

# Longitudinal and Behavioral Analysis of Masculinity and Femininity in Marriage

Thomas N. Bradbury  
University of California, Los Angeles

Susan M. Campbell  
Middlebury College

Frank D. Fincham  
University of Illinois at Urbana-Champaign

Spouses' masculinity and femininity were examined in relation to longitudinal change in marital satisfaction and behavior displayed in a problem-solving discussion. Results indicated, first, that wives' satisfaction declined to the extent that their husband endorsed fewer desirable masculine traits (Study 1) and more undesirable masculine traits (Study 2). Second, masculinity and femininity covaried with problem-solving behavior, particularly for behavioral sequences involving husbands' responses to wives' negative behavior. Finally, the relation between husbands' masculinity and change in wives' satisfaction was not mediated by husbands' behavior; instead, sex role and behavioral variables made independent contributions to change in wives' satisfaction. These results are important because they highlight the value of examining intraindividual and interpersonal variables when determining how marriages improve and deteriorate.

Since Terman (1938) first examined spouses' personality traits in an effort to resolve the "chaos of opinion on the determiners of marital happiness" (p. 6), the relation between individual differences and marital functioning has been a common topic of study. Despite this interest, much remains unknown about whether personality affects the course of marriage and, if so, how this influence occurs. A premise of this article is that our current understanding of personality in marriage is hampered by incomplete development of conceptual frameworks to guide research in this area. The purpose of the article, therefore, is to outline a general approach to research that might facilitate progress in understanding personality in marriage and to apply this approach to the study of masculinity and femininity.

## Emerging Models of Close Relationships and Their Implications for the Study of Personality in Marriage

A key dimension underlying most models of close relationships is the relative emphasis they place on intrapersonal and

interpersonal processes in accounting for relationship quality (see Doherty & Jacobson, 1982). At one end of this dimension, psychoanalytic and personality models maintain that marital quality is determined in large part by traits or traitlike factors that influence how an individual responds to important social stimuli. These models typically acknowledge that interpersonal behavior contributes to the quality of marriage, yet such patterns are viewed as a manifestation of intrapersonal factors (e.g., Kelly & Conley, 1987). At the other end of this dimension are social-learning models that assume that marital satisfaction is primarily a function of spouses' rewarding and punishing behavioral exchanges and the cognitions that accompany these exchanges. Personality and other stable intraindividual variables are not necessarily rejected in these models, though they are viewed as incidental to marital interaction and to changes in marital quality (e.g., Smith, Vivian, & O'Leary, 1990).

Both classes of models have yielded important information, but because neither assigns a significant role to phenomena that are integral to the other type of model, the interplay among personality, behavioral exchanges, and marital quality has not received systematic attention. This shortcoming has been recognized for some time (e.g., Raush, Barry, Hertel, & Swain, 1974), and in some recent models intrapersonal and interpersonal factors are presumed to be related and to contribute jointly to the quality and outcome of marriage. Although not all of these models focus on personality as a critical intrapersonal factor, the movement toward integrating intrapersonal and interpersonal events in close relationships is increasingly evident, particularly among those seeking to expand the interpersonal perspective by incorporating a variety of intraindividual constructs (e.g., see Baucom & Epstein, 1990; Bradbury & Fincham, 1987, 1990; Kelley et al., 1983; Margolin, 1983).

The diversity within this emerging class of models does not yet allow competing predictions to be made about how person-

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Thomas N. Bradbury, Department of Psychology, University of California, Los Angeles; Susan M. Campbell, Department of Psychology, Middlebury College; Frank D. Fincham, Department of Psychology, University of Illinois at Urbana-Champaign.

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Correspondence concerning this article should be addressed to Thomas N. Bradbury, Department of Psychology, University of California, 405 Hilgard Avenue, Los Angeles, California 90024-1563. Electronic mail can be sent via Internet to [bradbury@psych.sscnet.ucla.edu](mailto:bradbury@psych.sscnet.ucla.edu).

ality and interpersonal behavior might combine to influence the course of a marriage. Collectively, however, the models underscore three fundamental characteristics of marriage that appear necessary to consider in designing research that can clarify the role of personality in marriage. First, these models highlight the view that marriages change over time, and they seek to identify causes of change in marital satisfaction rather than variables that simply discriminate distressed and nondistressed marriages. Thus, just as particular interpersonal behaviors have been shown to predict change in marital satisfaction (see Bradbury & Karney, 1993, for a review), longitudinal research on personality is necessary before specific traits can be incorporated into models of marital functioning (cf. Bentler & Newcomb, 1978; Kurdek, 1993).

