

## When Do Opposites Attract? Interpersonal Complementarity Versus Similarity

D. Christopher Dryer and Leonard M. Horowitz  
Stanford University

Two experiments examined whether interpersonal complementarity or similarity influences people's satisfaction with dyadic interactions. Participants in complementary partnerships (submissive people with dominant partners, dominant people with submissive partners) reported more satisfaction than did those with similar partners. In Study 1 *complementarity* referred to the match between the participants' self-reported interpersonal style (dominant or submissive) and the role enacted by a confederate (dominant or submissive). In Study 2 participants interacted in pairs, and *complementarity* referred to the match between one participant's interpersonal goals and the other's overt behavior. Participants whose goals were complemented by their partners' behavior were more satisfied with the interaction than those whose goals were not. In both studies satisfied participants perceived their partners as similar to themselves.

Over the years a number of interpersonal theories have emerged to describe the relationship between two people in an interaction (e.g., Benjamin, 1974; Horney, 1945; Kiesler, 1983, 1996; Strong & Hills, 1986; Sullivan, 1953; J. S. Wiggins, 1982). Although these theories differ in important ways, most of them contain the same two fundamental propositions. One of these propositions is that interpersonal behaviors can be described along two dimensions. The first dimension, *affiliation*, ranges from friendliness to hostility; the second, *control*, ranges from dominance to submission. Interpersonal behaviors reflect a combination of these two underlying dimensions. "Criticizing," for example, lies in the quadrant reflecting hostile dominance, "advice-giving" in the quadrant reflecting friendly dominance, "deferring" in the quadrant reflecting friendly submission, and "sulking" in the quadrant reflecting hostile submission. In addition to describing interpersonal behaviors (Kiesler, 1983; Strong & Hills, 1986), the dimensions of *affiliation* and *control* have been used to describe interpersonal problems (Horowitz, 1979), interpersonal traits (Conte & Plutchik, 1981; J. S. Wiggins, 1979), and interpersonal relations (Wish, Deutsch, & Kaplan, 1976).

The second proposition is that people influence each other's

behavior in predictable ways as they interact (Carson, 1969; Kiesler, 1983; Leary, 1957; Sullivan, 1953). This proposition, called the *principle of complementarity*, states that each interpersonal behavior invites a particular class of responses. The behavior and the response it invites are said to be *complementary*. Complementary behaviors are similar along the affiliation dimension (friendliness invites friendliness, hostility invites hostility) and reciprocal along the control dimension (dominance invites submission, submission invites dominance). Therefore, according to this postulate, advice-giving invites deference, and sulking invites scolding.

### Complementarity in Interactions

Typically, researchers have tested the principle of complementarity by determining whether interpersonal behaviors do, in fact, complement one another in interactions. Strong et al. (1988), for example, had participants work with a partner on a problem-solving task. Raters coded all interpersonal behaviors and all the reactions to behaviors along the interpersonal circumplex. These researchers hypothesized that "interpersonal actions tend (with a probability significantly greater than chance) to . . . evoke from an interactant complementary responses" (Kiesler, 1983, p. 200). The wording of this hypothesis suggests a mechanistic view of interpersonal behavior: One behavior as stimulus evokes another as a reflexive response. However, interpersonal behaviors vary in ways that violate this mechanistic interpretation. For example, Strong et al. (1988) found that certain behaviors (e.g., hostile submissiveness) generally elicited noncomplementary responses, though other behaviors (e.g., friendly dominance) did generally elicit complementary responses.

Findings such as these indicate that interpersonal behaviors need not be complementary. Reviews of the empirical tests of complementarity (e.g., Bluhm, Widiger, & Miele, 1990; Orford, 1986) have suggested that interpersonal behaviors vary considerably in ways not accounted for by complementarity alone.

---

The preparation of this article was supported by the John D. and Catherine T. MacArthur Foundation Program on Conscious and Unconscious Mental Processes. It was also supported by Kaiser Foundation Research Institute Grant 114-9724. We are grateful to David Bergloff, Ki Chan, Grace Chen, Vincent Ho, and Ale Lopez for their help as research assistants and to Martin Ford, Edward Haertel, Youngme Moon, Clifford Nass, Susan Nolen-Hoeksema, and Byron Reeves for their comments on an earlier version of this article.

Correspondence concerning this article should be addressed to D. Christopher Dryer, who is now at Almaden Research Center, IBM Corporation, 650 Harry Road, San Jose, California 96120, or Leonard M. Horowitz, Department of Psychology, Jordan Hall, Building 420, Stanford University, Stanford, California 94305-2130.

Theorists have argued that individual differences in interpersonal style (Bluhm et al., 1990) or in interpersonal goals (Horowitz et al., 1991; Orford, 1986) partially determine behaviors. From this perspective, interpersonal behaviors *invite*, rather than elicit or evoke, complementary responses (Horowitz, Dryer, & Krasnoperova, 1997). People can and do refuse such invitations. For example, people with a dominant interpersonal style may refuse an invitation to be submissive, and people with a submissive interpersonal style may refuse an invitation to be dominant.

The noncomplementarity that occurs when one partner refuses to provide the invited response may have distinctive consequences. Noncomplementary interactions may (a) impede joint productivity (Estroff & Nowicki, 1992; Kiesler, 1983; Sullivan, 1953) and (b) result in dissatisfaction with the interaction (Horowitz et al., 1991; Sullivan, 1953). Recent studies have examined these consequences. For example, Estroff and Nowicki (1992) found that complementary pairs of participants together performed better on a jigsaw puzzle task than did noncomplementary pairs. Similarly, Nowicki and Manheim (1991) found that women in complementary pairs liked each other more after interacting for 75 min than did women in noncomplementary pairs. These results suggest that a complementarity between two partners enhances their attractiveness to each other.

### Similarity in Interactions

A contrasting view, the *similarity-attraction hypothesis* (Barry, 1970; Blankenship, Hnat, Hess, & Brown, 1984; Duck, 1973; Duck & Craig, 1978; Jellison & Zeisset, 1969; Novak & Lerner, 1968), states that people are attracted to others who exhibit similar (rather than complementary) personality characteristics. As Moon (1996) noted, Type A and Type B individuals prefer dating partners with the same personality type (Morell, Twillman, & Sullaway, 1989), children prefer others with a similar sense of humor (Hymel & Woody, 1991), college students prefer roommates with similar personality traits (Carli, Ganley, & Pierce-Otay, 1991; Deutsch, Sullivan, Sage, & Basile, 1991), and people like strangers with personality characteristics similar to their own (Byrne & Griffitt, 1969; Griffitt, 1966, 1969; Hendrick & Page, 1970; Hodges & Byrne, 1972; Reager & Clore, 1970). Likewise, husbands and wives with similar personality characteristics report greater marital satisfaction (e.g., Antill, 1983; Barry, 1970; Blazer, 1963; Bruch & Gilligan, 1980; Eysenck & Wakefield, 1981; Murstein, 1961; Richard, Wakefield, & Lewak, 1990; Tharp, 1963; Wiggins, Moody, & Lederer, 1983). The similarity hypothesis has also been supported when *similarity* is defined as shared demographic characteristics, shared physical characteristics, or shared attitudes (see Moon, 1996, for a review of this literature). The principal theory that explains the similarity-attraction hypothesis states that a similarity between Person A and Person B is gratifying because each person validates, enhances, or reinforces the self-concept of the (similar) other (e.g., Byrne, 1971; Clore & Byrne, 1974).

The principles of similarity and complementarity seem to contradict one another in some respects but not others. The two hypotheses agree that similarity with respect to affiliation is attractive. That is, the principle of complementarity states that complementary behaviors are similar with respect to affiliation

(though reciprocal with respect to dominance). Thus, both hypotheses imply that friendly or nurturant people should prefer friendly or nurturant partners. Furthermore, the two principles are also compatible in another sense. A man who is unassertive may dislike his own unassertiveness and prefer partners who enable him to be more assertive. By the principle of complementarity, an unassertive partner would invite the man to behave assertively, thereby gratifying his own goals. Thus, the unassertive man and his unassertive partner are similar to each other, but the mechanism that explains the man's goal satisfaction is complementarity (Horowitz et al., 1997). This principle would explain why depressed people prefer other depressed partners to nondepressed partners (Locke & Horowitz, 1990). Similar issues have been discussed in greater detail by Horowitz et al. (1997), and they will be examined more closely in Study 2 of the present article.

