cline, 1983). The research on reciprocity has been criticized on methodological grounds (Cappella, 1981; Hill & Stull, 1982) and, in addition, Dindia's (1982) review of the literature and sequential analysis found no empirical evidence to support the reciprocity of self-disclosure. There is, however, interaction data to support the reciprocity norm in same sex dyads (Won-Doornink, 1979).

Recent manifestations of uncertainty reduction theory have posited an influence on the process by self-monitoring and self-consciousness. Snyder (1974, p. 526) characterized self-monitoring as "self-observation and self-control guided by situational cues to social appropriateness." Snyder's research indicated that high self-monitors, in contrast to low self-monitors, are judged by peers to be better able to discover appropriate behavior in new situations, have more control over emotional expressions, and are better able to create impressions they wish. Snyder and Monson (1975) found that high self-monitors modify their behavior to changes in social situations more than low self-monitors: Berscheid, Graziano, Monson, and Dermer (1976) reported high self-monitors make more confident and extreme attributions and recall more information about an anticipated date viewed on videotape. In a related study, Elliott (1979) reported high self-monitors seek more information about others with whom they anticipate interacting than do low self-monitors.

Recent work by Berger and his associates (Berger, 1979; Berger & Perkins, 1978; Berger & Douglas, 1981) suggests that passive uncertainty

reduction strategies are influenced by self-monitoring. Berger and Douglas, for example, discovered differences in perception of how informative formal and informal situations are in reducing uncertainty by level of self-monitoring: low self-monitors perceive formal situations as more informative; high self-monitors see informal situations as more informative. This finding is consistent with Ickes and Barnes (1977) who reported high self-monitors initiate and regulate conversations more, initiate more conversational sequences, and have a greater need to talk than low self-monitors. Research by Tardy and Hoseman (1982) revealed that high self-monitors exhibit more self-disclosure flexibility than low self-monitors; Gudykunst and Nishida (1984) discovered that self-monitoring has an impact upon two of the interactive strategies—intent to self-disclose and intent to interrogate. Self-monitoring also has been found to be related to the third interactive strategy, deception detection: high self-monitors are more accurate than low self-monitors in detecting deception (Brandt, Miller, & Hocking, 1980a, 1980b; Geizer, Rarick, & Soldow, 1977; Siegman & Reynolds, 1983).

Another psychological variable posited to influence the use of uncertainty reduction strategies is self-consciousness. Fenigstein et al. (1975, p. 522) argue "The consistent tendency to direct attention inward or outward is the trait of self-consciousness." Three dimensions of self-consciousness have been found. Private self-consciousness involves a private, cognitive focus upon the self as an object; public self-consciousness "emphasizes an awareness and concern over the self as a social stimulus" (p. 525). The final dimension, social anxiety, is similar to conceptions of communication apprehension (McCroskey, 1978), but more oriented toward social situations than speaking *per se*.

Research indicates that the three dimensions of self-consciousness have an impact on selected aspects of behavior (e.g., Scheier, 1976; Scheier & Carver, 1977, 1981, 1982; Scheier, Buss, & Buss, 1978; Brockner, 1979; Fenigstein, 1979; Buss, 1980; Lloyd, Paulsen, & Brockner, 1983). Scheier and Carver (1977), for example, found that high private self-conscious persons react in a more extreme fashion than persons low on the dimension. Similarly, Scheier, et al. reported that high private self-conscious persons are more attentive and knowledgeable about their own attitudes than are those low in private self-consciousness. Buss (1980) concluded that public and private self-consciousness produce different effects on behavior including aggression, dominance, and self-descriptions.

Finally, there is some evidence that self-monitoring and self-consciousness are interrelated. Briggs, Cheek, and Buss (1980) factor analyzed Snyder's (1974) self-monitoring scale and found that at least two of the subscales have small, significant positive correlations with public and private self-consciousness.

A MODEL OF UNCERTAINTY REDUCTION

The preceding overview focused upon uncertainty reduction in initial interactions with strangers. The desire to reduce uncertainty, however, does not stop with initial encounters. Rather, as Berger (1979, p. 123) argued, "the communicative processes involved in knowledge generation and the development of understanding are central to the development and disintegration of most interpersonal relationships." The reduction of uncertainty promotes relationship development (Livingston, 1980) and plays a role in the dissolution of relationships also (Harvey, Wells, & Alvarez, 1978).

In the original theory, Berger and Calabrese (1975) stated all of the relationships among the variables as reciprocal causal relationships. After the initial encounter, however, it can be argued that most of these relationships are no longer reciprocal. This is particularly true of the relationships between uncertainty reduction and the other variables. Recent discussions of the theory focus upon explaining uncertainty reduction (or attributional confidence), treating uncertainty as a dependent variable that does not feed back on other variables to form reciprocal relationships (see, for example, the treatment of the variables in a recent empirical study of uncertainty reduction theory by Parks & Adelman, 1983).²

Recent work by Berger (1979) and his associates (e.g., Berger & Bradac, 1982) has focused upon the role of the passive, active, and interactive uncertainty reduction strategies in developing attributional confidence. All three strategies are used in the early stages of interaction, but the interactive strategies predominate once a relationship has formed. By incorporating the interactive strategies into Berger and Calabrese's (1975) theory and modifying the reciprocal relationships, the following 16 hypotheses can be generated (the parameter estimates from the model in Figure 1 appear in parentheses after the hypotheses):

- H₁: As the amount of communication increases, attributional confidence increases. (γ_{13})

- H₂: The more interactive uncertainty reduction strategies are used, the greater the attributional confidence. (β_{12})
- H₃: The greater the similarity, the greater the attributional confidence. (γ_{11})
- H₄: The greater the interpersonal attraction, the greater the attributional confidence. (γ_{12})
- H₅: The greater the amount of communication, the more interactive strategies are used. (γ_{23})
- H₆: The greater the similarity, the more interactive strategies are used. (γ_{22})
- H₇: The greater the interpersonal attraction, the more interactive strategies are used. (γ_{22})
- H₈: The more others self-disclose, the greater the attributional confidence. (β_{13})
- H₉: There is a positive association between other self-disclosure and the use of interactive strategies. (β_{23})
- H₁₀: The greater the amount of communication, the more others self-disclose. (γ_{33})
- H₁₁: There is a positive association between similarity and interpersonal attraction. (ϕ_{12})
- H₁₂: There is a positive association between amount of communication and interpersonal attraction. (ϕ_{23})
- H₁₃: There is a positive association between amount of communication and similarity (ϕ_{13})
- H₁₄: Level of self-monitoring influences the use of interactive strategies (γ_{24})
- H₁₅: Level of self-consciousness influences the use of interactive strategies. (γ_{25})
- H₁₆: Self-monitoring and self-consciousness are positively correlated. (ϕ_{54})

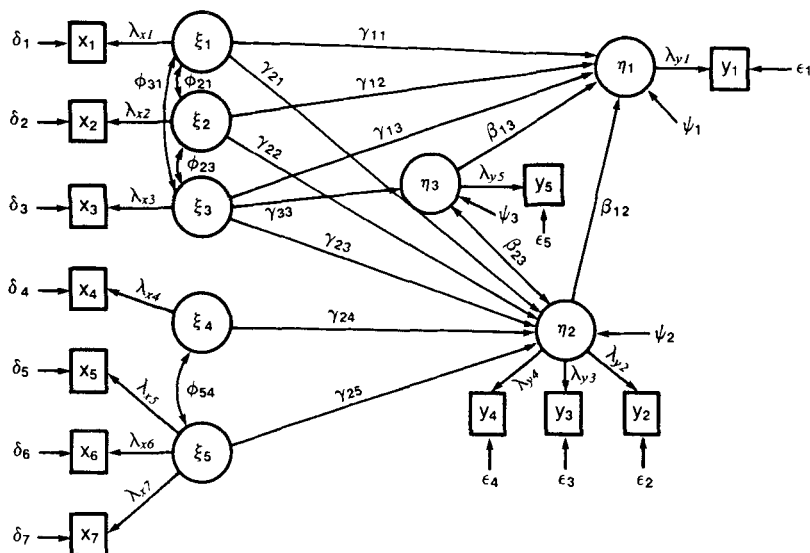
These hypotheses can be represented graphically by the LISREL (linear structural relations) covariance structure model (Joreskog and Sörbom, 1981, 1982, 1983; Long, 1983) in Figure 1. In the model self-disclosure, interrogation and deception detection are treated as dimensions of the latent variable interactive uncertainty reduction strategies; public and private self-consciousness and social anxiety are treated as dimensions of the latent variable self-consciousness. All other

latent variables are assumed to be unidimensional in the measurement model.³ The model is defined formally by two structural equations:

$$\begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} = \begin{bmatrix} 0 & \beta_{12} & \beta_{13} \\ 0 & 0 & \beta_{23} \\ 0 & \beta_{32} & 0 \end{bmatrix} \begin{bmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \end{bmatrix} + \begin{bmatrix} \gamma_{11} & \gamma_{12} & \gamma_{13} & 0 & 0 \\ \gamma_{21} & \gamma_{22} & \gamma_{23} & \gamma_{24} & \gamma_{25} \\ 0 & 0 & \gamma_{33} & 0 & 0 \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_2 \\ \xi_3 \\ \xi_4 \\ \xi_5 \end{bmatrix} + \begin{bmatrix} \psi_1 & 0 & 0 \\ 0 & \psi_2 & 0 \\ 0 & 0 & \psi_3 \end{bmatrix}$$

$$\Phi = \begin{bmatrix} 1 & & & & \\ \phi_{21} & 1 & & & \\ \phi_{31} & \phi_{32} & 1 & & \\ 0 & 0 & 0 & 1 & \\ 0 & 0 & 0 & \phi_{54} & 1 \end{bmatrix}$$

The major difference between the model posited here, Berger and Calabrese's (1975) theory, and recent extensions (i.e., Berger, 1979; Berger & Bradac, 1982) involves the modification of the reciprocal relationships posited by Berger and Calabrese. The modification of the reciprocal relationships is consistent logically with Parks and Adelman (1983), for example, who treat similarity and amount of communication as independent variables that predict uncertainty. The remaining overidentifying restrictions involve the relationships between self-consciousness and self-monitoring and the three other exogenous variables and the relationship between similarity, attraction, and other self-disclosure. A review of the relevant research yielded no justification for positing relationships among these variables and support for omitting them. Gudykunst and Nishida (1984), to illustrate, found no relationship between self-monitoring and attraction.