Second, because marriage is fundamentally interpersonal, the theoretical importance of personality will be realized only when specific traits of one spouse are shown to be related to partner functioning (e.g., changes in partner satisfaction) and to behavior exhibited toward the partner. Some of the reluctance of social-learning theorists to consider individual differences in marriage can probably be attributed to the lack of evidence about their interpersonal impact (Robinson & Jacobson, 1987). Finally, because marriage encompasses a complex array of individual and interpersonal processes, likely rival interpretations for results involving personality should be ruled out. For example, inferences about the effects of personality on satisfaction will be stronger if other traitlike variables are controlled, and greater confidence in the interpersonal role of personality will be possible if variables that covary with behavior and personality are taken into account.

### The Impact of Masculinity and Femininity in Marriage: Review of Evidence and Goals of the Present Studies

These three criteria for investigating personality in marriage can be used to organize existing research, and to suggest new directions of study, on the specific dimensions of masculinity and femininity. Most research on spouses' masculinity and femininity has used cross-sectional designs and is therefore limited in its relevance to causal questions about change in marital satisfaction. Nevertheless, this research shows that a spouse's marital satisfaction tends to correlate positively with his or her own femininity and with that of his or her spouse; similar, but weaker, results are sometimes obtained for masculinity (e.g., Antill, 1983; Baucom & Aiken, 1984; Burger & Jacobson, 1979; Kurdek & Schmitt, 1986; Peterson, Baucom, Elliott, & Farr, 1989). These findings have led to the view that "femininity is a most important ingredient in marital happiness" (Antill, 1983, p. 150).

#### *Longitudinal Analysis*

Longitudinal studies, by comparison, are more informative but fewer in number, and they suggest that masculinity may be more important than femininity to the quality of a marriage over time. For example, higher scores on a bipolar femininity-masculinity scale have been found to predict improved marital adjustment over 4 years for wives but not for husbands (Bentler & Newcomb, 1978), and femininity has been shown to be un-

related to changes in satisfaction over 1-year (Kurdek, 1991b) and 3-year (Kurdek, 1991a) intervals for husbands and for wives. Similarly, agreeableness, which overlaps with femininity (Lippa, 1991), did not predict marital compatibility for husbands or wives in the 5-decade longitudinal study conducted by Kelly and Conley (1987).

These results are surprising because, in contrast to the cross-sectional findings, they suggest that the instrumental characteristics that define masculinity (e.g., independent, assertive) may be more beneficial to a marriage than the affectional characteristics that define femininity (e.g., sympathetic, gentle). Additional data are needed, however, before firm conclusions can be drawn about the relative contributions of masculinity and femininity to change in marital satisfaction. This is because (a) the single bipolar measure used by Bentler and Newcomb (1978) is open to alternative interpretations (e.g., high masculinity could be viewed as low femininity), a limitation that led to the introduction of measures with separate masculinity and femininity scales (e.g., Bem, 1974), and (b) Kurdek (1991a, 1991b) and Kelly and Conley (1987) did not assess masculinity. In addition, our guidelines for investigating personality in marriage highlight the possibility that the femininity of one spouse may predict changes in the partner's marital satisfaction, a possibility that to our knowledge has not been explored.

Our first goal in the present studies is to extend this line of research by examining the associations among husbands' and wives' masculinity and femininity and longitudinal changes in their own and their partner's marital satisfaction. In Study 1, we used the Bem Sex Role Inventory (BSRI; Bem, 1974) to test the hypothesis that spouses relatively high in desirable masculine traits and the partners of those spouses will be relatively satisfied in their marriages at Time 2 (after controlling for Time 1 satisfaction of both spouses), compared with spouses relatively low in masculinity. Existing longitudinal research suggests that desirable feminine traits will not predict changes in marital satisfaction.