In the present studies we examined whether complementarity or similarity (with respect to dominance) influences people's satisfaction with interactions. In order to follow the lead of earlier researchers in maintaining experimental simplicity (e.g., Strong et al., 1988), we limited our observations to dyads of female students. In Study 1 we observed dominant or submissive participants interacting with a confederate who enacted a dominant or submissive role. In Study 2 we observed dyads of naive participants whose interpersonal goals and behaviors were assessed. In both studies, participants reported their satisfaction with the interaction and their perceptions of their partners. These studies provided a test of the competing hypotheses by determining whether similarity or complementarity (a kind of dissimilarity with respect to dominance) facilitates interpersonal satisfaction and productivity.

## Study 1

### Method

#### Participants

Undergraduate students enrolled in an introductory psychology class at Stanford University completed a measure of interpersonal dominance as part of a packet of questionnaires administered to the entire class. Forty-two female students who had completed the questionnaire packet participated in this study in partial fulfillment of a class requirement.

#### Procedure

*Overview.* All participants were contacted by telephone and scheduled for a laboratory session. When each participant arrived, she met the experimenter and another female undergraduate (a confederate), who was to be the participant's partner. The experimenter explained that the study concerned "interpersonal problem solving and people's satisfaction with interactions." After a brief introduction to the study, the experimenter led the participant and her partner to separate rooms. The experimenter asked the participant to read through written instructions for the procedure.

After the participant had completed this task, the experimenter led both the participant and her partner to a different room. For their discussion of interpersonal problem solving, each person was presented with a list of common interpersonal topics from which they were each asked to select two. Each partner received a different list. The participant's list of topics included: "It's hard for me to say 'no' to other people"

and "It's hard for me to stay out of other people's business." These topics were selected from the Inventory of Interpersonal Problems (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988) such that one topic was selected from each octant of the interpersonal circumplex (Horowitz, Rosenberg, & Bartholomew, 1993).

The experimenter instructed the partners to draw slips of paper from a box to determine who was to be the first speaker. This drawing was contrived such that the confederate was always selected to be the first speaker. The experimental session consisted of two interactions in which the confederate presented her two topics for discussion; these are designated *Interaction 1* and *Interaction 2*. Each interaction consisted of four parts. In *Interaction 1* the confederate began by speaking about her first topic; then the participant reacted; then the confederate responded to the participant's reaction (the experimental manipulation); and finally, the participant had an opportunity to react again. Then the entire procedure was repeated with the second topic to form *Interaction 2*.

*Details of the interaction.* The confederate's first topic was "It's hard for me to feel close to another person." Her script was:

Okay, I'm going to pick "it's hard for me to feel close to another person." (pause) Well, I've been seeing this guy for a couple of months now, and I just feel like he's more into it than I am. I want to feel close to him, but I just can't create emotions that aren't there. It's not anything about him because he really is a great boyfriend—I mean I like him a lot and he's good looking and all that—it's just that I know I'm not feeling the same thing he is. I don't really know what to do about it because I've had this problem before. It's not that I don't like him because I really do and part of me really like wants to be with him, but, I don't know; I just feel pressured to feel something I don't. I don't know what to say because I want to feel close but I can't.

After the confederate recited this script, the participant had an opportunity to say whatever she wished. Then the partners were told to rate their satisfaction with the interaction so far. We called this rating the *before* rating because it occurred before the experimental manipulation. Then the confederate responded with an apparently impromptu remark, which served as the experimental manipulation. In the submissive role condition, she said: "Yeah, what you say makes sense. I don't know why it is, but I feel that I just haven't been able to solve this problem on my own. I guess I really do need help." In the dominant role condition, she said: "Yeah, this is one problem that I'll just have to solve on my own. I guess nobody can solve personal problems for you; you have to figure them out for yourself." The confederate's behavior was identical in the two conditions except for the above responses.

The participant then had an opportunity to react again, and that concluded *Interaction 1*. Then the partners rated their satisfaction with the interaction again. This rating occurred after the experimental manipulation, so we called it the *after* rating. The entire procedure was repeated again to form *Interaction 2*. This time the confederate's topic was "It's hard for me to forgive another person after I've been angry." Her script for this topic was similar to the one presented above.

After the interactions were over, the experimenter led the participant and her partner to separate rooms, and the participant rated the interpersonal style of her partner on the Bem Sex Role Inventory (BSRI; Bem, 1974; described below). Then the experimenter debriefed the participant, explaining the experimental procedure and determining whether she had any suspicions about her partner. Finally, the experimenter brought the participant and the confederate together again, asked the participant if she had any further questions, and thanked her for her involvement.

### Construction of the Confederates' Scripts

To construct the confederates' scripts, we selected problem statements from the Inventory of Interpersonal Problems (Horowitz et al., 1988)

and constructed six hypothetical problem-solving monologues around each problem. These monologues were typewritten and presented to students in an introductory psychology class at Stanford University. The students were asked to use a 5-point scale to rate the speaker of each monologue along the dimensions of control ("How submissive or dominant was the speaker?") and affiliation ("How cold or friendly was the speaker?"). Our goal was to identify the two topics that did not a priori make the speaker seem dominant or submissive. The topic monologues we selected were the ones that best met this criterion.

Then we created four complete scripts for each topic monologue by adding one of four possible responses that a speaker might make to any hypothetical listener reaction. The four complete scripts were presented to another introductory psychology class. On a 5-point scale, the students rated each of the four responses along the two interpersonal dimensions. From these ratings we identified the response for each script that made the speaker seem dominant (but neutral along the affiliation dimension) and the response that made the speaker seem submissive (but neutral along the affiliation dimension). We called the two selected scripts, respectively, the *dominant role script* and the *submissive role script*.

Four confederates were trained over a 2-week period to enact each of the two scripts. Each confederate interacted with approximately equal numbers of participants, and the participants were assigned randomly to one of the two conditions (dominant vs. submissive confederate role). None of the participants had met the confederate previously or expressed any suspicion about the confederate after the experimental session.

### Measures

The participants' interpersonal styles were assessed with the BSRI. The Masculinity subscale of the BSRI correlates almost perfectly with other measures of interpersonal dominance (J. S. Wiggins & Broughton, 1985), and it has high internal consistency (for this sample, Cronbach's  $\alpha = .88$ ). A median split of this measure divided participants into a *dominant style* group and a *submissive style* group. We used a modified version of this questionnaire to assess participants' perceptions of the confederate's interpersonal style.

To assess the participants' satisfaction with the interaction, a series of buttons was built into the table in front of the interactants. The buttons were arranged so that each person could see her own buttons but not those of her partner. The participants indicated their satisfaction as well as their frustration by pressing buttons with the appropriate labels (*not at all satisfied* to *extremely satisfied* for one set, *not at all frustrated* to *extremely frustrated* for the other set). Because the two were significantly correlated ( $r = -.64, p < .01$ ), the frustration ratings (F) were combined with the satisfaction ratings (S) to form a 2-item (S-F) measure of satisfaction.

## Results

### Satisfaction With the Interactions

*Satisfaction with the first interaction.* In *Interaction 1*, participants rated their satisfaction before and after the experimental manipulation. The mean satisfaction ratings are shown in Table 1. Before the experimental manipulation, all participants were interacting with interpersonally neutral confederates, so no initial differences were expected for the *before* rating. The data showed no significant differences among the four groups. A 2 (confederate's role)  $\times$  2 (participant's style) analysis of variance (ANOVA) revealed no main effects and no interaction effect, all  $F(1, 38)s < 1.5$ , all  $ps > .30$ .