Observed variables: y_1 = attributional confidence; y_2 = self-disclosure; y_3 = interrogation; y_4 = deception detection; y_5 = other self-disclosure; x_1 = attitude similarity; x_2 = interpersonal attraction; x_3 = frequency; x_4 = self-monitoring; x_5 = private self-consciousness; x_6 = public self-consciousness; x_7 = social anxiety self-consciousness. **Latent variables:** η_1 = attributional confidence; η_2 = interactive strategies; η_3 = other disclosure; ξ_1 = similarity; ξ_2 = attraction; ξ_3 = amount of communication; ξ_4 = self-monitoring; ξ_5 = self-consciousness.

Figure 1: A LISREL model of uncertainty reduction.

The LISREL model encompasses current elaborations of uncertainty reduction theory, with the exception of Berger and Bradac's (1982) discussion of language. To date, the theory as a whole has not been tested. The purpose here is to initially test the model en toto outside the initial interaction context. In addition to providing an overall test of the theory, the present analysis provides an initial examination of the influence of self-monitoring and self-consciousness on the interactive uncertainty reduction strategies. Use of LISREL allows for a test of uncertainty reduction in two ways. First, if the overall model is found to be an unacceptable fit to the data, the theory is questioned. Second, examination of specific parameter estimates allows for disconfirmation of posited relationships. The procedure utilized, however, does not allow for tests of relationships not posited to exist in the theory.

It can be argued that the model presented meets the requirements specified by Cappella (1975) and McPhee and Babrow (in press) for the use of causal models (i.e., relationships are linear, the set of variables is complete, and the interrelationships have reached equilibrium for the relationships studied).⁴ Some may argue, however, that the temporal ordering of the variables presented is debatable or that the process has not reached equilibrium. Although the temporal ordering *may be debatable*, the ordering of the variables in the model is consistent with previous specifications of uncertainty reduction theory. Further, as Heise (1969, p. 52) argues with respect to causal priorities, "It is noteworthy here that the requirement is not for a full-scale theory in the sense of specifying every causal path, but rather for a partial theory which simply permits ordering variables in terms of their causal priorities. Thus, the requirement does allow for some ambiguity in the theoretical input for a path analysis."

With respect to the equilibrium issue two factors are worth noting. First, the model was generated from a theory of initial interactions with strangers but, as described below, is tested in more "developed" relationships. It is, therefore, reasonable to assume that the initial interaction process has reached some state of relative equilibrium. Second, the process may change from a state of equilibrium as relationships change over time. The purpose of the present study, however, is not to test relationship development. Rather, it is to test a model generated from a theory of initial interactions in more developed relationships. Theoretically and methodologically the equilibrium assumption is mandatory. As Cappella (1975, p. 367) points out, "If the causal linkages are changing radically because of some developmental sequence, then an entirely different model will need to apply at the different stages in the sequence." Empirically this suggests that if the process is not in a state of equilibrium, the parameter estimates will be unstable and can yield values greater than 1.0 (Fink & Mabee, 1978). This assumption, therefore, can be examined in part by looking at the parameter estimates in the final test of the model.

NEED FOR CROSS-CULTURAL TEST

Uncertainty reduction theory was generated from research on white subjects in the United States. The LISREL model, therefore, could be

tested using only data from the United States. Such a test, however, would leave the generalizability of the model in question because "General (universal) statements about systematic (or causal) relationships among variables can be asserted only on the basis of comparative analysis" (Berry, 1980, pp. 5-6). In order to increase the generalizability of the model, it was decided to examine it in three cultures: Japan, Korea, and the United States. This decision is consistent with Brislin's (1983, p. 371) position that "If research hypotheses are supported in studies with very different populations, the findings can be taken more seriously than those hypotheses supported only in studies of homogeneous populations within one country. In cross-cultural studies, variance of respondents' attributes . . . are maximized." If the model is supported in the three cultures, then it can be considered robust (Foschi, 1980).

Japan and Korea were selected for comparison because they offer great variance in respondents' attributes. One way to illustrate the differences is to use Hall's (1976) high/low-context continuum. "A high-context (HC) communication or message is one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit part of the message. A low-context communication is just the opposite; i.e., the mass of information is vested in the explicit code" (Hall, 1976, p. 79). Although no culture exists at either end of the high/low-context continuum, the culture of the United States is toward the low end, slightly above the German, Swiss, and Scandinavian cultures. Most Asian cultures (e.g., Japanese and Korean), on the other hand, fall at the high-context end of the continuum. Given the differences in terms of the importance of context, Japan and Korea offer excellent contrasts to the United States for testing the model. There is evidence that the uncertainty reduction perspective is applicable in high-context cultures in general (Gudykunst, 1983) and in Japan in particular (Gudykunst & Nishida, 1984). These analyses, however, indicate that there are significant differences in the mean scores for many of the variables involved in the theory (e.g., attributional confidence, disclosure, interrogation). The differences, in combination with the importance placed upon context in predicting behavior, suggest that a theory that emphasizes interpersonal factors such as similarity, attraction, and self-monitoring may not explain attributional confidence in Japan and Korea. Data from these cultures, therefore, should provide a rigorous test of the generalizability of the theory.

The present study involves an etic, rather than emic analysis. The concern here is with examining uncertainty reduction theory across the three cultures, not with explaining communication in Japan, Korea, and the United States using culturally specific characteristics (i.e., an emic analysis; for reviews of emic/etic distinction, see Berry, 1969, 1980). Berry (1969) refers to this method as an "imposed etic" analysis; this is in contrast to a "derived etic" analysis, in which concepts emerge from the empirical data collected in multiple cultures (i.e., common features of the concept under examination in the cultures being studied are used in the analysis).

METHODS

SUBJECTS

The United States sample ($N = 278$) was drawn from students at a moderate-sized northeastern university. Approximately half of the subjects were students in communication classes and the remaining half were solicited from the general student population. All subjects volunteered to participate and complete the research instrument outside of class. The sample included 140 males and 138 females. The average age was 19.9; there were 136 freshmen and sophomores; 141 juniors and seniors.

The Korean sample ($N = 226$) was drawn from two universities in the Seoul area: one a large national university and one a smaller women's university. The subjects were students in communication and other social sciences who volunteered to participate in the research. The sample included 117 males and 109 females. The average age was 20.7; there were 105 freshmen and sophomores; 121 juniors and seniors.

The Japanese sample ($N = 237$) was drawn from three universities in the Tokyo metropolitan area. The subjects were solicited from communication, international relations, and English language classes. All subjects volunteered to participate in the study. The sample included 120 males and 117 females. The average age was 20.2; there were 137 freshmen and sophomores; 100 juniors and seniors.

A comparison of the three samples reveals no statistically significant differences in terms of age, sex, year in school or other demographic variables (i.e., number of brothers/sisters, order of birth). The lack of differences in terms of demographic characteristics suggests that even though the samples are nonrandom samples of convenience, they are comparable, equivalent samples (Brislin & Baumgardner, 1971).

MEASUREMENT

All subjects completed a questionnaire booklet containing the measures of the independent and dependent variables. The Japanese and Korean subjects completed the questionnaire in their native language. Following Brislin (1970), the original English questionnaire was translated into each language and back-translated to assure equivalency of meaning. Each subject independently assessed his or her communication in three different relationships: an acquaintance of the same sex, a friend of the same sex, and the person of the opposite sex he or she was dating at the time of data collection (or the most recent steady date, if the subject was not dating at the time of the data collection). Subjects were asked to select specific individuals with whom they had these relationships and keep these individuals in mind while answering all of the questions.

Attributional confidence (Y_1) was operationalized using Clatterbuck's (1979) CL7 scale, with responses scored on a scale of 0% to 100%. This measure consists of seven items designed to assess the degree to which respondents are confident in predicting the behavior, attitudes, feelings, and emotions of the other person. The first item, for example, reads: "How confident are you of your general ability to predict how he/she will behave?" Clatterbuck (1979) presents evidence for the unidimensionality, internal reliability, and validity of this instrument. All subjects reported the degree of attributional confidence they had about each of the people in the three relationships. The combination of the seven items yielded acceptable Cronbach's (1951) alphas (i.e., .84 or above) in all relationships in all cultures. The reliability coefficients for all variables are presented in Table 1.

Self-disclosure (Y_2) was measured using a shortened version of Jourard's (1964) 60-item Self-Disclosure Questionnaire. Three items were randomly selected from four of the six dimensions: attitudes and opinions (item numbers 1, 7, & 10), work or studies (item numbers 1, 7, & 9), personality (item numbers 6, 9, 10), and body (item numbers 6, 7, & 8). Subjects responded to the 12 items for the three relationships using Jourard's response categories (i.e., 0 = no disclosure about item, 1 = disclosure in general terms, 2 = full disclosure about item). Combination of the items yielded acceptable reliabilities for all analyses (i.e., .75 or above; see Table 1).

Jourard's (1964) instrument has been criticized for lack of predictive validity (e.g., Cozby, 1973). It has been shown, however, that total scores for the instrument are correlated with the amount and intimacy of disclosure on written self-descriptions (Pederson & Breglio, 1968).

TABLE 1
Reliability Coefficients

	<i>United States</i>			<i>Korea</i>			<i>Japan</i>		
	<i>Acq</i>	<i>Fr</i>	<i>D</i>	<i>Acq</i>	<i>Fr</i>	<i>D</i>	<i>Acq</i>	<i>Fr</i>	<i>D</i>
Attributional confidence (y_1)	.88	.91	.92	.93	.93	.84	.92	.93	.86
Self-disclosure (y_2)	.85	.82	.84	.83	.85	.75	.87	.85	.79
Interrogation (y_3)	.88	.86	.86	.88	.88	.82	.88	.86	.82
Deception detection (y_4)	.81	.74	.80	.78	.85	.85	.69	.75	.68
Other disclosure (y_5)	.87	.87	.87	.89	.88	.84	.89	.89	.84
Attitude similarity (x_1)	.77	.75	.75	.64	.79	.81	.70	.85	.73
Attraction (x_2)	.91	.86	.91	.87	.90	.84	.86	.92	.86
Frequency (x_3)	.93	.93	.93	.93	.93	.93	.93	.93	.93
Self-monitoring (x_4)	.65	.65	.65	.66	.66	.66	.61	.61	.61
Private self-consciousness (x_5)	.74	.74	.74	.73	.73	.73	.68	.68	.68
Public self-consciousness (x_6)	.81	.81	.81	.78	.78	.78	.64	.64	.64
Social anxiety (x_7)	.75	.75	.75	.78	.78	.78	.73	.73	.73

NOTE: All coefficients are Cronbach's alphas except for frequency, which is a single-item indicator. Test-retest reliability was used to assess this item. Acq = Acquaintance data; Fr = Friend data; D = Dating data. United States N = 270; Korea N = 220; Japan N = 230.