Study 2 is an attempt to replicate and extend Study 1 by also examining undesirable masculine and feminine traits. We used the Extended Personal Attributes Questionnaire (EPAQ; Spence, Helmreich, & Holahan, 1979) to test the possibility that relatively high levels of undesirable masculine traits will predict lower levels of satisfaction at Time 2 and, again, that relatively high levels of desirable masculine traits will predict higher levels of later satisfaction. Desirable feminine traits are not expected to predict changes in satisfaction, and, in the absence of relevant data, we offer no prediction for undesirable feminine traits. Time 1 marital satisfaction is partialled from these associations in both studies, and because masculinity and femininity scores correlate with self-esteem (Whitley, 1983), Time 1 self-esteem is also controlled in Study 2.

#### *Behavioral Analysis*

Although greater theoretical importance could be assigned to masculine or feminine traits if they are shown to predict change in marital satisfaction, basic questions would then arise concerning how this association comes about. It is possible that these traits exert their effects on satisfaction in a manner that is not mediated to any significant degree by spouses' behavioral

exchanges (e.g., due to mate selection factors, such that spouses high in masculinity may select partners who tend to have dissatisfying relationships), but a more plausible account of this association is likely to rely heavily on the interpersonal behaviors related to masculinity and femininity.

Two observational studies have examined the associations between masculinity, femininity, and behavior in marital interaction (see also Buss, 1991; Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). In the first, Burger and Jacobson (1979) showed that husbands' femininity correlated positively with positive paraphrasing in couples' discussions of relationship difficulties, and wives' femininity correlated negatively with their tendency to make negative remarks. Few associations were obtained between masculinity and behavior, though wives' masculinity correlated positively with the occurrence of positive paraphrasing. Whereas the majority of Burger and Jacobson's sample were relatively satisfied with their marriages, Sayers and Baucom (1991) focused on the problem-solving discussions of couples seeking treatment for marital problems. In this study higher levels of wives' femininity covaried directly with their relatively greater tendency to exhibit and reciprocate negative behavior; husbands' femininity, and the masculinity of both spouses, were unrelated to these variables.

Our second goal in this research is to examine further the associations between masculinity and femininity and interpersonal behavior in marriage. As a first step toward this goal, in Study 3 masculinity and femininity are correlated with behavioral variables after controlling for marital satisfaction. This is necessary because the associations reported in the two previous observational studies may be an artifact of the variance that behavior and sex role variables share with marital satisfaction. If any correlations remain reliable, prior studies suggest that they will occur for femininity and not for masculinity and, more specifically, that the association between femininity and behavior will be moderated by marital satisfaction: In satisfied marriages femininity appears to facilitate problem resolution (Burger & Jacobson, 1979), and in dissatisfied marriages femininity appears to hinder problem resolution (Sayers & Baucom, 1991). Because the latter findings are somewhat surprising in view of how femininity is defined (e.g., gentle, attuned to the needs of others), the moderating hypothesis is viewed as tentative, and if satisfaction does not moderate the association between femininity and behavior, then femininity is expected to correlate positively with behaviors that facilitate problem resolution and correlate negatively with behaviors that hinder problem resolution.

### *Combined Longitudinal and Behavioral Analyses*

Demonstration of a reliable association between masculinity or femininity and marital behavior, although important, would provide only some of the information needed to test the hypothesis that masculinity or femininity leads to changes in marital satisfaction as a result of its relation to interpersonal behavior. A more complete account of this mechanism requires examination of longitudinal, behavioral, and sex role data in a single set of analyses, so that the interplay of masculinity, femininity, and behavior in predicting changes in satisfaction can be investigated.

Our third goal of this research, addressed in Study 3, is to examine whether behavior in marital interaction mediates any association between masculinity or femininity and change in satisfaction. Five outcomes are possible when testing this hypothesis. First, in the *null model*, neither behavior nor the personality variables will predict change in satisfaction. Separate longitudinal studies of marital interaction and sex role indicate that this model will be rejected. Second, in the *intrapersonal model*, masculinity or femininity (or both) will predict change in marital satisfaction but behavioral variables will not. Support for this model would be consistent with the view that personality affects marital quality. Third, in the *interpersonal model*, behavioral variables will predict change in satisfaction but the personality variables will not. Support for this model would be consistent with the social-learning models of marriage noted earlier. Fourth, in the *integrated model*, behavioral and personality variables will account independently for change in marital satisfaction. And fifth, in the *mediated model*, behavioral variables will predict change in satisfaction, and a previously significant association between either of the personality variables and change in satisfaction will become nonsignificant after controlling for the associations between the personality variable and behavior and between behavior and change in satisfaction (see Baron & Kenny, 1986).