After the manipulation, participants made another satisfaction

Table 1  
Mean Ratings of Satisfaction With the First Interaction

Participant's style	Confederate's role	
	Dominant	Submissive
Before experimental manipulation		
Dominant	2.17 <sup>a</sup>	1.73 <sup>b</sup>
Submissive	2.18 <sup>b</sup>	2.50 <sup>c</sup>
After experimental manipulation		
Dominant	1.83 <sup>a</sup>	2.73 <sup>b</sup>
Submissive	2.91 <sup>b</sup>	1.75 <sup>c</sup>

Note. Higher ratings indicate more satisfaction.  
<sup>a</sup> n = 12. <sup>b</sup> n = 11. <sup>c</sup> n = 8.

rating. The means for the *after* ratings are also shown in Table 1. Here, the effect of the experimental treatment is clear. A 2 × 2 analysis of covariance (ANCOVA) with the *before* rating as a covariate revealed a significant interaction effect,  $F(1, 38) = 9.45, p < .005$  (all other  $F$ s < 1). Dominant participants who interacted with submissive confederates and submissive participants who interacted with dominant confederates were more satisfied with the interaction than were participants in the other two conditions. A planned orthogonal contrast revealed a significant difference between the complementary and the noncomplementary groups,  $t(41) = 3.31, p < .005$ . It is important to note that the satisfaction ratings improved for the two complementary partnerships (the mean difference scores were 1.00 and 0.73), whereas the satisfaction ratings declined in the other two partnerships (the mean difference scores were -0.34 and -0.75).

*Satisfaction with the second interaction.* After the participants completed the first interaction, the confederate began the second interaction by selecting a different topic. As with the first interaction, the confederate's script elaborated the topic. The confederate's script was initially interpersonally neutral (i.e., neither dominant nor submissive). The mean satisfaction ratings for the second interaction are shown in Table 2. We used a 2 (confederate's role) × 2 (participant's style) ANOVA to analyze the *before* ratings. As with Interaction 1, this analysis revealed no main effects and no interaction effect. After the manipulation, participants made another satisfaction rating. The means for the *after* ratings are also shown in Table 2. As with Interaction 1, the effect of complementarity was again evident. A 2 × 2 ANCOVA with the *before* rating as a covariate revealed a significant interaction effect,  $F(1, 38) = 8.26, p < .01$ . Dominant participants who interacted with submissive confederates and submissive participants who interacted with dominant confederates were more satisfied with the interaction than were participants in the other two conditions. A planned orthogonal contrast revealed a significant difference between the complementary and the noncomplementary groups,  $t(41) = 2.75, p < .01$ . It is important to note that the satisfaction ratings improved for the two complementary partnerships (the mean difference scores were 0.28 and 0.54), whereas the satisfaction ratings

declined or stayed the same in the other two partnerships (the mean difference scores were 0.00 and -1.25).

*Judgments of the Confederate's Interaction Style*

The above results show that a participant whose partner's reactions complemented her own interaction style was more satisfied with the interaction than a noncomplemented partner. However, we were curious to learn whether such a participant judged her partner to be (a) complementary to herself (the *complementarity hypothesis*) or (b) similar to herself (the *similarity hypothesis*). Did satisfied dominant participants, for example, judge their partners to be submissive on the BSRI (the complementarity hypothesis) or dominant like themselves (the similarity hypothesis)? Therefore, we divided the dominant and submissive participant groups into *more satisfied* and *less satisfied* subgroups, using a median split of their mean rating of satisfaction. Of the 23 dominant participants, 11 were more satisfied, and 12 were less satisfied; of the 19 submissive participants, 8 were more satisfied, and 11 were less satisfied.

A 2 (participant's dominance) × 2 (satisfaction) ANOVA revealed only a significant interaction effect,  $F(1, 38) = 5.20, p < .05$ . Satisfied submissive participants judged their partners to be submissive (like themselves); their mean rating of dominance was -1.39. Satisfied dominant participants judged their partners to be dominant (like themselves); their mean rating was 3.93. For the dissatisfied groups, the corresponding mean ratings of their partners' dominance were 5.07 for the submissive participants and -0.91 for the dominant participants. This finding supports the similarity hypothesis: Satisfied participants, regardless of their partners' behavior, judged their partners to be similar to themselves. Correspondingly, dissatisfied participants judged their partners to be dissimilar to themselves. The finding resembles other results (e.g., Kenny, 1994) that showed that people who like each other judge their partners to be like themselves. It also suggests that the complementarity that produced the participants' satisfaction is not evident in the participants' descriptions of their partners.

*Discussion*

In this study the participants were selected according to their interpersonal styles, as assessed by the BSRI. Participants who

Table 2  
Mean Ratings of Satisfaction With the Second Interaction

Participant's style	Confederate's role	
	Dominant	Submissive
Before experimental manipulation		
Dominant	2.50 <sup>a</sup>	2.45 <sup>b</sup>
Submissive	1.82 <sup>b</sup>	1.62 <sup>c</sup>
After experimental manipulation		
Dominant	1.25 <sup>a</sup>	2.73 <sup>b</sup>
Submissive	2.36 <sup>b</sup>	1.62 <sup>c</sup>

Note. Higher ratings indicate more satisfaction.  
<sup>a</sup> n = 12. <sup>b</sup> n = 11. <sup>c</sup> n = 8.

described themselves as dominant were more satisfied when they interacted with a partner whose behavior was explicitly submissive, and submissive participants were more satisfied with a dominant partner. The results of this study indicate that complementarity with respect to dominance does influence people's satisfaction with an interpersonal interaction.

Despite this influence of objective complementarity, however, the participants did not judge complementary partners to be dissimilar to themselves in dominance. Instead, satisfied participants judged their partners to be similar to themselves, and dissatisfied participants judged their partners to be dissimilar. We therefore need to differentiate between objective complementarity (which leads to satisfaction) and perceived similarity (which seems to follow from complementarity). Perhaps people do not realize the basis for their satisfaction, but when they are satisfied, they regard their partners as being like themselves. In some contexts the rule may be valid that similarity leads to liking, but in this context, liking apparently leads to perceived similarity. We tested (and replicated) this phenomenon in Study 2.

Study 1 had two limitations. First, the participant's partner was a confederate whose reaction to the participant was unambiguous (explicitly dominant or explicitly submissive), and we do not know whether we can generalize from reactions in this contrived experimental situation to people's reactions in a more natural conversation. In Study 2 we therefore observed participants interacting more casually with each other. Second, the participants in Study 1 were classified as dominant or submissive on the basis of their self-descriptions on a personality inventory. As noted earlier, however, personality traits are ambiguous with respect to people's goals. When people describe themselves as dominant, for example, they may be describing their goal behaviors, their actual behaviors, or some other aspect of their social behavior. Therefore, in Study 2 we specifically assessed people's interpersonal goals (wishes) as well as their actual overt behavior.

## Study 2

The first purpose of Study 2 was to test the hypothesis that satisfaction depends on the match between a participant's interpersonal goals and his or her partner's behavior: People who want to dominate their partner but observe cues that their partner wishes to dominate them know that their goal to dominate will not be fulfilled. However, no measure currently exists that assesses interpersonal goals. Therefore, we needed to construct a measure of interpersonal goals to test the hypothesis. Constructing that measure was a second purpose of the study.

Study 2 also extended the findings of Study 1 in two general ways. First, the participants interacted naturalistically with another participant (rather than a confederate); second, they worked together on a task that allowed the quality of their joint performance to be evaluated objectively. These two extensions helped broaden the generalizability and scope of Study 1.

## Method

### Constructing the Interpersonal Goals Inventory (IGI)

*Selecting items.* To develop the IGI, we first identified a sample of items that spanned the interpersonal domain, using other interpersonal

measures as a guide (Horowitz et al., 1988; Kiesler, 1983; Strong & Hills, 1986). Items were considered acceptable only if they reflected an unambiguous goal and were endorsed by many people on pilot versions. Fifty-one final items were presented as a questionnaire that asked respondents to "imagine that you are working with another person on a task that is important to you." Each item had the stem: "It would be important to me to . . ." Respondents indicated their agreement with each item by circling one of five numbers from 0 to 4, with 0 indicating *no, definitely not*; 2 indicating *hard to say; it depends*; and 4 indicating *yes, definitely*. The format of the questionnaire and the wording of the items were based on the Assessment of Personal Goals (APG; Ford & Nichols, 1991).