Further, as Cozby (1973, p. 74) points out, predictive validity studies of the instrument in its original form correlated subjects' past history of disclosure to parents and individuals labeled "best same-sex friend" and "best opposite-sex friend" with "actual disclosure," which was measured by assessing subjects' disclosure "to an experimenter or to peers whom the subjects have never met." The instrument used here assessed the subjects' disclosure to three specific people, not labeled categories. This method of administration is equivalent to the administration of Jourard's (1971) revised instrument, that according to Cozby does have predictive validity.

Jourard's instrument was selected for three additional reasons. First, a single summative score for self-disclosure can be obtained. This has advantages over multidimensional measures of self-disclosure (e.g., Wheelles, 1978) in the present analysis. Specifically, one score allows self-disclosure to be treated as a single indicator of the latent variable interactive strategies, equal in weight to the other two strategies. Use of a multidimensional measure would have required treating self-disclosure as a separate latent variable. Second, Jourard's instrument is the only one to have been used in previous research in both Japan (Barnlund,

1975) and Korea (Won-Doornink, 1979). Third, Jourard's instrument was able to be easily modified so as to comparably measure the second interactive strategy—interrogation.

Interrogation (y_3) was assessed by modifying the 12 self-disclosure items to reflect the subjects' interrogation of the three people. Specifically, the response categories were modified to reflect interrogation (i.e., 0 = I have never asked about this item, 1 = I have asked about this item in general terms, 2 = I have asked specific and detailed questions about this item). The 12 items were combined for each of the three relationships, yielding acceptable reliabilities (i.e., .82 or above; see Table 1).

Deception detection (y_4) was measured with six items suggested by Berger's (1979) discussion of this strategy. The items were as follows: (1) This person has exaggerated personal accomplishments; (2) This person has agreed with opinions I've expressed when I think he or she really disagreed; (3) This person has unnecessarily flattered me; (4) This person has done favors for me in order to get me to do something for him or her; (5) This person has distorted information about himself or herself to me; and (6) This person has withheld information from me when I asked him or her questions. The response options were modified from the self-disclosure measure: 0 = I have never noticed this person do this; 1 = I have noticed this person do this once; 2 = I have noticed this person do this more than once. Combination of the six items yielded acceptable reliabilities (i.e., .68 or above; see Table 1).

Other self-disclosure (y_5) was operationalized by modifying the self-disclosure items. The response items were modified to reflect other self-disclosure (i.e., 0 = This person has told me nothing about this aspect of himself or herself; 1 = This person has talked to me in general terms about this aspect of himself or herself; 2 = This person has made himself or herself totally known in this area). The 12 items were combined into one index for each relationship yielding acceptable alphas (i.e., .84 or above; see Table 1).

Attitude similarity (x_1) was measured using three of the four items from McCroskey, Richmond, and Daly's (1975) attitude dimension of perceived homophily (items 1, 2, & 3).⁵ McCroskey and his associates present evidence for the reliability and unidimensionality of this subconstruct. Combination of the three items yielded low alphas across all three relationships in all three cultures (i.e., below .60), however, when item number one was omitted the alpha reached acceptable levels (i.e., .64 or above; see Table 1). The two-item index, therefore, was used instead of the three-item version.

Interpersonal attraction (x_2) was assessed using the eight items of Rubin's (1970) liking scale presented by Berscheid and Walster (1978). Rubin presents evidence for the unidimensionality of this construct and data that indicates that it is different from the related construct of romantic love. Combination of these items yielded acceptable reliabilities across all relationships in all three cultures (i.e., .84 or above; see Table 1).

Frequency of communication (x_3) was measured using a single item that asked the respondent to indicate how often he or she communicated with each of the others. This item had a test-retest reliability of .93.

Self-monitoring (x_4) was assessed using Snyder's (1974) scale. Snyder (1974) documents the internal and test-retest reliability; Snyder (1979) summarizes evidence for the construct and discriminant validity of the scale. Cronbach's alpha for the 25 items was low, but acceptable (i.e., between .61 and .66) in all three cultures.

Private self-consciousness (x_5) was measured using the subscale of Fenigstein et al.'s (1975) self-consciousness scale (item numbers 1, 3, 5, 7, 9, 13, 15, 18, 20, and 22). Fenigstein and his associates present data supporting the construct validity of the three dimensions of the scale (private and public self-consciousness and social anxiety), as well as data to indicate that it has test-retest reliability. A substantial amount of evidence also exists to support the convergent and discriminant validity of the scales (e.g., Carver & Glass, 1976; see Carver & Scheier, 1981, for a review). The alphas for the 10 items in the private self-consciousness subscale were acceptable (i.e., .68 or above) in all three cultures.

Public self-consciousness (x_6) was operationalized using the subscale of Fenigstein et al.'s measure (item numbers 2, 6, 11, 14, 17, 19, and 21). Combination of the seven items yielded acceptable alphas (i.e., .64 or above).

Social anxiety self-consciousness (x_7) was assessed using the remaining items of Fenigstein et al.'s scale (item numbers 4, 8, 10, 12, 16, and 23). The alphas for these items were acceptable (i.e., .73 or above) in the three cultures. This variable correlated .50 to .70 with the short form of McCroskey's (1978) PRCA measure of communication apprehension (the alpha for the PRCA was .75 or above in the three cultures).

DATA ANALYSIS

The data were analyzed using LISREL VI (Jöreskog & Sörbom, 1981, 1983). The model was assessed using a χ^2/df test and the goodness of fit index provided by LISREL VI. The significance level of the χ^2 was

not considered because as several writers point out, χ^2 is influenced by the sample size and larger samples invariably yield a significant statistic (e.g., Bentler & Bonnett, 1980; Joreskog & Sorbom, 1982). Following Wheaton, Muthen, Alwin, and Summers (1977), the model was considered a reasonable fit of the data if the χ^2/df was below five. The goodness of fit index (GFI) "is a measure of the relative amount of variances and covariances jointly accounted for by the model. Unlike χ^2 , GFI is independent of the sample size and relatively robust against departures from normality" (Jöreskog & Sörbom, 1981, p. 1.41). The GFI varies from 0 to 1 and the closer to 1, the better fit the model is to the data (there is no test of statistical significance available). Examination of the residuals also was considered in interpreting the fit of the model to the data. Following Lomax (1982), if the residuals were less than .10, the model was considered to be a good fit to the data.

The sample sizes were determined to be sufficient for LISREL analysis. The sample sizes met the requirements specified by Bagozzi (1981; 50 plus the number of degrees of freedom), Bearden, Sharma, and Teel (1982; a minimum of 200), and McPhee and Babrow (in press; 100 plus the degrees of freedom). The model met the rank condition and the counting rule for identification. Identification also was tested simultaneously with the tests of the model (Maruyama & McGarvey, 1980).

For each relationship the model was examined separately in the three cultures; yielding a total of nine analyses. This procedure was used rather than the techniques outlined by Joreskog and Sorbom (1979, especially chapters 7 & 8) for cross-group comparisons. Although performing nine separate analyses is less efficient than obtaining one overall χ^2 for the fit of the nine correlation matrices to the model, it provides a fit statistic for each of the relationships in each of the cultures that would not be available if the more efficient procedure was used.

RESULTS

ACQUAINTANCES

The overall correlations among the observed variables for the acquaintance data are presented in Tables 2-4, with the observed correlations below the diagonal and the reconstructed correlations on the diagonal and above. The parameter estimates are provided in Table 5.

With $\chi^2/\text{df} = 2.80$, the $\text{GFI} = .926$ (GFI adjusted for number of degrees of freedom = .887), and the average residual of less than .10, the

TABLE 2
Means, Standard Deviations, and Correlations for United States Acquaintances

	V_1	V_2	V_3	V_4	V_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
V_1	1.002	.411	.552	.186	.545	.106	.302	.114	.035	-.007	-.018	-.005
V_2	.528	1.001	.746	.251	.653	.158	.171	.153	.078	-.012	-.028	-.008
V_3	.551	.745	1.001	.336	.850	.212	.229	.205	.105	-.016	0.038	-.010
V_4	.200	.276	.336	1.000	.286	.071	.077	.069	.035	-.005	.013	.003
V_5	.543	.722	.849	.385	1.001	.126	.126	.233	.065	-.012	-.028	-.008
x_1	.097	.246	.200	-.038	.104	1.000	.340	.082	.048	-.034	-.082	-.002
x_2	.296	.179	.223	-.250	.113	.343	1.000	.004	-.034	-.009	-.002	-.006
x_3	.114	.242	.204	.227	.232	.077	.005	1.000	.065	-.025	-.061	-.016
x_4	.006	.039	.127	.168	.106	.048	-.034	.065	1.000	.048	.117	.032
x_5	.018	-.019	.029	.054	.043	-.037	.065	-.060	.131	1.000	.390	.106
x_6	-.011	-.030	-.030	.004	-.015	-.058	-.048	-.025	.130	.413	.991	.256
x_7	.027	-.136	-.061	-.041	-.097	-.105	-.036	-.084	-.189	.125	.271	.945
Means	45.089	.510	.455	.578	.494	3.748	5.153	3.534	13.755	3.621	3.862	2.972
SDs	20.042	.360	.378	.581	.392	1.495	1.667	1.646	3.844	.570	.671	.773

NOTE: $N = 270$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 3
Means, Standard Deviations, and Correlations for Korean Acquaintances