Although support for the mediated model would permit more specific statements to be made about how components of the model interrelate than would support for the integrated model, evidence favoring either of these models would suggest that intrapersonal and interpersonal models by themselves provide incomplete portrayals of how marriages change and that research focusing exclusively on sex role variables or behavior is necessarily limited. While recognizing that these five possibilities are likely to oversimplify the actual pattern of results (because, e.g., different models might be supported for husbands vs. wives, for masculinity vs. femininity, or for different behaviors), we predict that either the integrated or the mediated model will be most consistent with the data; choosing between these models is not possible on the basis of available research.

## Study 1

### *Method*

#### *Participants*

Forty married couples were recruited at Time 1 through newspaper advertisements ( $n = 29$ ), and, in an effort to sample a broad range of marital quality, additional couples were recruited from a local clinic ( $n = 11$ ). At Time 2, about 12 months later, 2 couples had divorced and 32 of the remaining 38 couples (84%) agreed to participate further. Study 1 results are based on the data collected from these 32 couples (24 from the community and 8 seeking therapy), who had been married a mean of 7.2 years ( $SD = 6.9$ ), had a mean of 1.7 children ( $SD = 1.4$ ), and had a median family income of \$20,000 to \$25,000. The mean age was 30.6 years ( $SD = 7.0$ ) for wives and 31.5 years ( $SD = 7.0$ ) for husbands. Multivariate  $t$  tests indicated that couples who participated only at Time 1 did not differ from those who participated in both phases in terms of demographics or any other variables investigated.

#### *Procedure and Measures*

Couples were separated on arriving at the laboratory and, as part of a larger study of marriage (see Bradbury & Fincham, 1992), were asked

to complete a consent form, a demographics questionnaire, the Marital Adjustment Test (MAT), and the BSRI. Couples also completed an inventory of marital problems and later discussed for 15 min a problem identified by both partners; results pertaining to the problem-solving discussions are presented in Study 3.<sup>1</sup> At Time 2, couples received two copies of the MAT, a postage-paid return envelope, and a letter emphasizing the importance of independent completion of the questionnaires. The importance of independent completion of the materials was reemphasized in a follow-up telephone call. Couples were paid \$30 at Time 1 and \$20 at Time 2.

*Marital satisfaction.* The MAT (Locke & Wallace, 1959) is a widely used measure of marital satisfaction that has adequate reliability (split half = .90) and that discriminates reliably between nondistressed spouses and spouses with documented marital problems. Higher MAT scores reflect higher levels of marital satisfaction.

*Masculinity and femininity.* Masculinity and femininity were assessed with the BSRI (Bem, 1974), which requires participants to indicate on 7-point scales the extent to which 20 masculine and 20 feminine personality attributes describe them. The adjectives are personality characteristics scaled as desirable for men and women, respectively, in American society. Participants are also asked to rate 20 neutral adjectives as filler items. Analysis of the internal consistency of the Masculinity and Femininity scales showed that the two scales were discrepant in alpha coefficients for husbands and for wives and that coefficient alphas were consistently low for Femininity (for husbands: Masculinity = .88, Femininity = .70; for wives: Masculinity = .87, Femininity = .67). Published factor analyses of the BSRI were consulted, and, following the recommendations of Brems and Johnson (1990) and Ballard-Reisch and Elton (1992), coefficient alphas for two factor-analytically derived 9-item scales were examined. The 9-item version of the Masculinity scale, which we refer to here as the *Interpersonal Potency* (IP) scale (see Brems & Johnson, 1990), was nearly as internally consistent as the 20-item version, for husbands (.87) and for wives (.85). The 9-item version of the Femininity scale, which we refer to as the *Interpersonal Sensitivity* (IS) scale, was a substantial improvement over the 20-item version, for husbands (.89) and for wives (.80). The 9-item scales were therefore used in all subsequent analyses.