*Participants and procedure.* The questionnaire was administered to 205 Stanford undergraduate students as part of a battery of questionnaires. Respondents partially fulfilled an introductory psychology requirement through their participation.

*Construction of subscales.* We followed the procedure used by other investigators (e.g., Alden, Wiggins, & Pincus, 1990) to generate eight subscales that met the criteria of a circumplex. We ipsatized and standardized participants' responses to the items and then subjected the item intercorrelations to a principal-components analysis. As usual in such analyses, the first principal component reflected dominance (in this case, dominance goals), and the second principal component reflected affiliation (in this case, affiliation goals). Next, we plotted each of the 51 items in a two-dimensional space, using each item's loadings on each of the first two principal components. A two-dimensional interpersonal space is customarily divided into eight equal sectors (octants) with theoretical midpoints at 90°, 135°, 180°, 225°, 270°, 315°, 0°, and 45°. These octants are designated PA, BC, DE, FG, HI, JK, LM, and NO, respectively.<sup>1</sup> The four items having the highest communality within each 45° octant formed a subscale. The items in each of the eight subscales are listed in the Appendix. We calculated subscale scores for each participant by adding together the participant's responses to the four items in each of the eight subscales.

Then we computed a composite score for the dominance goals by weighting each subscale score by its theoretical coordinate along the dominance dimension. Following conventional procedures (Gurtman, 1991), we defined a composite dominance goals score (DGS) as the sum of the weighted subscale scores, where each subscale score is weighted by the cosine of its angular location on the interpersonal circle.

$$DGS = PA + .7BC - .7FG - HI - .7JK + .7NO.$$

A high DGS indicates that behaving dominantly is important to the respondent, and a low DGS indicates that behaving submissively is important to the respondent. For the experimental sample described below, the DGS ranged from -3.18 to 2.22, with a mean of -0.02 and a standard deviation of 1.34. The test-retest reliability across two testings (a 2- to 5-week interval) was .79. For a complete description of the construction and validation of the IGI, see Dryer (1993).

### Participants

The IGI was administered to Stanford introductory psychology students as part of a battery of questionnaire materials. The students completed the battery in partial fulfillment of a course requirement. We identified 48 women whose goals were clearly dominant (i.e., scores

<sup>1</sup> Earlier investigators, such as Leary (1957), divided the interpersonal space into 16 sectors designated A, B, C . . . P. However, subsequent research has shown that a division into eighths (octants), rather than sixteenths, is preferable. Therefore, adjacent sixteenths have been combined to form octants: the sixteenths that had been labeled B and C have become the octant BC; D and E, the octant DE; and so on.

that were at least 0.5 *SD* above the IGI mean score for dominance goals) or clearly submissive (i.e., scores that were at least 0.5 *SD* below the IGI mean score for dominance goals). We randomly assigned the women to 24 pairs. Two pairs were excluded from analysis because they had known each other previously, leaving a total of 44 participants.

### Experimental Procedure

Research assistants invited the women to participate in a study on "problem solving," telling them that they would "work together with another undergraduate on a couple of tasks." When the two partners arrived at the laboratory, the experimenter handed them consent forms and briefly described the study. The procedure consisted of four main parts: (1) preinteraction questionnaires, (2) problem solving interaction, (3) postinteraction questionnaires, and (4) debriefing.

*Preinteraction questionnaires.* Before their interaction, the women each completed a battery of questionnaires. The battery consisted of a second IGI, a set of personality rating scales (Malle & Horowitz, 1995), and the Desert Survival Problem (DSP; Lafferty & Eady, 1974). The personality rating scales consisted of a list of 32 trait adjectives, describing the negative and positive poles of four of the Big Five personality dimensions (John, 1990; McCrae & Costa, 1989): Extraversion, Agreeableness, Conscientiousness, and Neuroticism. The participants indicated how self-descriptive they thought each item was (from 1 = *not at all* to 9 = *extremely*). The final questionnaire in the preinteraction battery was the DSP, a problem-solving task in which the participants were to imagine that they were copilots of an airplane that had crash-landed in the middle of a desert. Several items (e.g., a cosmetic mirror, a map, two raincoats) could be rescued from the plane before it was consumed in flames, and the participants' task was to rank order these 10 items such that the item most important to survival was ranked first, the second most important item was ranked second, and so on.

*Problem-solving interaction.* After the participants completed the preinteraction questionnaires, the experimenter led them into another laboratory room, where they worked on two tasks together. First, as a practice task, the two participants had to rank order five fruits (kiwi, banana, apple, lemon, and watermelon) as to how well each one exemplified the category "fruit." Then the experimenter instructed the participants to work on the DSP together. They were informed that an optimal solution to the problem does exist (Lafferty & Eady, 1974) and that any partners who produced the optimal solution would receive a \$100 bonus. (None did.) The experimenter then left them alone to work on the DSP together. A typical interaction included a range of interpersonal behaviors. Typically, both participants suggested items that they considered very important or very unimportant and offered reasons for their opinions. In general, they quickly identified differences in their opinions, discussed their views, and reached some agreement. Sometimes arguments were challenged, other times they were not. The task required some amount of cooperation, and every dyad managed to generate a joint solution to the problem.

During each interaction, a prerecorded voice periodically instructed the participants to rate their satisfaction with the interaction. To indicate their ratings, participants pressed buttons built into the table in front of them. There were two sets of five buttons for each satisfaction rating. The buttons in one set had labels indicating the degree of satisfaction, ranging from (1) *not at all satisfied* to (5) *extremely satisfied*. Those in the other set had labels indicating the degree of frustration, ranging from (1) *not at all frustrated* to (5) *extremely frustrated*. Each participant could see her own but not her partner's buttons. The participants had 3 min to solve the practice problem and 16 min to solve the DSP. The prerecorded voice instructed them to rate their satisfaction at the beginning of each problem, and then after every 90 s for the practice problem and after every 4 min for the DSP. The voice also indicated

how much time was remaining. The participants were aware that their interactions were being videotaped.

Three research assistants, who were aware neither of the hypotheses nor of the participants' self-rated goals, later viewed the videotapes and rated the dominance of the participants' behaviors. These raters first studied theoretical descriptions of interpersonal behavior prepared by Kiesler (1983) and by Strong and Hills (1986). They were also shown the videotaped behavior of participants in an earlier study, selected because of their extreme dominance or submissiveness. The raters were also instructed to consider certain specific behaviors as evidence of dominance (advice-giving, criticizing, asserting one's own beliefs, expressing self-confidence). Similarly, they were to consider other specific behaviors as evidence of submissiveness (self-criticizing, deferring, focusing on partner beliefs, expressing self-doubt). The raters then made practice ratings of the behavioral dominance of pilot participants, until they reached an acceptable level of agreement. The raters used verbal and nonverbal behavior as evidence for their ratings, assigning a rating of "dominant" or "submissive" to each participant.

*Postinteraction questionnaire.* After the two problem-solving interactions, the participants worked independently on two final sets of questionnaires. They indicated their perceptions of their partners' goals and personality by completing modified versions of the IGI and the personality rating scales. The IGI-Partner version contained items in the form "It would be important to my partner to . . ." The personality rating scales required the participants to indicate how descriptive each trait adjective was of their partner. Additionally, they completed a 5-item questionnaire that assessed their global satisfaction with the interaction.

*Debriefing.* After the participants completed the postinteraction questionnaires, the experimenter described the rationale for the study. When their questions had been answered to their satisfaction, the experimenter asked them not to reveal the nature of the tasks to other students and thanked them for their help.

## Results

### Description of Sample and Measures

*Interpersonal goals.* The participants in this study had been selected to have high or low dominance goals as assessed by the IGI. The *z* scores for dominance goals ranged from -3.51 to -0.48 for the submissive goal group, and from 0.59 to 2.22 for the dominant goal group.

*Observer ratings of behavior.* The three coders showed considerable agreement in their ratings (Cronbach's  $\alpha = .77$ ). To increase the reliability of the measure (Horowitz, Inouye, & Siegelman, 1979), we combined the three ratings of dominance to form a single measure. Participants were classified as "behaviorally dominant" if at least two coders rated their behavior as dominant. They were classified as "behaviorally submissive" if at least two coders rated their behavior as submissive.