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
y_1	.946	.447	.353	.054	.433	.091	.288	.015	.049	-.003	-.007	-.001
y_2	.497	.958	.756	.115	.712	.168	.252	.011	.100	-.014	-.035	-.007
y_3	.499	.789	.974	.091	.562	.133	.199	.009	.079	-.011	-.028	-.006
y_4	.058	.120	.098	.999	.085	.020	.030	.001	.012	-.002	-.004	-.001
y_5	.514	.769	.840	.184	.957	.076	.109	-.047	.041	-.007	-.018	-.004
x_1	.153	.241	.229	.038	.246	1.000	.154	-.024	.105	.024	.060	.013
x_2	.390	.376	.430	-.120	.386	.153	1.000	.062	.076	.009	.023	.005
x_3	.015	.012	.024	-.098	-.047	-.023	.062	1.000	.065	.021	.053	.011
x_4	.142	.119	.096	.018	.092	.105	.076	.065	1.000	.115	.292	.062
x_5	.050	.017	.059	.005	.047	-.025	.021	.045	.051	.977	.335	.072
x_6	-.009	-.042	-.031	-.050	-.025	.100	.017	.044	.339	.394	.851	.182
x_7	-.089	.003	-.022	-.057	.045	-.002	.011	.021	-.230	.131	.214	.993
Means	43.003	.591	.545	.602	.605	3.710	5.248	1.991	11.680	3.750	3.672	3.266
SDs	19.927	.398	.408	.616	.419	1.426	1.416	1.243	4.104	.552	.692	.853

NOTE: $N = 220$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 4
Means, Standard Deviations, and Correlations for Japanese Acquaintances

	V_1	V_2	V_3	V_4	V_5	X_1	X_2	X_3	X_4	X_5	X_6	X_7
V_1	.968	.478	.383	.160	.563	.053	.265	-.095	.029	.011	.025	.009
V_2	.496	.991	.795	.331	.691	.031	.145	-.068	.106	.031	.071	.027
V_3	.500	.802	.995	.266	.554	.024	.117	-.054	.085	.025	.057	.021
V_4	.252	.334	.374	.999	.231	.010	.049	-.023	.035	.010	.024	.009
V_5	.596	.704	.781	.423	.991	.013	.061	-.045	.043	.013	.030	.011
X_1	.069	.043	.065	.005	.043	1.000	.106	-.033	-.014	-.050	-.116	-.044
X_2	.330	.195	.181	-.106	.186	.110	1.000	-.110	-.019	.004	.010	.004
X_3	-.094	-.067	-.137	-.016	-.045	-.034	-.108	1.000	-.008	-.028	-.065	-.024
X_4	.143	.128	.160	.237	.099	-.014	-.019	-.008	1.000	.135	.312	.117
X_5	.081	.084	.046	-.039	.104	.018	.105	-.020	.079	1.024	.489	.184
X_6	.032	.043	.005	.119	-.011	-.121	-.026	-.046	.280	.433	1.120	.424
X_7	-.053	-.047	-.042	.006	-.071	-.052	.130	-.086	-.128	.113	.376	1.018
Means	34.331	.372	.378	.650	.411	3.202	4.254	3.134	12.346	3.539	3.748	3.257
SDs	21.238	.341	.356	.532	.389	1.718	1.630	1.615	3.676	.539	.579	.805

NOTE: $N = 236$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

model provided a reasonable fit for the United States acquaintance data. The variables accounted for 36.8% of the latent variable attributional confidence, 67.4% of the latent variable interactive uncertainty reduction strategies, and 64.4% of other self-disclosure. Five of the parameter estimates were not significant in the model (γ_{11} , γ_{13} , γ_{25} , ϕ_{13} , and ϕ_{23}); therefore, the acquaintance data did not support H1, H3, H12, H13, and H15.

The χ^2/df test for the Korean data was 3.92, with the GFI = .884 (adjusted GFI = .823), and the average residual was less than .10. The model, therefore, appears to be a reasonable fit to these data. The variables accounted for 28.7% of the latent variable attributional confidence, 52.7% of interactive strategies, and 56.2% of other self-disclosure. Eight of the parameter estimates were not significant in the model (γ_{11} , γ_{13} , γ_{23} , γ_{25} , γ_{33} , ϕ_{13} , ϕ_{23}); therefore, the data did not support H1, H3, H5, H10, H12, H13, H14, and H15.

With $\chi^2/\text{df} = 3.51$, the GFI = .894 (adjusted GFI = .838), and the average residual less than .10, the model also was a reasonable fit to the Japanese data. The variables accounted for 39.6% of the variance in attributional confidence, 42.6% of interactive strategies and 40.1% of other self-disclosure. Nine parameter estimates were not significant (γ_{11} , γ_{13} , γ_{21} , γ_{23} , γ_{24} , γ_{25} , γ_{33} , and ϕ_{13}); the data, therefore, did not support H1, H3, H5, H6, H7, H10, H13, H14, and H15.

FRIENDS

The correlations among the observed variables for the friend data are presented in Tables 6-8, with the observed correlations below the diagonal and the reconstructed correlations on the diagonal and above. Table 9 displays the parameter estimates.

The χ^2/df test for the United States data was 3.91; the GFI = .892 (adjusted GFI = .834) and the average residual was less than .10. These results suggested that the model was a reasonable fit for the data. The model explained 22.2% of the variance in attributional confidence, 64.2% of the interactive uncertainty reduction strategies, and 60.4% of other self-disclosure. Six of the parameter estimates were not significant (β_{13} , γ_{21} , γ_{23} , γ_{25} , ϕ_{13} , and ϕ_{23}), therefore, the data for friends did not support H5, H6, H8, H12, H13, and H15.

The χ^2/df for the Korean data was 3.95, the GFI = .887 (adjusted GFI = .827), and the average residual was less than .10. The model, therefore, appeared to be a reasonable fit to these data. Only 18.1% of

TABLE 5
Parameter Estimates for Acquaintance Relationships*

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
λy_3	.745 (.040) ^c	.789 (.042) ^c	.802 (.039) ^c
λy_4	.336 (.057) ^c	.120 (.068) ^a	.334 (.061) ^c
λx_5	.401 (.055) ^c	.364 (.061) ^c	.460 (.059) ^c
λx_7	.263 (.058) ^c	.197 (.065) ^b	.399 (.060) ^c
β_{12}	.244 (.094) ^b	.207 (.088) ^a	.121 (.070) ^a
β_{13}	.318 (.092) ^c	.275 (.085) ^c	.468 (.070) ^c
$\beta_{23/32}$.547 (.021) ^c	.447 (.026) ^c	.405 (.027) ^c
γ_{11}	-.062 (.052)	.004 (.056)	.019 (.050)
γ_{12}	.227 (.052) ^c	.204 (.058) ^c	.213 (.051) ^c
γ_{13}	-.006 (.049)	.013 (.055)	-.041 (.050)
γ_{21}	.089 (.037) ^b	.103 (.046) ^a	.016 (.050)
γ_{22}	.132 (.037) ^c	.182 (.046) ^c	.116 (.050)
γ_{23}	.065 (.035) ^a	.022 (.045)	-.034 (.049)
γ_{24}	.067 (.035) ^a	.076 (.048)	.082 (.051)
γ_{25}	-.017 (.035)	-.065 (.047)	.030 (.052)
γ_{33}	.120 (.036) ^c	-.052 (.048)	-.018 (.050)
ϕ_{12}	.340 (.050) ^c	.154 (.064) ^b	.106 (.063) ^a
ϕ_{13}	.082 (.059)	-.024 (.066)	-.033 (.064)
ϕ_{23}	.004 (.060)	.062 (.066)	-.110 (.064) ^a
ϕ_{45}	.120 (.058) ^a	.316 (.057) ^c	.294 (.056) ^c
ψ_1	.632 (.054) ^c	.675 (.064) ^c	.585 (.054) ^c
ψ_2	.326 (.030) ^c	.453 (.045) ^c	.569 (.054) ^c
ψ_3	.356 (.032) ^c	.510 (.050) ^c	.593 (.057) ^c
ϵ_3	.445 (.038) ^c	.377 (.036) ^c	.357 (.033) ^c
ϵ_4	.887 (.075) ^c	.986 (.093) ^c	.888 (.082) ^c
δ_5	.829 (.070) ^c	.845 (.080) ^c	.813 (.075) ^c
δ_7	.927 (.079) ^c	.954 (.090) ^c	.859 (.079) ^c
χ^2	142.92	199.85	179.00
df	51	51	51

(continued)

TABLE 5 (Continued)

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
χ^2/df	2.80	3.92	3.51
Goodness of fit	.926	.884	.894
Adjusted goodness of fit	.887	.823	.838
Root mean square residual	.006	.083	.073

NOTE: Values omitted were fixed (i.e., λ_y and λ_x values = 1.0; ϵ and δ values = 0.0). Maximum likelihood estimates with standard errors in parentheses. T-values of estimates are indicated by superscripts: a < .05; b < .01; c < .001.

the variance in attributional confidence was explained; the model accounted for 44.2% of interactive strategies and 42.9% of other self-disclosure. Ten parameter estimates were not significant (β_{13} , γ_{13} , γ_{21} , γ_{24} , γ_{25} , γ_{33} , ϕ_{12} , ϕ_{13} , and ϕ_{23}); therefore, the data did not support H1, H5, H6, H8, H10, H11, H12, H13, H14, and H15.

For the Japanese data $\chi^2/\text{df} = 4.86$, the GFI = .859 (adjusted GFI = .785), and the average residual was less than .10. These results suggested that a model was an acceptable fit to the data. The variables accounted for 24.1% of attributional confidence, 48.8% of interactive strategies, and 43.7% of other self-disclosure. Only three parameter estimates were not significant (γ_{21} , γ_{33} , and ϕ_{13}). The data, therefore, did not support H6, H10, and H13.