## Results and Discussion

### Descriptive Analyses and Correlations Among Measures

Means and standard deviations for all variables, and the correlations among all variables, are shown in Table 1. The mean scores on the MAT at Time 1 were 103.3 ( $SD = 20.9$ ) for husbands and 97.4 ( $SD = 28.7$ ) for wives, indicating that a wide range of marital satisfaction was sampled and that most participants scored in the mildly dissatisfied to mildly satisfied range of marital functioning. Within-spouse correlations indicate that wives who are higher in IS tend to be more maritally satisfied, whereas husbands' IS is unrelated to their marital satisfaction, and IP is unrelated to satisfaction for both husbands and wives. Between-spouse correlations indicate that wives with husbands who are higher in IS tend to be more maritally satisfied; wives' IS is unrelated to husbands' satisfaction, and IP for either spouse is unrelated to the partner's satisfaction. In short, wives tend to be satisfied to the extent that they and their husband are relatively high in IS.

### Predicting Change in Satisfaction From IP and IS Scores

To determine whether Time 1 IP and IS scores predict change in marital satisfaction, four multiple regression equations were

computed in which Time 2 satisfaction was predicted from Time 1 IP and IS, after first entering the Time 1 satisfaction of both spouses. Husbands' and wives' satisfaction was predicted from their own IP and IS scores in two within-spouse equations, and spouses' satisfaction was predicted from the partner's IP and IS scores in two between-spouse equations. In the within-spouse regressions, change in satisfaction was unrelated to IP and IS for husbands and for wives (see upper left and lower right quadrants of Table 2, respectively). In the between-spouse regressions, wives' IP and IS were unrelated to change in husbands' satisfaction, but husbands' IP and IS were reliable predictors of change in wives' satisfaction (see lower left and upper right quadrants of Table 2, respectively). Specifically, wives' satisfaction increased more or decreased less to the extent that their husbands were high in IP and in IS, with each predictor accounting for 5% of the variance in satisfaction.

### Conclusion

To the extent that husbands were relatively high in IP and IS at Time 1, wives' satisfaction tended to increase more (or decrease less); the results therefore provide partial support for the hypotheses. Although these findings lend support to the view that desirable masculine and feminine traits can enhance the quality of marriage over time, additional data are needed before accepting this view and the more specific conclusion that husbands' traits affect wives' marital satisfaction. This is because the Study 1 sample size may be restricted in its power to detect other associations, because marriages of relatively long duration were studied, and because unmeasured variables may be accounting for the results. Study 2 was designed to address these limitations.

### Study 2

Study 2 differs from Study 1 in that (a) a larger sample was studied; (b) self-esteem, which has been found to correlate with masculinity and femininity, was statistically controlled in associations involving change in satisfaction; and (c) masculinity and femininity were measured with the EPAQ (Spence et al., 1979), which distinguishes between desirable and undesirable masculine and feminine traits.<sup>2</sup> Because of the limitations of Study 1 we retained our original hypotheses for Study 2: that desirable masculine traits would be beneficial to marriage, that undesirable masculine traits would be detrimental to marriage, and that desirable feminine traits would be unrelated to change in marriage. Finally, the larger sample in Study 2 permitted analysis of identical hypotheses in a subgroup of marriages that were of shorter duration. We expected that any associations observed in the full sample would be larger in this subsample, because marital satisfaction was expected to be less temporally

<sup>1</sup> It would therefore be more appropriate to label Study 3 as "A Further Analysis of Study 1," but for convenience the term "Study 3" is used.

<sup>2</sup> Several studies indicate that corresponding scales on the EPAQ and the BSRI correlate very highly. For Femininity, correlations have ranged from .52 to .71; for Masculinity, correlations have ranged from .72 to .84 (Spence, 1991).