*Measures of satisfaction.* Participants periodically rated both their satisfaction and their frustration with the interaction, and their ratings on these two measures were negatively correlated; the mean *r* across trials was -.60. To increase the reliability of the measure, we combined the satisfaction and frustration ratings into a single score; the sign of the frustration ratings was reversed, and the two were summed. This measure is called the *satisfaction rating*. In addition, the participants' responses to each of the five items of the satisfaction questionnaire were positively correlated with their satisfaction ratings; the mean *r* across both trials and items was .27. To obtain a single, more

reliable measure of satisfaction, we combined responses to the questionnaire with the satisfaction ratings. Scores on each measure were first standardized and then added together. Cronbach's alpha for the overall measure of satisfaction (hereafter called *composite satisfaction*) was .84. This way of aggregating measures follows the convention in recent research (e.g., Locke & Horowitz, 1990; Moon, 1996). The increase in internal consistency that results from aggregating measures in this way is known to increase the validity of the resulting measure (Horowitz et al., 1979); it also avoids treating nonindependent outcome measures as though they were independent.

### *Impact of Complementarity on Satisfaction*

**Composite satisfaction.** We then examined the impact of interpersonal complementarity on the participants' composite satisfaction scores. First we determined whether the two partners' composite satisfaction scores were interrelated. We computed an intraclass correlation coefficient (McNemar, 1962). The value was .27, which was not significant,  $F(21, 22) = 1.73, p > .10$ . For this reason, we performed two kinds of analyses. The first treated the partners' composite satisfaction scores as though they were independent measures (Kraemer & Jacklin, 1979). The second (also following Kraemer & Jacklin, 1979) divided the partners into two independent samples (thereby avoiding an assumption of independence). As described below, the second analysis confirmed the findings of the first.

We prepared a  $2 \times 2$  matrix, classifying each participant according to her own interaction goals (dominant or submissive) and her partner's actual behavior (dominant or submissive). The mean composite satisfaction score for each cell is shown in Table 3. Then we performed a 2 (participant's dominance goals)  $\times$  2 (partner's behavior) ANOVA on the composite satisfaction scores. Neither main effect was significant, but the interaction was;  $F(1, 40) = 7.585, p < .01$ .

To examine this interaction further, a planned orthogonal contrast compared goal-complementary participants with goal-noncomplementary participants. That is, it compared (a) participants with dominant goals interacting with submissive partners and participants with submissive goals interacting with dominant partners with (b) participants with dominant goals interacting with dominant partners and participants with submissive goals interacting with submissive partners. The mean satisfaction for the goal-complementary participants was significantly

higher than that for the goal-noncomplementary participants,  $t(40) = 2.75, p < .01$ .

Then, to circumvent the assumption of independence, we created two subsamples following the procedure recommended by Kraemer and Jacklin (1979). One partner of each dyad was selected at random to form Subsample 1; the remaining partners formed Subsample 2. We then analyzed the data from each subsample separately, using a one-tailed test. The results and conclusion for each subsample were similar to those described above. The goal-complementary participants were more satisfied with the interaction than were the goal-noncomplementary participants; for Subsample 1,  $t(18) = 1.90, p < .05$ , and for Subsample 2,  $t(18) = 1.83, p < .05$ .

These results demonstrate the importance of the match between the goals of one partner and the behavior of the other in determining their satisfaction. When they match, the partners are more satisfied with the interaction. Perhaps satisfaction could also be predicted just as well from other interpretations of complementarity—that is, from the complementarity between the two partners' behaviors or from the complementarity between their goals. To test these alternate interpretations, we first examined the complementarity of the participants' goals. We prepared a  $2 \times 2$  matrix, classifying each participant according to her own interaction goals (dominant or submissive) and her partner's interaction goals (dominant or submissive). The mean composite satisfaction scores for the dominant–dominant, dominant–submissive, submissive–dominant, and submissive–submissive conditions, respectively, were 0.26 ( $n = 14$ ),  $-0.55$  ( $n = 9$ ),  $-0.52$  ( $n = 9$ ), and  $-0.11$  ( $n = 12$ ). We performed a 2 (participant's dominance goals)  $\times$  2 (partner's dominance goals) ANOVA on the composite satisfaction scores. All effects were nonsignificant ( $F_s < 1.9, p_s > .15$ ). The match between the participants' goals did not determine their satisfaction with the interaction.

Then we examined the complementarity of the participants' behaviors. We prepared a  $2 \times 2$  matrix, classifying each participant according to her own behavior (dominant or submissive) and her partner's behavior (dominant or submissive). The mean composite satisfaction scores for the dominant–dominant, dominant–submissive, submissive–dominant, and submissive–submissive conditions, respectively, were  $-0.69$  ( $n = 6$ ),  $-0.04$  ( $n = 13$ ),  $0.43$  ( $n = 13$ ), and  $-0.67$  ( $n = 12$ ). Neither main effect was significant, and the interaction was only marginally significant,  $F(1, 40) = 3.89, p < .10$ . Dominant participants were (marginally) more satisfied when their partners behaved submissively, and submissive participants were (marginally) more satisfied when their partners behaved dominantly. Thus, the clearest predictor of satisfaction was the match between a participant's goals and her partner's behavior.

We were therefore curious to examine the relationship between the participants' self-reported dominance goals and actual behavior (as rated by objective judges). We prepared a  $2 \times 2$  matrix, classifying each participant according to her self-reported goals (high vs. low dominance goals) and her own behavior (high vs. low dominance). Of the 21 participants with low dominance goals, 13 exhibited low dominance behavior, and 8 exhibited high dominance behavior. Of the 23 participants with high dominance goals, 12 exhibited low dominance behav-

Table 3  
*Mean Composite Satisfaction Ratings*

Participant's interpersonal goals	Partner's behavior	
	Dominant	Submissive
Dominant	-.39 <sup>a</sup>	.31 <sup>b</sup>
Submissive	.82 <sup>c</sup>	-.83 <sup>d</sup>

Note. Higher ratings indicate more satisfaction.  
<sup>a</sup>  $n = 12$ . <sup>b</sup>  $n = 11$ . <sup>c</sup>  $n = 7$ . <sup>d</sup>  $n = 14$ .

ior, and 11 exhibited high dominance behavior. The relationship between the two variables was not statistically significant,  $\chi^2(1, N = 44) = 0.42$ .

*Satisfaction across time.* We then examined the data to determine whether the effect of the goals-behavior complementarity on satisfaction changed in the course of the interaction. The participants had rated their satisfaction at the beginning of the interaction and at three more points during the interaction. The partners' corresponding ratings were correlated on each of the four occasions. The intraclass correlations were, respectively, .50, .26, .39, and .52 (all  $ps < .10$ ). Because they were positively correlated, we averaged the two partners' satisfaction ratings on each occasion to create four dyad satisfaction ratings. Finally, we classified each dyad as 0, 1, or 2 according to its number of goal-complementary partners—0 indicated that neither partner was goal-complementary; 1, that one partner was goal-complementary (and the other was not); and 2, that both partners were goal-complementary. We called these three groups of dyads *fully noncomplementary*, *mixed*, and *fully complementary*. There were 7, 12, and 3 dyads in each of these three groups, respectively.

To demonstrate that the three groups were initially comparable, we performed a one-way ANOVA on the initial satisfaction ratings (just after the practice task but before the experimental task). The ratings of the three groups did not differ significantly,  $F(2, 19) < 1$ . Then we analyzed the satisfaction ratings of the three groups at the three time periods with a 3 (groups)  $\times$  3 (time periods) mixed design ANOVA, which revealed a significant main effect of groups,  $F(2, 19) = 4.06, p < .05$ . Although the interaction with time periods did not reach significance, we performed a separate one-way ANOVA on the data at each time period. The values of  $F(2, 19)$  for the effect of groups at each of the three time periods, respectively, were 2.01, 2.84, and 4.89. The mean satisfaction ratings (averaged across the three time periods) were 6.67 for the fully complementary group, 5.80 for the mixed group, and 3.67 for the fully noncomplementary group. Thus, after the initial period, the fully complementary group reported the highest satisfaction, and the fully noncomplementary group reported the lowest. We also compared the group differences using a planned orthogonal polynomial contrast of the three levels of the group factor. This contrast indicated that each of the three groups differed significantly from the other two. The linear effect was significant,  $t(19) = 2.45, p < .05$ , and the quadratic effect (i.e., the departure from linearity) also was significant,  $t(19) = 2.37, p < .05$ .