DATES

The correlations for the dating data are presented in Tables 10-12, with the observed correlations below the diagonal and the reconstructed correlations on the diagonal and above it. The parameter estimates appear in Table 13.⁶

The model appeared to be an acceptable fit to the United States dating data: $\chi^2/\text{df} = 4.58$, GFI = .891 (adjusted GFI = .833), average residual was less than .10. The model accounted for 30.4% of the variance in attributional confidence, 58.2% of interactive uncertainty reduction strategies, and 56.2% of other self-disclosure. Seven of the parameter estimates were not significant (β_{13} , γ_{11} , γ_{13} , γ_{23} , γ_{24} , γ_{25} , and

(text continues on page 434)

TABLE 6
Means, Standard Deviations, and Correlations for United States Friends

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
y_1	.972	.269	.352	.005	.327	.192	-.248	-.106	.032	.012	.028	.008
y_2	.371	.988	.748	.010	.620	.077	.132	.022	.127	.032	.077	.021
y_3	.386	.764	.979	.014	.811	.101	.172	.029	.167	.042	.101	.028
y_4	-.256	-.107	.014	1.000	.011	.001	.002	.000	.002	.001	.001	.000
y_5	.384	.792	.835	-.058	.980	.054	.091	.017	.088	.022	.054	.015
x_1	.225	.272	.169	-.102	.180	1.000	.248	.007	-.041	.023	.056	.015
x_2	.300	.372	.280	-.265	.295	.248	1.000	-.045	-.017	.013	.031	.009
x_3	-.108	.006	.024	.113	.014	.004	-.049	1.000	.053	.047	.113	.031
x_4	-.049	.005	.119	.111	-.004	-.041	-.017	.053	1.000	.045	.108	.029
x_5	.023	.201	.202	.039	.169	.020	.072	.120	.131	.967	.338	.092
x_6	.048	.150	.176	.062	.168	.070	.028	.068	.130	.413	.817	.222
x_7	-.024	-.014	.011	.070	-.006	.007	-.096	.084	-.189	.125	.272	.986
Means	88.177	1.529	1.499	.607	1.518	4.736	7.357	4.122	13.755	3.621	3.862	2.972
SDs	11.044	.357	.402	.531	.403	1.515	1.187	2.011	3.844	.570	.671	.773

NOTE: $N = 270$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 7
Means, Standard Deviations, and Correlations for Korean Friends

	y ₁	y ₂	y ₃	y ₄	y ₅	x ₁	x ₂	x ₃	x ₄	x ₅	x ₆	x ₇
y ₁	.978	.271	.187	.021	.231	.081	.320	-.058	.014	.009	.022	.005
y ₂	.301	.991	.683	.075	.710	-.029	.110	.073	.021	.000	.001	.000
y ₃	.274	.689	.996	.052	.489	-.020	.075	.050	.014	.000	.000	.000
y ₄	-.034	.076	.014	1.000	.054	-.002	.008	.006	.002	.000	.000	.000
y ₅	.298	.722	.815	.040	.991	-.012	.047	-.004	.009	.000	.001	.000
x ₁	.092	-.004	.007	.072	.047	1.000	-.026	.001	-.029	-.018	-.046	-.010
x ₂	.353	.193	.309	-.037	.244	-.021	1.000	-.027	.038	.033	.084	.018
x ₃	-.058	.073	-.019	.077	-.004	.000	-.027	1.000	-.019	-.006	-.016	-.003
x ₄	.067	.028	-.009	.020	.029	-.029	.038	-.019	1.000	.107	.271	.058
x ₅	.215	.111	.147	-.007	.124	-.045	.073	-.003	.051	.966	.309	.066
x ₆	.149	.019	.020	-.038	.053	-.019	.072	-.016	.339	.394	.783	.168
x ₇	-.030	.008	-.017	.023	.043	-.067	.029	-.020	-.230	.131	.214	.990
Means	81.554	1.454	1.333	.552	1.369	4.406	7.099	2.139	11.680	3.750	3.672	3.266
SDs	10.597	.329	.389	.670	.389	1.693	1.053	1.370	4.104	.553	.692	.853

NOTE: N = 220 for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 8
Means, Standard Deviations, and Correlations for Japanese Friends

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
y_1	.993	.374	.273	.077	.323	.162	.327	-.195	-.007	.028	.066	.025
y_2	.383	.990	.721	.204	.714	.058	.183	-.139	.097	.070	.163	.061
y_3	.295	.729	.995	.149	.520	.042	.133	-.101	.071	.051	.119	.045
y_4	.077	.206	.285	1.000	.147	.012	.038	-.029	.020	.015	.034	.013
y_5	.339	.729	.817	.287	.989	.022	.070	-.022	.047	.031	.071	.027
x_1	.188	.104	.106	-.091	.132	1.000	.181	-.065	-.052	-.018	-.042	-.016
x_2	.327	.186	.087	-.211	.073	.178	1.000	-.230	-.065	.054	.124	.047
x_3	-.191	-.132	.002	.101	-.019	-.066	-.221	1.000	.129	.014	.031	.012
x_4	.150	.143	.155	.250	.154	-.052	-.065	.129	1.000	.122	.281	.106
x_5	.210	.259	.284	.036	.269	.054	.021	-.125	.079	1.001	.436	.164
x_6	.175	.199	.223	.180	.162	-.046	.155	.079	.280	.433	1.007	.379
x_7	-.171	-.082	.054	.048	-.040	-.132	-.016	.084	-.128	.113	.376	1.001
Means	76.125	1.243	1.165	.636	1.196	4.100	6.664	2.417	12.346	3.539	3.748	3.257
SDs	12.450	.386	.417	.485	.422	1.490	1.342	1.492	3.676	.539	.579	.805

NOTE: $N = 234$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 9
Parameter Estimates for Friend Relationships

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
λ_{V_3}	.764 (.039) ^c	.689 (.049) ^c	.729 (.045) ^c
λ_{V_4}	.014 (.061)	.076 (.067)	.206 (.064) ^c
λ_{X_5}	.373 (.055) ^c	.349 (.061) ^c	.434 (.059) ^c
λ_{X_7}	.246 (.058) ^c	.189 (.065) ^a	.377 (.060) ^c
β_{12}	.194 (.097) ^a	.186 (.087) ^a	.195 (.057) ^a
β_{13}	.152 (.096)	.086 (.086)	.165 (.060) ^a
$\beta_{23/32}$.530 (.021) ^c	.424 (.027) ^c	.430 (.059) ^c
γ_{11}	.124 (.055) ^a	.095 (.060) ^a	.097 (.057) ^a
γ_{12}	.165 (.056) ^b	.296 (.060) ^c	.239 (.060) ^c
γ_{13}	-.107 (.053) ^a	-.063 (.060)	-.103 (.059) ^a
γ_{21}	.046 (.037)	-.022 (.050)	.028 (.047)
γ_{22}	.113 (.037) ^b	.092 (.050) ^a	.113 (.049) ^a
γ_{23}	.011 (.036)	.077 (.050)	-.114 (.048) ^a
γ_{24}	.116 (.036) ^c	.018 (.052)	.072 (.049)
γ_{25}	.059 (.036)	-.014 (.052)	.102 (.049) ^a
γ_{33}	.001 (.038)	-.035 (.050)	.038 (.049)
ϕ_{12}	.248 (.055) ^c	-.026 (.066)	.181 (.061) ^b
ϕ_{13}	.007 (.059)	.001 (.067)	-.065 (.064)
ϕ_{23}	-.045 (.059)	-.027 (.066)	-.230 (.059) ^c
ϕ_{54}	.125 (.058) ^a	.306 (.058) ^c	.280 (.056) ^c
ψ_1	.778 (.066) ^c	.801 (.076) ^c	.754 (.069) ^c
ψ_2	.358 (.032) ^c	.553 (.054) ^c	.506 (.049) ^c
ψ_3	.396 (.036) ^c	.566 (.056) ^c	.557 (.053) ^c
ϵ_3	.416 (.035) ^c	.525 (.050) ^c	.557 (.053) ^c
ϵ_4	.986 (.085) ^c	.994 (.094) ^c	.958 (.053) ^c
δ_5	.829 (.070) ^c	.845 (.080) ^c	.813 (.043) ^c
δ_7	.926 (.079) ^c	.954 (.090) ^c	.859 (.088) ^c
χ^2	199.18	201.20	247.92
df	51	51	51

(continued)

TABLE 9 (Continued)

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
χ^2/df	3.91	3.95	4.86
Goodness of fit	.892	.887	.859
Adjusted goodness of fit	.834	.827	.785
Root mean square residual	.094	.082	.098

NOTE: Values omitted were fixed (i.e., λ_y and $\lambda_x = 1.0$; ϵ and $\delta = 0.0$). Maximum likelihood estimates with standard errors in parentheses. T-values of estimates are indicated by superscripts: a < .05; b < .01; c < .001.

ϕ_{13}), therefore, the dating data did not support H1, H2, H3, H5, H13, H14, and H15.

With $\chi^2/\text{df} = 2.94$, the GFI = .903 (adjusted GFI = .852), and the average residual less than .10, the model was a reasonable fit to the data. The variables accounted for 40.1% of the variance in attributional confidence, 67.5% of interactive strategies, and 64.3% of other self-disclosure. Ten parameter estimates were not significant (β_{12} , γ_{11} , γ_{13} , γ_{22} , γ_{23} , γ_{24} , γ_{25} , γ_{33} , ϕ_{13} , and ϕ_{23}), therefore, the data did not support H1, H2, H3, H5, H7, H10, H12, H13, H14, and H15.

The final analysis for the Japanese data yielded a $\chi^2/\text{df} = 3.01$, the GFI = .903 (adjusted GFI = .851), and the average residual was less than .10; suggesting that the model also provided an acceptable fit to the data. The model accounted for 41.5% of attributional confidence, 69.7% of interactive strategies, and 68.3% of other self-disclosure. Nine parameter estimates were not significant (β_{12} , γ_{22} , γ_{23} , γ_{24} , γ_{25} , γ_{33} , ϕ_{12} , ϕ_{13} , and ϕ_{23}). The data, therefore, did not support H2, H5, H7, H10, H11, H12, H13, H14, and H15.

DISCUSSION

OVERALL FIT OF THE MODEL

In general, the model posited in Figure 1 appears to be a reasonable fit to the data generated on acquaintance, friends, and dates in all three cultures. Examination of the χ^2/df tests for the United States

(text continues on page 439)

TABLE 10
Means, Standard Deviations, and Correlations for United States Dates

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
y_1	.970	.425	.345	-.059	.463	.092	.292	.184	-.038	.000	-.001	.000
y_2	.450	.985	.799	-.137	.781	.198	.222	.176	-.038	-.011	-.028	-.008
y_3	.456	.811	.990	-.111	.634	.161	.180	.143	-.031	-.009	-.023	-.006
y_4	-.092	-.139	-.023	1.000	-.109	-.028	-.031	-.024	.005	.002	.004	.001
y_5	.504	.801	.840	-.137	.984	.098	.142	.226	-.014	-.005	-.012	-.003
x_1	.112	.221	.158	-.132	.148	1.000	.207	.014	.005	-.012	.032	.009
x_2	.355	.299	.244	-.400	.299	.209	1.000	.242	-.142	.012	.030	.008
x_3	.184	.176	.125	-.048	.226	.015	.243	1.000	.031	.004	.010	.003
x_4	-.028	-.023	.075	.254	.018	.005	-.142	.031	1.000	.051	.123	.033
x_5	-.015	-.005	-.007	.022	-.014	-.001	.099	.050	.131	.995	.402	.109
x_6	-.014	-.109	.002	-.025	-.005	.086	.021	.019	.130	.413	.973	.265
x_7	-.038	-.204	-.036	.005	-.052	-.151	-.090	-.096	-.189	.124	.272	.998
Means	83.822	1.487	1.524	.722	1.521	4.214	6.966	4.545	13.755	3.621	3.862	2.972
SDs	14.110	.387	.396	.613	.401	1.402	1.543	1.625	3.844	.570	.671	.773

NOTE: N = 270 for all correlations, observed correlations below the diagonal; reconstructed correlations on the diagonal and above.
SDs = standard deviations.