Table 1  
Descriptive Statistics and Correlations Among Measures (Study 1)

| Measure           | Husbands |       |        |       | Wives  |      |      |      |
|-------------------|----------|-------|--------|-------|--------|------|------|------|
|                   | 1        | 2     | 3      | 4     | 5      | 6    | 7    | 8    |
| Husbands (n = 32) |          |       |        |       |        |      |      |      |
| 1. Time 1 MAT     | —        |       |        |       |        |      |      |      |
| 2. Time 1 BSRI-IP | .06      | —     |        |       |        |      |      |      |
| 3. Time 1 BSRI-IS | .16      | .09   | —      |       |        |      |      |      |
| 4. Time 2 MAT     | .61***   | -.09  | .17    | —     |        |      |      |      |
| Wives (n = 32)    |          |       |        |       |        |      |      |      |
| 5. Time 1 MAT     | .32*     | -.07  | .32*   | .23   | —      |      |      |      |
| 6. Time 1 BSRI-IP | .13      | -.37* | -.40*  | .16   | -.09   | —    |      |      |
| 7. Time 1 BSRI-IS | .21      | -.17  | .21    | .31*  | .35*   | .14  | —    |      |
| 8. Time 2 MAT     | .39*     | .22   | .49*** | .43** | .77*** | -.24 | .28  | —    |
| M                 | 103.3    | 45.5  | 47.8   | 101.5 | 97.4   | 40.5 | 50.5 | 95.9 |
| SD                | 20.9     | 7.6   | 6.1    | 18.6  | 28.7   | 8.6  | 5.7  | 32.5 |

Note. MAT = Marital Adjustment Test; BSRI = Bem Sex Role Inventory; IP = Interpersonal Potency; IS = Interpersonal Sensitivity.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .005$  (one-tailed).

stable in these marriages, thus allowing other variables (besides Time 1 satisfaction) to covary more strongly with Time 2 satisfaction.

Method

Participants

One hundred thirty married couples, recruited through newspaper advertisements, participated at Time 1. At Time 2, approximately 12

months later, 105 couples (81%) agreed to participate further. Study 2 results are based on these 105 couples, who had been married a mean of 10.0 years ( $SD = 10.3$ ), had a mean of 1.6 children ( $SD = 1.5$ ), and had a median family income of approximately \$25,000 to \$30,000. The mean age was 32.7 years ( $SD = 10.3$ ) for wives and 34.6 years ( $SD = 10.9$ ) for husbands. Multivariate  $t$  tests indicated that couples who participated at Time 1 and Time 2 did not differ from those who participated only at Time 1 in terms of demographics or any other variables investigated.

Table 2  
Within-Spouse and Between-Spouse Predictions of Time 2 Marital Satisfaction From Time 1 Measures of Marital Satisfaction, Interpersonal Potency, and Interpersonal Sensitivity (Study 1)

| Time 1 variables                         | Time 2 Marital satisfaction |                      |       |          |         |                      |       |          |
|--|-----------------------------|----------------------|-------|----------|---------|----------------------|-------|----------|
|  | Husbands                    |                      |       |          | Wives   |                      |       |          |
|  | $\beta$                     | $r_{\text{partial}}$ | $R^2$ | $F$      | $\beta$ | $r_{\text{partial}}$ | $R^2$ | $F$      |
| Prediction from husband's BSRI variables |                             |                      |       |          |         |                      |       |          |
| Husband's MAT                            | .60                         | .59                  | .32   | 14.4**** | .12     | .22                  | .01   | 1.3      |
| Wife's MAT                               | .00                         | .00                  | .00   | <1       | .67     | .76                  | .37   | 37.9**** |
| Husband's BSRI-IP                        | -.14                        | -.17                 | .02   | <1       | .24     | .41                  | .05   | 5.6*     |
| Husband's BSRI-IS                        | .08                         | .10                  | .01   | <1       | .24     | .40                  | .05   | 5.1*     |
| Overall                                  |                             |                      | .39   | 4.4**    |         |                      | .74   | 18.9**** |
| Prediction from wife's BSRI variables    |                             |                      |       |          |         |                      |       |          |
| Husband's MAT                            | .57                         | .57                  | .27   | 12.7***  | .19     | .29                  | .03   | 2.6      |
| Wife's MAT                               | -.02                        | -.02                 | .00   | <1       | .68     | .72                  | .36   | 28.7**** |
| Wife's BSRI-IP                           | .05                         | .07                  | .00   | <1       | -.21    | -.33                 | .04   | 3.3      |
| Wife's BSRI-IS                           | .19                         | .22                  | .03   | 1.4      | .03     | .05                  | .00   | <1       |
| Overall                                  |                             |                      | .41   | 4.7***   |         |                      | .66   | 13.2**** |