Because the fully complementary group was so small, we combined those dyads with the mixed dyads and compared the resulting group with the fully noncomplementary group. The mean satisfaction ratings for the noncomplementary dyads on each of the three occasions were 4.29, 3.43, and 3.29; the corresponding means for the complementary group were 5.87, 5.80, and 6.27. We analyzed the ratings at each of the three successive time periods with a 2 (groups)  $\times$  3 (time periods) mixed design ANOVA. The main effect of groups was significant,  $F(1, 20) = 7.77, p = .01$ . We performed a separate one-way ANOVA on the data at each time period. The value of  $F(1, 20)$  for the effect of groups at each time period was, respectively, 3.90, 5.26, and 9.60.

### *Impact of Complementarity on Task Performance*

We also evaluated the quality of the participants' task performance. To do so, we compared the expert solution (Lafferty & Eady, 1974) with that of (a) the participants' individual solutions and (b) the dyads' joint solutions. We used Pearson rank order correlation coefficients ( $\rho$ ; McNemar, 1962) to assess the correspondence between the solution of the participants and that of the expert. We called the correlation between individual solutions and the expert solution the *before-interaction score*, one for each member of the dyad. The higher this score, the higher the quality of that participant's solution. Similarly, we called the correlation between a dyad's joint solution and the expert solution the *after-interaction score*. We then computed two intraclass correlations: (1) that between the corresponding before-interaction scores of the two partners and (2) that between the partners' amount of gain from the before- to the after-interaction scores. Neither intraclass correlation approached significance (both  $p < .20, p > .10$ ), so the solution scores could be analyzed as independent measures (Kraemer & Jacklin, 1979).

We analyzed the after-interaction scores with a 3-factor (groups) ANCOVA, using the before-interaction scores as a covariate. The results showed two significant effects. First, the after-interaction scores tended to covary with the before-interaction scores,  $F(1, 40) = 8.01, p < .01$ . Second, the groups differed in their performance,  $F(2, 40) = 3.84, p < .05$ . The mean improvement on this performance measure was 0.16 for the fully complementary group, 0.19 for the mixed group, and 0.27 for the fully noncomplementary group. Thus, the least satisfied participants seemed to show greater gain from their preinteraction performance on the DSP than those paired with complementary partners. Apparently, a complementarity between partners, although satisfying, may not necessarily facilitate a dyad's productivity; in fact, noncomplementary partners may perform better.

### *Impact of Satisfaction on Perceptions of Partners*

In Study 1 the satisfied participants perceived their partners to be more similar to themselves than did dissatisfied participants. To test whether the same effect occurred in Study 2, we classified the participants as satisfied or dissatisfied, using a median split of their satisfaction ratings. We also classified them as high dominant or low dominant, using a median split of their dominance goal ratings. These classifications resulted in four groups: (1) satisfied, dominant goals; (2) satisfied, submissive goals; (3) dissatisfied, dominant goals; and (4) dissatisfied, submissive goals. The  $ns$ , respectively, were 11, 8, 11, and 14.

For each of the four groups, we computed the participants' mean rating of their partners' dominance goals and analyzed these ratings with a 2 (high vs. low dominance goals)  $\times$  2 (high vs. low satisfaction) ANOVA. Among participants who were satisfied with their interactions, the dominant ones rated their partners 2.12 in dominance goals, and the submissive participants rated their partners  $-1.59$ . Among participants who were dissatisfied, the corresponding means were  $-1.10$  (dominant participants) and 0.56 (submissive participants). The interac-



tion was significant between dominance goals and level of satisfaction,  $F(1, 40) = 4.31, p < .05$ . A planned orthogonal contrast revealed that satisfied participants rated their partners to be like themselves, whereas dissatisfied participants rated their partners to be different from themselves,  $t(42) = 2.08, p < .05$ . This result suggests that participants used the similarity principle to rate their partners, as they had done in Study 1.

We performed a similar analysis to compare satisfied and dissatisfied participants' ratings of their partners' dominance (the trait). This time, we divided the participants into groups high or low in self-reported dominance, so as to produce four new groups: (1) satisfied participants who called themselves dominant, (2) satisfied participants who called themselves submissive, (3) dissatisfied participants who called themselves dominant, and (4) dissatisfied participants who called themselves submissive. The *n*s, respectively, were 11, 8, 11, and 14. The participants' mean ratings of their partners' dominance for the four groups, respectively, were: (1) 1.65, (2) -2.56, (3) -2.66, and (4) 1.49. We also analyzed these ratings with a 2 (trait dominance groups)  $\times$  2 (satisfaction groups) ANOVA. The interaction between trait dominance and level of satisfaction was significant,  $F(1, 40) = 8.17, p < .01$ . A planned orthogonal contrast revealed that satisfied participants judged their partners to be similar to themselves, and dissatisfied participants judged their partners to be dissimilar to themselves,  $t(42) = 2.86, p < .01$ . These results thus confirmed the corresponding finding of Study 1.

Because the participants' perception of their partners appeared to be influenced by their own satisfaction, we were curious to examine the relationship between each participant's reported perception and her partner's actual behavior. We prepared a 2  $\times$  2 matrix, classifying each participant according to her behavior (high vs. low dominance) and her partner's perception of her behavior (high vs. low dominance). Of the 25 participants who exhibited low dominance behavior, 14 were perceived as low dominance, and 11 were perceived as high dominance. Of the 19 participants who exhibited high dominance behavior, 8 were perceived as low dominance, and 11 were perceived as high dominance. The relationship between the two variables was not statistically significant,  $\chi^2(1, N = 44) = 0.83$ .

### Discussion

In this study we examined the joint influence of a person's interpersonal goals and the partner's interpersonal behavior on that person's satisfaction with the interaction. People who had a goal to dominate were more satisfied when they interacted with a partner who behaved submissively than with one who behaved dominantly. Conversely, people who had a goal to submit were more satisfied when they interacted with a partner who behaved dominantly than with one who behaved submissively. These results support the claim that people have certain preferred ways of interacting that determine their satisfaction with an interaction.

Why should people with dominant goals be more satisfied with submissive partners? We believe that every interpersonal behavior invites, intentionally or not, a particular reaction from the partner. A dominant behavior, for example, invites a submis-

sive response, and a submissive behavior invites a dominant response. The invited response may or may not match the partner's interpersonal goals. If Person B's behavior invites a reaction from Person A that matches A's goal, then A is satisfied; otherwise, A is frustrated.

Although these results support the principle of complementarity, the participants' descriptions of partners whom they found satisfying paradoxically supported the principle of similarity. Although participants with dominant goals were more satisfied interacting with submissive partners (as judged by objective observers), those participants described their partners as dominant (like themselves). Thus, in this study, as in Study 1, "liking" led to "perceived similarity." Why is "liking" related to the perception of "being like"? One possibility (Byrne, 1971; Schachter, 1959) is that similar people generally share common beliefs, expectations, and values. When people perceive that their partner is similar to themselves, they assume that they and their partner will have "common ground" (Clark, 1992), "companionate expectations" (Krokoff, Gottman, & Roy, 1988), or "co-orientation" (McLeod & Chaffee, 1973) and, because of this assumption, they anticipate a smooth interaction: They assume that they will understand their partner's goals and that their partner will understand their goals. Perhaps any circumstance that promotes a sense of overlapping goals enhances a person's satisfaction with a partner. In some cases similarity (e.g., similar values) implies compatible goals, and in other cases complementarity implies compatible goals.

### General Discussion

In both studies, people preferred to interact with a partner who was complementary with respect to dominance. Dominant people preferred to interact with partners who invited them to be dominant, and submissive people preferred to interact with partners who invited them to be submissive. This result occurred (a) when participants interacted with a partner-confederate enacting a scripted role (Study 1) and (b) when they interacted with another naive participant (Study 2).