TABLE 11
Means, Standard Deviations, and Correlations for Korean Dates

	y_1	y_2	y_3	y_4	y_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
y_1	.957	.404	.525	-.017	.536	.086	.360	-.043	-.001	.008	.021	.005
y_2	.559	.984	.748	-.025	.639	.078	.181	-.005	.039	-.003	-.008	-.002
y_3	.562	.769	.973	-.032	.830	.101	.235	-.007	.051	-.004	-.011	-.002
y_4	-.077	-.042	-.033	1.000	-.027	-.003	-.008	.000	-.002	.000	.000	.000
y_5	.587	.747	.861	.021	.974	.058	.133	-.034	.028	-.004	-.009	-.002
x_1	.173	.275	.208	-.078	.246	1.000	.270	-.044	-.107	.026	.065	.014
x_2	.431	.314	.320	-.237	.281	.261	1.000	-.042	-.077	.042	.108	.023
x_3	-.047	-.107	-.010	.135	-.036	-.056	-.053	1.000	.010	.042	.107	.023
x_4	.119	-.006	.080	.100	.086	-.107	-.077	.010	1.000	.109	.277	.059
x_5	.185	.184	.170	-.060	.188	.123	.207	.021	.051	.976	.334	.072
x_6	.175	.004	.021	.060	.074	.001	.057	.103	.339	.394	.848	.182
x_7	-.121	-.038	-.151	.017	-.065	.069	-.052	.111	-.230	.131	.214	.993
Means	62.985	.971	.982	.630	1.015	3.940	6.345	3.148	11.680	3.749	3.672	3.266
SDs	19.957	.442	.480	.537	.479	1.366	1.435	1.778	4.104	.553	.692	.853

NOTE: $N = 220$ for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 12
Means, Standard Deviations, and Correlations for Japanese Dates

	V_1	V_2	V_3	V_4	V_5	x_1	x_2	x_3	x_4	x_5	x_6	x_7
V_1	.973	.456	.545	.178	.581	.204	.192	.053	.017	.020	.047	.108
V_2	.597	.993	.829	.271	.723	.145	.046	-.067	.032	.028	.064	.024
V_3	.564	.837	.990	.324	.864	.173	.055	-.080	.038	.033	.076	.029
V_4	.175	.318	.327	.999	.283	.057	.018	-.026	.012	.011	.025	.009
V_5	.608	.840	.876	.354	.990	.103	.033	-.106	.016	.018	.041	.015
x_1	.238	.255	.209	.032	.166	1.000	.077	-.027	-.132	-.039	-.090	-.034
x_2	.236	.144	.101	-.168	.113	.074	1.000	-.018	.055	.063	.145	.054
x_3	.054	-.092	-.079	.011	-.105	-.029	-.015	1.000	.113	.028	.065	.025
x_4	.089	.030	.049	.216	.036	-.132	.055	.113	1.000	.131	.302	.113
x_5	.162	.172	.180	-.034	.202	.066	.085	-.089	.079	1.019	.478	.180
x_6	.079	.047	.092	.101	.082	-.108	.142	.086	.280	.433	1.104	.415
x_7	-.197	-.163	-.134	-.097	-.153	-.079	-.004	.080	.128	.113	.376	1.015
Means	65.559	.892	.935	.592	.978	3.613	6.272	3.944	12.346	3.539	3.748	3.257
SDs	19.246	.487	.497	.483	.521	1.406	1.384	1.832	3.676	.539	.579	.805

NOTE: N = 230 for all correlations. Observed correlations below the diagonal; reconstructed correlations on the diagonal and above. SDs = standard deviations.

TABLE 13
Parameter Estimates for Dating Relationships

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
λy_2	.811 (.035) ^c	.769 (.043) ^c	.837 (.036) ^c
λy_4	-.139 (.060) ^a	-.033 (.068)	.327 (.062) ^c
λx_5	.407 (.055) ^c	.363 (.061) ^c	.455 (.059) ^c
λx_7	.268 (.058) ^c	.197 (.065) ^b	.395 (.060) ^c
β_{12}	.096 (.086)	.135 (.100)	.092 (.103)
β_{13}	.356 (.085) ^c	.398 (.099) ^c	.500 (.102) ^c
$\beta_{23/32}$.485 (.023) ^c	.561 (.023) ^c	.586 (.021) ^c
γ_{11}	-.007 (.052)	-.028 (.053)	.127 (.050) ^b
γ_{12}	.213 (.054) ^c	.282 (.054) ^c	.163 (.049) ^c
γ_{13}	.035 (.053)	-.018 (.051)	.120 (.049) ^b
γ_{21}	.127 (.040) ^c	.036 (.039) ^c	.119 (.036) ^c
γ_{22}	.117 (.042) ^b	.163 (.039)	.017 (.036)
γ_{23}	.037 (.040)	.026 (.038)	.021 (.036)
γ_{24}	-.013 (.040)	.067 (.040)	.032 (.038)
γ_{25}	-.029 (.039)	-.051 (.040)	.050 (.038)
γ_{33}	.141 (.040) ^c	.030 (.039)	-.059 (.036)
ϕ_{12}	.207 (.056) ^c	.270 (.059) ^c	.077 (.063)
ϕ_{13}	.014 (.060)	-.044 (.065)	-.027 (.064)
ϕ_{23}	.242 (.054) ^c	-.042 (.065)	-.018 (.064)
ϕ_{45}	.124 (.058) ^a	.301 (.056) ^c	.287 (.056) ^c
ψ_1	.696 (.059) ^c	.573 (.054)	.569 (.052) ^c
ψ_2	.418 (.037) ^c	.316 (.032) ^c	.300 (.030)
ψ_3	.483 (.039) ^c	.348 (.035) ^c	.313 (.031) ^c
ϵ_2	.342 (.029) ^c	.409 (.039) ^c	.299 (.028) ^c
ϵ_4	.982 (.083) ^c	.999 (.094) ^c	.893 (.082) ^c
δ_5	.829 (.070) ^c	.845 (.080) ^c	.299 (.028) ^c
δ_7	.926 (.079) ^c	.954 (.090) ^c	.893 (.082) ^c
χ^2	233.73	149.73	153.54
df	51	51	51

(continued)

TABLE 13 (continued)

	<i>United States</i>	<i>Korea</i>	<i>Japan</i>
χ^2/df	4.58	2.94	3.01
Goodness of fit	.891	.903	.903
Adjusted goodness of fit	.833	.852	.851
Root mean square residual	.076	.096	.083

NOTE: Values omitted were fixed (i.e., λ_y and $\lambda_x = 1.0$; ϵ and $\delta = 0.0$). Maximum likelihood estimates with standard errors in parentheses. T-values of estimates are indicated by superscripts: a < .05; b < .01; c < .001.

analyses indicated that the model is the best fit for the acquaintance data (2.80), next best for the friend data (3.91), and not as good a fit for the dating data (4.58). The GFI and adjusted GFI statistics suggest the model is approximately an equal fit to the friend and dating data, and the best fit to the acquaintance data. The Korean data, in contrast, suggest that the model is the best fit for the dating data ($\chi^2/\text{df} = 2.94$) and an acceptable, approximately equal fit to the acquaintance and friend data (3.92 and 3.95, respectively). Analysis of the GFI and residual statistics supports this conclusion. The model is the best in the Japanese dating data ($\chi^2/\text{df} = 3.01$), second best in the acquaintance data (3.51), and the least best fit to the friend data (4.58). A similar conclusion is drawn from the GFI and residual statistics.

The overall fit of the model to the nine data sets was further assessed by examining the modification indexes (Jöreskog & Sörbom, 1982) and the first order derivatives (Lomax, 1982). These analyses revealed that the largest modification index and first order derivative were consistent across analyses. Specifically, the parameter between the observed variable self-disclosure (y_2) and the latent variable attributional confidence (η_1) was the highest. Given that a direct relationship between these two variables is not theoretically consistent with the latent variable interactive strategies (η_2) included, modifications were not made.⁷ No other modification index of first order derivative was extremely high. These analyses, therefore, support the fit of the model to the data.

One remaining issue needs to be addressed, namely the equilibrium assumption. Empirical indicators of equilibrium appear to support the validity of the assumption. No parameter estimate was greater than 1.0

and, in addition, the residual plots revealed no evidence of lack of equilibrium. Although these data can not rule out lack of equilibrium, there is no evidence that the assumption must be questioned.

Given that the model is an acceptable fit to the data for the three relationships in the three cultures, it appears to be robust (Foschi, 1980) and generalizable. The model also has reasonable explanatory power for each of the three endogenous variables across relationships and cultures: 18-41% of the variance in attributional confidence was explained; 42-67% of interactive strategies; and 40-56% of other self-disclosure was explained.

In terms of the percentage of variance in attributional confidence explained there was a difference between the U.S. sample and those from Korea and Japan. In all three samples the least amount of variance was explained in the friend data. In the U.S. sample there was more variance explained in the acquaintance data (36.8), than the dating data (30.4). The Korean and Japanese samples, however, yielded the opposite pattern—more variance explained in dating relationships (K: 40.1, J: 41.5), than in acquaintances (K: 28.7, J: 39.6). One plausible explanation for these findings is that heterosexual dating relationships are not perceived the same way in high-context cultures like Japan and Korea as they are in low-context cultures like the United States. Specifically, respondents in the two high-context cultures may not have viewed their dating relationships as part of the mate selection process. Not all “dates” in high-context cultures are potential mates. Mochizuki (1981, p. 324) for example points out with respect to Japanese, “Interaction with only a limited number of people of the opposite sex and a short dating period are two characteristics of mate selection among Japanese youth.” Won-Doornink (1979) makes a similar observation for Korean male-female relations. The dating relationships selected by respondents in Japan and Korea may have been closer to opposite sex acquaintances. Because opposite sex relationships are less common than same sex ones, patterns of communication characteristic of these relationships may be similar to encounters with strangers in Japan and Korea. The closer relationships are to initial encounters, the more variance that would be explained, as the model was generated from a theory of initial interactions.