Note.  $N = 32$  in each equation. Beta and  $r_{\text{partial}}$  values were computed with all four predictors in the equation. For the individual predictors,  $R^2$  was computed by removing each variable and examining the decrease in the overall  $R^2$ ; these values therefore reflect the unique variance associated with a predictor. For the overall  $F$ ,  $df = 4, 27$ . BSRI = Bem Sex Role Inventory; MAT = Marital Adjustment Test; IP = Interpersonal Potency; IS = Interpersonal Sensitivity.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .005$ . \*\*\*\*  $p < .001$ .

*Procedure and Measures*

At Time 1 and at Time 2 couples were mailed two questionnaires with separate postage-paid return envelopes for each spouse, as part of a larger project on marriage (see Fincham & Bradbury, 1993). A cover letter instructed spouses to complete and seal the questionnaires in separate envelopes before discussing the study with each other. Couples were paid \$15 for their participation at Time 1 and at Time 2.

*Marital satisfaction.* As in Study 1, marital satisfaction was assessed with the MAT (Locke & Wallace, 1959).

*Masculinity and femininity.* Masculinity and femininity were measured with the EPAQ (Spence et al., 1979), which requires participants to indicate on 5-point scales the extent to which each of 40 bipolar adjective pairs describes them. The six scales on the EPAQ, the number of items that compose them, representative items, and alpha coefficients obtained for husbands and wives in the present sample are *Masculine Positive* (MP): eight items; for example, not at all competitive versus very competitive, .78 and .79, respectively. *Feminine Positive* (FP): eight items; for example, very rough versus very gentle .80 and .74, respectively. *Masculine Negative* (MN): eight items; for example, not at all arrogant versus very arrogant, .68 and .78, respectively. *Feminine Negative-Unmitigated Communion* (FN-UC): four items; for example, not at all servile versus very servile, .50 and .48, respectively. *Feminine Negative-Verbal Aggressiveness* (FN-VA): four items; for example, doesn't nag versus nags a lot, .55 and .59, respectively. *Masculinity-Femininity* (MF): eight items; for example, very worldly versus very home-oriented, .60 and .56, respectively. The MF scale was dropped because of low reliability, and, in view of their low alphas, FN-UC and FN-VA were combined to form a Feminine Negative subscale. The resulting alphas remained unacceptable (for husbands,  $\alpha = .50$ ; for wives,  $\alpha = .55$ ), hence the FN-UC and FN-VA scales were also dropped from subsequent analyses. Analyses were therefore based on the MP, FP, and MN subscales.

*Self-esteem.* The 10-item Rosenberg (1965) Self-Esteem Scale (RSES) was administered. The RSES was internally consistent in the present sample for husbands ( $\alpha = .90$ ) and for wives ( $\alpha = .91$ ).

*Results and Discussion*

*Descriptive Analyses and Correlations Among Measures*

Means and standard deviations for all variables, and the correlations among all variables, are shown in Table 3. The mean scores on the MAT at Time 1 were slightly higher than those obtained in Study 1, with husbands scoring 111.3 ( $SD = 21.6$ ) and wives scoring 112.7 ( $SD = 22.0$ ); however, as in Study 1, these figures indicate that a wide range of marital satisfaction was sampled and that most participants scored in the mildly dissatisfied to mildly satisfied range of marital functioning. Within-spouse correlations indicate that husbands and wives scoring relatively high on FP tended to be happier in their marriages; wives also tended to be more maritally satisfied to the extent that they scored relatively high on MP and relatively low on MN. For husbands and wives, marital satisfaction correlated positively with self-esteem, and self-esteem correlated positively and strongly with MP. For husbands, but not for wives, self-esteem correlated with FP, and for neither husbands nor wives was self-esteem correlated with MN. These associations between self-esteem and MP corroborate previous studies (e.g., Spence et al., 1979), and, along with the associations involving self-esteem in relation to marital satisfaction and FP, they confirm the need to control for self-esteem when predicting changes in satisfaction.