Certain results require a reinterpretation of the principle of complementarity. If we interpret the principle to mean that complementary behaviors necessarily lead to greater satisfaction, it must be rejected. The dominating behavior of one person together with the submissive behavior of the other is no guarantee of partner satisfaction. In Study 2, neither a behavior-behavior complementarity nor a goals-goals complementarity was as good a predictor of satisfaction as a goals-behavior complementarity. Apparently, behavioral complementarity (e.g., submissive behavior in one person, dominating behavior in the other) is not, in and of itself, sufficient to guarantee satisfaction; a person's goals must be considered as well.

Why is satisfaction better predicted when we know the goals of one partner and the behavior of the other? Person A's goals are internal events, not directly observable by Person B, so they can only be inferred from A's behavior. If A's behavior accurately reflects his or her goals, then B would have no difficulty discerning and satisfying A's goals. But A's behavior may be ambiguous or even misleading. For example, A may be conflicted about his or her wish to dominate and may therefore

camouflage that wish behaviorally. Indeed, A may be so conflicted about his or her wish to dominate that A's behavior may invite B to do the dominating (see Horowitz et al., 1997). Ideal interacting thus requires that each partner correctly interpret the goals of the other and behave accordingly. If the partners misinterpret each other's goals, the behavioral reaction of one may frustrate the goals of the other. That is why the relationship between goals alone (or the relationship between behaviors alone) is not an optimal predictor of satisfaction.

According to our theory, Person A is clearly gratified when Person B's behavior complements A's goals. The theory does not comment, however, on B's reaction to A's satisfaction. It is possible that B would also be gratified to have complemented A's goals. In other words, if B were able to perceive A's goal, behaviorally complement that goal, and then observe A's satisfaction, then B, too, might derive some satisfaction from the match. To study this issue systematically, we would need a large sample of dyads in which one partner's interpersonal goals were satisfied but the other partner's were not; then we could determine whether satisfaction is symmetrical or asymmetrical. The present sample was not large enough to allow us to answer that question.

The traditional view of complementarity needs to be modified in another way as well. It suggests that satisfied partners judge each other to be complementary (rather than similar). For example, satisfied dominant people should describe their partners as submissive. In both studies, however, satisfied people judged their partners to be similar to themselves, rather than complementary; satisfied dominant people described their partners as dominant. Apparently, judgments about the partner's characteristics were based on the participants' satisfaction with each other, rather than vice versa: Instead of liking someone perceived as similar, they perceived as similar someone whom they liked.

Whenever a person interacts with a partner, that person seems to have a particular goal that can be described along the two interpersonal dimensions of affiliation and dominance. Why should interpersonal goals be describable along these two dimensions? According to Bowlby (1973), Bartholomew (1990; Bartholomew & Horowitz, 1991), and Horowitz et al. (1997), people have two important classes of mental representations that affect their interpersonal behavior: One describes a person's generalized image of other people; the other describes the person's generalized image of the self. A person's interpersonal goals may reflect these generalized images. For example, if the person's image of other people is generally negative, he or she may seek to avoid intimacy. Likewise, if the person's image of the self is negative (e.g., incompetent), he or she may seek the help of others.

To summarize, we propose a reformulation of the principle of complementarity. We argue that people differ in their preferred ways of interacting and that these preferences, or interpersonal goals, can be described along the dimensions of affiliation and control. One characteristic of interpersonal behaviors is that they invite, but do not necessarily elicit, complementary behaviors—behaviors that are similar in affiliation and reciprocal in dominance. This invitation tells the partner whether his or her goals are likely to be satisfied. Interpersonal satisfaction occurs when a partner's behavior invites a response that is con-

gruent with the person's goals. Interpersonal dissatisfaction occurs when a partner's behavior invites a response that conflicts with the person's goals. Finally, a person's satisfaction with a partner may lead the person to perceive the partner as similar (rather than complementary). Our reformulation thus underscores the importance of interpersonal goals rather than the relationship between overt behaviors in determining satisfaction and perceived similarity.

## References

- Alden, L. E., Wiggins, J. S., & Pincus, A. L. (1990). Construction of circumplex scales for the Inventory of Interpersonal Problems. *Journal of Personality Assessment*, 55, 521–536.
- Antill, J. K. (1983). Sex role complementarity versus similarity in married couples. *Journal of Personality and Social Psychology*, 45, 145–155.
- Barry, W. A. (1970). Marriage research and conflict: An integrative review. *Psychological Bulletin*, 73, 41–54.
- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7, 147–178.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a model. *Journal of Personality and Social Psychology*, 61, 226–244.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42, 155–162.
- Benjamin, L. (1974). Structural analysis of social behavior. *Psychological Review*, 81, 392–425.
- Blankenship, V., Hnat, S. M., Hess, T. G., & Brown, D. R. (1984). Reciprocal interaction and similarity of personality attributes. *Journal of Social and Personal Relationships*, 1, 415–432.
- Blazer, J. A. (1963). Complementary needs and marital happiness. *Marriage and Family Living*, 25, 89–95.
- Bluhm, C., Widiger, T., & Miele, G. (1990). Interpersonal complementarity and individual differences. *Journal of Personality and Social Psychology*, 58, 464–471.
- Bowlby, J. (1973). *Attachment and loss, Vol. 2: Separation*. New York: Basic Books.
- Bruch, M. A., & Gilligan, J. F. (1980). Extension of Holland's theory to assessment of marital and family interaction. *American Mental Health Counselors Association Journal*, 2, 71–82.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.
- Byrne, D., & Griffitt, W. (1969). Similarity and awareness of similarity of personality characteristic determinants of attraction. *Journal of Experimental Research in Personality*, 3, 179–186.
- Carli, L. L., Ganley, R., & Pierce-Otay, A. (1991). Similarity and satisfaction in roommate relationships. *Personality and Social Psychology Bulletin*, 17, 419–426.
- Carson, R. C. (1969). *Interaction concepts of personality*. Chicago: Aldine.
- Clark, H. H. (1992). *Arenas of language use*. Chicago: University of Chicago Press.
- Clare, G. L., & Byrne, D. (1974). A reinforcement-affect model of attraction. In T. L. Huston (Ed.), *Foundations of interpersonal attraction* (pp. 143–170). New York: Academic Press.
- Conte, H. R., & Plutchik, R. (1981). A circumplex model for interpersonal personal traits. *Journal of Personality and Social Psychology*, 40, 701–711.
- Deutsch, F., Sullivan, L., Sage, C., & Basile, N. (1991). The relations among talking, liking, and similarity between friends. *Personality and Social Psychology Bulletin*, 17, 406–411.
- Dryer, D. C. (1993). *Interpersonal goals and satisfaction with interac-*