PARAMETER ESTIMATES

Although the model was acceptable in all analyses, some parameter estimates did not support specific hypotheses. One approach to further

TABLE 14
Summary of Tests of Parameter Estimates

<i>Hypotheses (Parameter Est.)</i>	<i>Acquaintances</i>			<i>Friends</i>			<i>Dates</i>		
	<i>US</i>	<i>K</i>	<i>J</i>	<i>US</i>	<i>K</i>	<i>J</i>	<i>US</i>	<i>K</i>	<i>J</i>
1 (γ_{13})	NS	NS	NS	S	NS	S	NS	NS	S
2 (β_{12})	S	S	S	S	S	S	NS	NS	NS
3 (γ_{11})	NS	NS	NS	S	S	S	NS	NS	S
4 (γ_{12})	S	S	S	S	S	S	S	S	S
5 (γ_{23})	S	NS	NS	NS	NS	S	NS	NS	NS
6 (γ_{21})	S	S	NS	NS	NS	NS	S	S	S
7 (γ_{22})	S	S	NS	S	S	S	S	NS	NS
8 (β_{13})	S	S	S	NS	NS	S	S	S	S
9 (β_{23})	S	S	S	S	S	S	S	S	S
10 (γ_{33})	S	NS	NS	S	NS	NS	S	NS	NS
11 (ϕ_{21})	S	S	S	S	NS	S	S	S	NS
12 (ϕ_{23})	NS	NS	S	NS	NS	S	S	NS	NS
13 (ϕ_{31})	NS	NS	NS	NS	NS	NS	NS	NS	NS
14 (γ_{24})	S	NS	NS	S	NS	S	NS	NS	NS
15 (γ_{25})	NS	NS	NS	NS	NS	S	NS	NS	NS
16 (ϕ_{54})	S	S	S	S	S	S	S	S	S

NOTE: US = United States sample; K = Korean sample; J = Japanese sample; S = supported; NS = not supported.

testing the model would be to remove nonsignificant parameters and search for a more parsimonious model.⁸ This procedure, however, was not followed. The search for more parsimonious models would have to be relationship-specific and none of the resulting models might be applicable to initial interactions. Further, if Land's (1969) procedure (i.e., removing paths with values $< .05$) were used, only three paths would be removed: γ_{21} and γ_{33} in the friend analysis and ϕ_{13} in the dating analysis. The following discussion focuses on plausible explanations for nonsignificant parameter estimates in specific relationships.

Table 14 presents a summary of the tests of the parameter estimates across relationships and cultures. An examination of the table indicates

that only one hypothesis (13, association between amount of communication and similarity) was not supported in any of the tests. Three hypotheses (4, attraction leads to attributional confidence; 9, association between other self-disclosure and interactive strategies; and 16, association between self-monitoring and self-consciousness), in contrast, were supported in all conditions. Several other hypotheses were supported consistently across the three cultures within specific relationships and some were supported across two cultures for specific relationships. If a hypothesis was not supported in only one culture for a specific relationship, then it is assumed to be partly supported. Given this assumption, one additional hypothesis (11, association between attraction and similarity) is supported or partly supported in all three relationships and four others in two of the three relationships: two (2, interactive strategies lead to attributional confidence, and 7, attraction leads to interactive strategies) in the acquaintance and friend, but not dating relationships; two (6, similarity leads to interactive strategies, and 8, other self-disclosure leads to attributional confidence) in acquaintance and dating, but not friend relationships. Three hypotheses (1, amount of communication leads to attributional confidence; 3, similarity leads to attributional confidence; and 14, self-monitoring leads to interactive strategies) were supported or partly supported only in the friend data. One hypothesis (10, amount of communication leads to other self-disclosure) appears to be culture-specific in that it was supported across relationships in the United States data, but not supported in the Korean or Japanese data. Finally, three hypotheses (5, amount of communication leads to interactive strategies; 12, association between attraction and amount of communication; and 15, self-consciousness leads to interactive strategies) were not supported in at least two cultures across relationships.

The lack of support for the hypothesized correlation between amount of communication and similarity (H13) is inconsistent with Parks and Adelman (1983), who found a correlation between the two variables of .24. This finding may be due to attitude similarity being measured with only two of the items from McCroskey et al.'s (1975) attitude similarity dimension in the present study: Parks and Adelman, however, used a broader measure of similarity.

The finding that self-consciousness is not related to the use of interactive uncertainty reduction strategies (H15) is not inconsistent with any specific research finding to date, but it is potentially inconsistent with recent discussions of uncertainty reduction theory

(e.g., Berger, 1979; Berger & Bradac, 1982) that have posited the relationship. To date most research on self-consciousness has focused on its influence on such variables as aggression, dominance, dissonance reduction, compliance, coercion, and self-description (see Buss, 1980; Scheier & Carver, 1981) with little, if any, research specifically on self-disclosure, interrogation, or deception detection—the interactive strategies. The vast majority of this research has been conducted in a laboratory setting with some manipulation that focuses attention on the specific aspect of the self of interest. Scheier and Carver (1981) pointed out that private and public self-consciousness only have an impact on behavior when attention is focused on that aspect of the self. It may be that in “normal” interactions among acquaintances, friends, and dates people do not consciously focus on these aspects of the self and, therefore, self-consciousness does not influence the use of the interactive strategies. Alternatively, the results may be due to the subjects not attuning to these aspects of the self when responding to the questionnaire and the influence of self-consciousness is obscured.

The data did not support the posited relationship between amount of communication and interactive uncertainty reduction strategies (H5). This finding is consistent with recent conceptualizations of established relationships involving a dialectical process. Altman, Vinsel, and Brown (1981, p. 139), for example, point out that “Although people may exhibit relatively stable openness (or closedness) for a time, it is likely that openness eventually gives way to closedness and that closedness is eventually followed by openness. Such cyclical variations in accessibility of people to one another are affected by factors internal and external to an individual.” Rawlins (1983, a,b) makes similar points with respect to the dialectics of expressiveness/protectiveness and freedom to be independent/freedom to be dependent in close friendships. Based upon these dialectical notions, amount of communication may not be a good predictor of interactive strategy use. This dialectical process may also explain the lack of support for the sixth (similarity increases use of interactive strategies) and the eighth (other self-disclosure leads to attributional confidence) hypotheses in the friend data.

The hypothesized relationship between amount of communication and interpersonal attraction (H12) was not supported. This hypothesis was derived from Berger and Calabrese’s (1975) Theorem 5. The theorem, in turn, was derived from studies of small group cohesiveness (e.g., Lott & Lott, 1961) and one study of initial interaction (Moran, 1966). Although not directly analogous, the present finding is consistent

with Sunnafrank and Miller (1981) and Sunnafrank (1983). These researchers discovered that interaction has an impact upon the similarity-attraction relationship only for dissimilar strangers, not similar ones. The relationship between amount of communication and attraction may, therefore, be mediated through perceived similarity.

The lack of support in the acquaintance and dating data for H1 and H3 is consistent with Parks and Adelman (1983). Although there were moderate correlations between amount of communication ($-.49$), similarity ($-.35$), and uncertainty in Parks and Adelman's (1983) study, a commonality analysis (Siebold & McPhee, 1979) of their multiple regression on uncertainty revealed that only 1.1% of the variance in uncertainty could be accounted for by amount of communication and only 2.9% by similarity.

The hypothesized relationship between self-monitoring and use of interactive strategies (H14) was supported only in the friend data. This finding appears to be consistent with Shaffer, Smith, and Tomarelli (1982) who found that high self-monitors tend to reciprocate intimacy and emotionality more than low self-monitors. The lack of support in the acquaintance and dating data may be partly explained by Snyder, Gangestad, and Simpson's (1983) research. They found that low self-monitors have a homogeneous and undifferentiated social world; they spend time with people who are similar. High self-monitors, in contrast, partition and compartmentalize their social world; they spend time with specific people for specific activities. If close friends are not linked to specific activities, Snyder et al.'s research may explain why the hypothesized relationship did not hold in acquaintance and dating data.

The posited relationship between use of interactive strategies and attributional confidence (H2) and attraction and interactive strategy use (H7) was supported in the acquaintance and friend, but not dating data. The explanation for these findings may be due to differences in same-sex and opposite-sex communication. The lack of relationship between interactive strategies and attributional confidence in dating relationships is consistent with Gottman, Markham, and Notarius (1977) who found that married couples ask each other few questions; rather, they tend to use "mindreading" of each others' feelings to develop understanding. These results also appear to be consistent with Berger, Weber, Munley, and Dixon's (1977) finding that people judge their "lovers" as less understanding and reinforcing than their close friends. The present data suggest that in dating relationships similarity leads to interactive strategy use and this leads to other self-disclosure that in turn influences attributional confidence.

SHORTCOMINGS OF THE MODEL

The tests of the model suggest that Berger and his associates' uncertainty reduction theory can be generalized across relationships and cultures. The model, however, does not address major critiques of uncertainty reduction theory. The focus of these critiques is twofold: (1) the lack of specification of the causal mechanisms of change (e.g., Bochner, 1978), and (2) ignoring the broader social context in which relationships develop (e.g., Huston, Surra, Fitzgerald, & Cate, 1981; LaGapia, 1981). There is, in addition, a third potential shortcoming of the present analysis. Namely, the data are self-report in nature, not actual interaction data.

Berger and Calabrese (1975) limit the generalizability of their theory to initial interactions between strangers. They aptly point out that "a full blown theory of interaction development would have to stipulate broader boundary conditions than the present one" (p. 110). The problem is that subsequent discussions of uncertainty reduction theory have not specified these conditions. The present research suggests that in terms of explained variance the original theory—with recent modifications—is generalized to acquaintance, friend, and dating relationships. The present model, however, does not incorporate scope and boundary differences in the explained variance for attributional confidence across relationships it may be necessary to specify these conditions for some parameters in the model and to incorporate additional parameters for specific relationships.