- tions. Unpublished doctoral dissertation, Stanford University, Stanford, CA.
- Duck, S. W. (1973). Personality similarity and friendship choice: Similarity of what, when? *Journal of Personality*, *41*, 543-558.
- Duck, S. W., & Craig, G. (1978). Personality similarity and the development of friendship. *British Journal of Social and Clinical Psychology*, *17*, 237-242.
- Estroff, S. D., & Nowicki, S., Jr. (1992). Interpersonal complementarity, gender of interactants, and performance on puzzle and word tasks. *Personality and Social Psychology Bulletin*, *18*, 351-356.
- Eysenck, H. J., & Wakefield, J. A. (1981). Psychological factors as predictors of marital satisfaction. *Advances in Behaviour Research and Therapy*, *3*, 151-192.
- Ford, M. E., & Nichols, C. W. (1991). Using goal assessments to identify motivational patterns and facilitate behavioral regulation and achievement. *Advances in Motivation and Achievement*, *7*, 51-85.
- Griffitt, W. R. (1966). Interpersonal attraction as a function of self-concept and personality similarity-dissimilarity. *Journal of Personality and Social Psychology*, *4*, 581-584.
- Griffitt, W. R. (1969). Personality similarity and self-concept as determinants of interpersonal attraction. *Journal of Social Psychology*, *78*, 137-146.
- Gurtman, M. B. (1991). Evaluating the interpersonalness of personality scales. *Personality and Social Psychology Bulletin*, *17*, 670-677.
- Hodges, L. A., & Byrne, D. (1972). Verbal dogmatism as a potentiator of intolerance. *Journal of Personality and Social Psychology*, *21*, 312-317.
- Horney, K. (1945). *Our inner conflicts*. New York: Norton.
- Horowitz, L. M. (1979). On the cognitive structure of interpersonal problems treated in psychotherapy. *Journal of Consulting and Clinical Psychology*, *47*, 5-15.
- Horowitz, L. M., Dryer, D. C., & Krasnoperova, E. N. (1997). The circumplex structure of interpersonal problems. In R. Plutchik & H. R. Conte (Eds.), *Circumplex models of personality and emotions*. Washington, DC: American Psychological Association.
- Horowitz, L. M., Inouye, D., & Siegelman, E. Y. (1979). On averaging judges' ratings to increase their correlation with an external criterion. *Journal of Consulting and Clinical Psychology*, *47*, 453-458.
- Horowitz, L. M., Locke, K. D., Morse, M. B., Waikar, S. V., Dryer, D. C., Tarnow, E., & Ghannam, J. (1991). Self-derogations and the interpersonal theory. *Journal of Personality and Social Psychology*, *61*, 68-79.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988). Inventory of interpersonal problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, *56*, 885-892.
- Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology*, *61*, 549-560.
- Hymel, S., & Woody, E. (1991, April). *Friends versus non-friends: Perceptions of similarity across self, teacher, and peers*. Paper presented at the biennial meeting of the Society for Research in Child Development, Seattle, Washington.
- Jellison, J. M., & Zeisset, P. T. (1969). Attraction as a function of the commonality and desirability of a trait shared by others. *Journal of Personality and Social Psychology*, *11*, 115-120.
- John, O. P. (1990). The big-five factor taxonomy: Dimensions of personality in the natural language and questionnaires. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 66-100). New York: Guilford Press.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review*, *90*, 185-214.
- Kiesler, D. J. (1996). *Contemporary interpersonal theory and research*. New York: Wiley.
- Kraemer, H. C., & Jacklin, C. N. (1979). Statistical analysis of dyadic social behavior. *Psychological Bulletin*, *86*, 217-224.
- Krokoff, L. J., Gottman, J. M., & Roy, A. K. (1988). Blue-collar marital interactions and a companionate philosophy of marriage. *Journal of Personal and Social Relationships*, *5*, 201-222.
- Lafferty, J., & Eady, P. (1974). *The desert survival problem*. Plymouth, MI: Experimental Learning Methods.
- Leary, T. F. (1957). *Interpersonal diagnosis of personality*. New York: Ronald Press.
- Locke, K. D., & Horowitz, L. M. (1990). Satisfaction in interpersonal interactions as a function of similarity in level of dysphoria. *Journal of Personality and Social Psychology*, *58*, 823-831.
- Malle, B. F., & Horowitz, L. M. (1995). The puzzle of negative self-views: An explanation using the schema concept. *Journal of Personality and Social Psychology*, *68*, 470-484.
- McCrae, R. R., & Costa, P. T., Jr. (1989). The structure of interpersonal traits: Wiggins' circumplex and the five-factor model. *Journal of Personality and Social Psychology*, *56*, 586-595.
- McLeod, J., & Chaffee, S. (1973). Interpersonal approaches to communication research. *American Behavioral Scientist*, *16*, 469-499.
- McNemar, Q. (1962). *Psychological statistics* (3rd ed.). New York: Wiley.
- Moon, Y. (1996). *Similarity effects in human computer interaction: Effects of user personality, computer personality, and user control on attraction and attributions of responsibility*. Unpublished doctoral dissertation, Stanford University, Stanford, CA.
- Morell, M. A., Twillman, R. K., & Sullaway, M. E. (1989). Would a Type A date another Type A?: Influence of behavior type and personal attributes in the selection of dating partners. *Journal of Applied Social Psychology*, *19*, 918-931.
- Murstein, B. L. (1961). The complementary need hypothesis in newlyweds and middle-aged couples. *Journal of Abnormal and Social Psychology*, *63*, 194-197.
- Novak, D. W., & Lerner, M. J. (1968). Rejection as a consequence of perceived similarity. *Journal of Personality and Social Psychology*, *9*, 147-152.
- Nowicki, S., Jr., & Manheim, S. (1991). Interpersonal complementarity and time of interaction in female relationships. *Journal of Research in Personality*, *25*, 322-333.
- Orford, J. (1986). The rules of interpersonal complementarity: Does hostility beget hostility and dominance, submission? *Psychological Review*, *93*, 365-377.
- Reagor, P. A., & Clore, G. L. (1970). Attraction, text anxiety, and similarity-dissimilarity of test performance. *Psychonomic Science*, *18*, 219-220.
- Richard, L. S., Wakefield, J. A., & Lewak, R. (1990). Similarity of personality variables as predictors of marital satisfaction: A Minnesota Multiphasic Personality Inventory (MMPI) item analysis. *Personality and Individual Differences*, *11*, 39-43.
- Schachter, S. (1959). *The psychology of affiliation*. Stanford, CA: Stanford University Press.
- Strong, S. R., & Hills, H. I. (1986). *Interpersonal Communication Rating Scale*. Richmond, VA: Virginia Commonwealth University.
- Strong, S. R., Hills, H. I., Kilmartin, C. T., De Vries, H., Lanier, K., Nelson, B. N., Strickland, D., & Meyer, C. W. III. (1988). The dynamic relations among interpersonal behaviors: A test of complementarity and anticomplementarity. *Journal of Personality and Social Psychology*, *54*, 798-810.

- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: W. W. Norton.
- Tharp, R. G. (1963). Psychological patterning in marriage. *Psychological Bulletin*, 60, 97-117.
- Wiggins, J. D., Moody, A. D., & Lederer, D. A. (1983). Personality typologies related to marital satisfaction. *American Mental Health Counselors Association Journal*, 5, 169-178.
- Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, 33, 409-420.
- Wiggins, J. S. (1982). Circumplex models of interpersonal behavior in clinical psychology. In P. C. Kendall & J. N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 183-221). New York: Wiley.
- Wiggins, J. S., & Broughton, R. (1985). The interpersonal circle: A structural model for the integration of personality research. In R. Hogan & W. Jones (Eds.), *Perspectives in personality: Theory, measurement, and interpersonal dynamics* (pp. 1-47). Greenwich, CT: JAI Press.
- Wish, M., Deutsch, M., & Kaplan, S. J. (1976). Perceived dimensions of interpersonal domain. *Journal of Personality and Social Psychology*, 33, 409-420.

## Appendix

### Subscales of the Interpersonal Goals Inventory

When I am working on a task with someone, it is important to me to:

PA: Dominant Goals

- Be self-confident.
- Be firm when I need to be.
- Say "no" to the other person when appropriate.
- Be aggressive when the situation calls for it.

BC: Hostile Dominant Goals

- Not try to please the other person too much.
- Not be too gullible.
- Be assertive with the other person.
- Be aggressive without worrying about hurting the other person's feelings.

DE: Hostile Goals

- Not trust the other person too much.
- Not be overly generous in helping the other person.
- Not put the other person's needs before my own.
- Work with the person in a way that supports my own interests.

FG: Hostile Submissive Goals

- Not be noticed too much.
- Keep some things private from the other person.
- Not open up to my partner too much.
- Not tell personal things to my partner.

HI: Submissive Goals

- Not fight with the other person too much.
- Not be too aggressive with the other person.
- Not argue with the other person too much.
- Allow the other person to take control.

JK: Friendly Submissive Goals

- Put the other person's needs before my own.
- Not be too independent.
- Not be too suspicious of the other person.
- Work with the other person in a way that protects or supports the other person's interests.

LM: Friendly Goals

- Share openly my thoughts and ideas.
- Not keep the other person at a distance too much.
- Be supportive of the other person's goals.
- Not be too cold.

NO: Friendly Dominant Goals

- Let the other person know when I am angry.
- Confront the other person with problems that come up.
- Express my feelings to the other person directly.
- Let the other person know what I want.

Received June 19, 1995

Revision received August 7, 1996

Accepted August 28, 1996 ■