It is, however, more than scope and boundary conditions that must be specified in order to make the theory a theory of relationship development. Bochner (1978) criticized Berger and Calabrese's (1975) theory on the ground that the stages of development were not precisely defined, nor were the causal mechanisms of changes in relationship specified. More specifically, he argued that "it is impossible to predict on the basis of this theory how to measure the amount of uncertainty or uncertainty in a relationship and when to predict that there will be too much uncertainty leading to boredom, when there will be just enough certainty leading to satisfaction, and when there will be too little certainty leading to termination or relational strain" (p. 187). Although the problems of measurement alluded to by Bochner have been improved, the other issues raised have not and need to be addressed in future theorizing and research. More specifically, the present analysis does not allow for the examination of changes in the correlations among the variables as a function of relationship development. These changes

must be incorporated in future theorizing and research if uncertainty reduction theory is to be a viable theory of relationship development.

The second critique involves the lack of consideration of the broader social context in which relationships develop. Parks and Adelman's (1983) research was designed to take some of these factors into consideration in examining uncertainty in romantic relationships. Their research included two context variables: communication with the partner's network and support from the partner's network. These variables uniquely accounted for 5.7% and 2.7% of the variance in uncertainty, respectively, and had 2.7% of the variance in common with each other in Parks and Adelman's commonality analysis, or a total of 11% (ignoring the variance they shared with other variables). This 11% is approximately the difference in the overall variance explained in Parks and Adelman's study and the present analysis of dating relationships in the United States (41% versus 30%). The inclusion of context variables, therefore, appears to have a significant impact upon the variance explained in romantic (dating) relationships and should extend to other "developed" relationships such as friendships. Context not only should be important in low-context cultures such as the United States, but also in high-context cultures like Japan and Korea that emphasize the role of context in predicting others' behavior.

The third potential shortcoming of the present analysis is that it relied on self-report data. Self-report measures, however, were selected for several specific reasons. First, cross-sectional measurements were necessary in order to examine uncertainty reduction theory in totality. This approach was used with recognition of the problems inherent in measuring several variables at one point in time when there is a temporal sequencing to the variables. The variables included are abstract and global ones with which most respondents should be familiar. The issues inherent in reporting on many aspects of individuals' behavior (i.e., those raised by Nisbett & Wilson, 1977) should not be problematic.⁹ In fact, the present data appear to meet the criteria specified by Nisbett and Wilson for use of self-report data. Not only are the stimuli (the three relationships) salient to the respondents, they are also plausible explanations for differences in the variables (e.g., attributional confidence). Further, only the individual respondents would have knowledge of their idiosyncratic responses to the stimuli and their intentions vis-à-vis the stimuli.

The use of self-report data also is justified on practical grounds. Although it is methodologically possible to study selected aspects of initial interactions using only observational data, the study of

"developed" relationships with only observational data is almost impossible. Specifically, it would be impractical to observe acquaintance, friend, and dating relationships for sufficient time to obtain a representative sampling of self-disclosure, interrogation, and deception detection. Even if these data were available, other variables would still have to be measured using self-report data because no other acceptable way to assess self-monitoring, self-consciousness, attributional confidence, and interpersonal attraction exists.

The above should not be taken to suggest that the self-report measures used are perfect indicators of the concepts under study. This obviously is not the case. Several of the measures have reliability coefficients lower than desirable (i.e., $< .80$). The advantage of LISREL in the present analysis, however, is that it was not necessary to assume perfect measurement for all variables as it would be in standard regression techniques. LISREL estimates measurement error, based on the assumption that one indicator for a latent variable is perfectly measured.

The use of actual interaction data may have had an impact on some of the findings. Dindia (1982), for example, has argued that reciprocity of self-disclosure (which is incorporated in H9) works out empirically with self-report data (in initial interactions), but not with actual interaction data. Here findings, however, are inconsistent with Won-Doornink's (1979) research on reciprocity of self-disclosure in interactions in Korea. The inconsistencies in these findings may be due differences in the representational validity of the coding schemes used (Folger & Poole, 1981).

The findings vis-à-vis self-consciousness also may have been influenced by use of self-report data, as pointed out above. Specifically, for self-consciousness to have an effect on the use of interactive uncertainty, reduction strategies attention must be focused on that aspect of the self (Scheier & Carver, 1981). This may not occur when self-reports of previous behavior are made. Although potential confounding of results due to use of self-report measures of the variables cannot be ruled out, the consistency of results across cultures suggest that the model appears to be a reasonable account of the self-report data.

CONCLUSION

The model developed and tested appears to be a reasonable fit to the self-report on communication in acquaintance, friend, and dating

relationships in Japan, Korea, and the United States. It might be argued that lack of support for specific hypotheses in particular relationships in specific cultures undermines the generality of the model and suggests that revisions to the model are needed. This, however, is not necessarily the case. Heise (1969) points out that tests of significance alone should not be used to determine which paths should be removed from a model. He argues that only paths approaching zero should be removed, but concedes there is no generally agreed upon value to use to remove a path. Land (1969) takes a similar position; nevertheless, he recommends that paths less than .05 be removed. If this procedure is followed (i.e., removing paths $< .05$ in all three cultures within relationships), no path would be removed from the acquaintance model, two paths (γ_{21} and γ_{33}) would be removed in the friend analysis, and only one (ϕ_{13}) in the dating analysis. Little modification of the model, therefore, is necessary based upon the present data. Rather than removing paths, recent research (Parks & Adelman, 1983) suggests that other paths need to be added. Specifically, involvement in the other person's social networks should be incorporated in future versions of the model.

NOTES

1. For an alternative perspective on uncertainty in communication see Pavitt and Cappella (1979). Also see Fiddle (1980) for an overview of alternative perspectives on uncertainty used in the social sciences.

2. Parks and Adelman's (1983) study appeared after the data presented here were collected. This research has implications for the present dating and friend analyses and will be discussed in detail below. It can be argued that under conditions in which uncertainty increases in relationships (Planalp & Honeycutt, 1984) there may be feedback from attributional confidence to other variables. This issue is important and should be examined in future research because the omission of feedback from attributional confidence may be the major shortcoming of the present model.

3. There are at least two studies (Briggs, Cheek & Buss, 1980; Gabrenya & Arkin, 1980) that suggest self-monitoring may have more than one dimension. These studies, however, involved modified response scales, such as five-point scales, rather than the dichotomous scales Snyder (1974, 1979) used. Because dichotomous response categories were used and the full scale yielded reasonable reliability, it was decided to treat it as unidimensional, consistent with the vast majority of research on the topic. This decision is supported by a confirmatory factor analysis of the two scales in the three cultures to be reported separately.

4. It might be argued that the set of variables is incomplete. The only variable in Berger and Calabrese's (1975) original theory omitted was nonverbal affiliative expressiveness. The axiom in their theory involving this variable (Note 2) was not based upon specific research on the relationship between nonverbal affiliative expressiveness and uncertainty,

and no subsequent research has specifically looked at this variable. In addition, this variable has not been discussed in recent elaborations of the theory (e.g., Berger, 1979; Berger & Bradac, 1982). Given this and the difficulty in adequately operationalizing the variable in a questionnaire booklet, it was decided to omit it. After this research was concluded, Kellermann and Berger's (in press) research examining the use of verbal and nonverbal behaviors associated with relaxation in acquiring social information appeared. This study may make the addition of nonverbal affiliative expressiveness possible in future versions of the model. Also as indicated in Note 2, Parks and Adelman's research appeared after the present data were collected so the inclusion of their "context" variables could not be anticipated.

5. The last item from McCroskey et al.'s (1975) attitude similarity dimension was omitted for a specific reason. The translation of the four items in McCroskey, et al.'s attitude similarity yielded two items that were identical in Korean and Japanese. In order to make the cross-cultural data exactly the same, it therefore was decided to omit one item from all questionnaire booklets.

6. It was necessary to slightly alter the measurement model for the dating analyses. In all acquaintance and friend analyses λ_{y2} was set equal to 1.0. This procedure yielded theta epsilon and psi matrices that were not positive definite for the dating analyses. For these analyses λ_{y3} was set equal to 1.0 and λ_{y2} freed (and the corresponding changes made in the theta epsilon matrix). The necessity to make this change suggests that there is a difference in response patterns y_2 and y_3 in these different situations.

7. One plausible explanation for these high modification indexes and first-order derivatives is overlap in the measurement of self-disclosure and attributional confidence. Another explanation may be that the interactive strategy latent variable does not fully mediate the relationship between self-disclosure and attributional confidence.

8. An alternative procedure would have been to use a "split-half" method. That is, use half of the data to generate a parsimonious model across relationships and the other half to test it. There were not sufficient cases to utilize this procedure and, in addition, such a model may not be applicable in initial interactions.

9. Nisbett and Wilson (1977, p. 231) contend that individuals may have "little or no direct introspective access to higher order cognitive processes." They go on to argue that when individuals report on processes mediating the effects of stimuli on responses, their responses are based on a priori causal theories and not true introspection. They conclude that accurate reports occur when influential stimuli are salient and plausible causes of the responses produced and that individuals' self-reports will be more accurate than those of observers when (1) they have knowledge of their prior idiosyncratic responses to stimuli, (2) there are differences in cultures or subcultures in causal theories, and (3) when individuals have knowledge of their intentions that observers may lack. As indicated above, it is our intention that the present data meet these specifications.

Nisbett and Wilson's position has been criticized by several writers. Smith and Miller (1978), for example, argue that there is evidence that individuals do have access to causal processes. They support this position with a reanalysis of data presented by Nisbett and Wilson (1977). White (1980) agrees and presents data that run counter to Nisbett and Wilson's position. Similarly, Ericsson and Simon (1980, p. 215) contend that verbal reports are indeed data. They argue that "inaccurate reports by other researchers are shown to result from requesting information that was never directly heeded, thus forcing subjects to infer rather than remember their mental processes."

The issues raised by this debate are important, but should not rule out use of self-report data to test causal theories. Several recent analyses of interpersonal communication (i.e.,

Parks, Stan, & Eggert, 1983; Honeycutt, 1984; Johnson, 1984) also have used self-report data to test LISREL models. These investigators have recognized that some variables "are not truly amenable to observational techniques" (Johnson, 1984, p. 182).

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ERRATUM

Please note the following correction to "Coorientation of Communication Rules in Managerial Dyads," by Eric M. Eisenberg, Peter R. Monge, and Richard V. Farace, which appeared on pages 261-271 of the winter issue of *Human Communication Research*:

The first two sentences under the heading, TESTS OF HYPOTHESES 1-3: COORIENTATION AND PERFORMANCE EVALUATION, should read: "Results of these analyses appear in Table 1. Hypothesis 1 was supported by the data; supervisor accuracy had a significant effect on performance ratings of subordinates ($F [1,131] = 5.71, p < .05$).