In the between-spouse correlations, husbands tended to be

Table 3  
Descriptive Statistics and Correlations Among Measures (Study 2)

| Measure                   | Husbands |          |        |         |        |         | Wives   |          |      |         |         |       |
|---------------------------|----------|----------|--------|---------|--------|---------|---------|----------|------|---------|---------|-------|
|                           | 1        | 2        | 3      | 4       | 5      | 6       | 7       | 8        | 9    | 10      | 11      | 12    |
| <b>Husbands (n = 105)</b> |          |          |        |         |        |         |         |          |      |         |         |       |
| 1. T1 MAT                 | —        |          |        |         |        |         |         |          |      |         |         |       |
| 2. T1 EPAQ-FP             | .28***   | —        |        |         |        |         |         |          |      |         |         |       |
| 3. T1 EPAQ-MN             | -.12     | -.44**** | —      |         |        |         |         |          |      |         |         |       |
| 4. T1 EPAQ-MP             | .14      | .26***   | .10    | —       |        |         |         |          |      |         |         |       |
| 5. T1 RSES                | .32****  | .43****  | -.05   | .63**** | —      |         |         |          |      |         |         |       |
| 6. T2 MAT                 | .72****  | .31****  | -.20*  | .11     | .28*** | —       |         |          |      |         |         |       |
| <b>Wives (n = 105)</b>    |          |          |        |         |        |         |         |          |      |         |         |       |
| 7. T1 MAT                 | .61****  | .26***   | -.15   | .09     | .26*** | .60**** | —       |          |      |         |         |       |
| 8. T1 EPAQ-FP             | .13      | -.19*    | .03    | .01     | -.08   | .19*    | .17*    | —        |      |         |         |       |
| 9. T1 EPAQ-MN             | -.06     | -.02     | .08    | -.07    | .06    | -.15    | -.19*   | -.45**** | —    |         |         |       |
| 10. T1 EPAQ-MP            | .29****  | -.10     | .09    | .00     | .10    | .17*    | .24**   | .10      | .14  | —       |         |       |
| 11. T1 RSES               | .27***   | .01      | -.01   | .06     | .17*   | .25**   | .30**** | -.01     | .03  | .57**** | —       |       |
| 12. T2 MAT                | .58****  | .23**    | -.23** | .16     | .25*** | .73**** | .72**** | -.10     | -.12 | .21*    | .38**** | —     |
| M                         | 111.3    | 29.7     | 20.8   | 30.0    | 32.4   | 109.0   | 112.7   | 32.9     | 18.6 | 27.6    | 31.6    | 112.1 |
| SD                        | 21.6     | 4.6      | 4.3    | 4.8     | 5.3    | 24.1    | 22.0    | 3.6      | 4.7  | 5.2     | 6.2     | 25.2  |

Note. T1 = Time 1; T2 = Time 2; MAT = Marital Adjustment Test; EPAQ = Extended Personal Attributes Questionnaire; FP = Feminine Positive; MN = Masculine Negative; MP = Masculine Positive; RSES = Rosenberg Self-Esteem Scale.  
\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .005$ . \*\*\*\*  $p < .001$  (one-tailed).

happier to the extent that their wife was high on MP, and wives tended to be happier to the extent that their husband was high on FP. The self-esteem of either spouse was unrelated to the partner's FP, MN, and MP scores, but participants who were relatively high in satisfaction had spouses who tended to be high in self-esteem.

*Predicting Change in Satisfaction From Masculinity and Femininity Scores*

*Analysis of full sample.* To determine whether Time 1 EPAQ scores predict change in marital satisfaction, two within-spouse and two between-spouse multiple regression equations were computed in which Time 2 satisfaction was predicted from Time 1 FP, MN, and MP, after first controlling for the Time 1 satisfaction and self-esteem of both spouses.

In the within-spouse regressions, change in satisfaction was unrelated to Time 1 EPAQ scores for husbands and for wives (see upper left and lower right quadrants of Table 4, respectively). In the between-spouse regression, wives' FP, MN, and MP were unrelated to change in husbands' satisfaction, but husbands' MN was a reliable predictor of change in wives' satisfaction. Specifically, wives' satisfaction decreased more or increased less to the extent that their husbands were high in MN.

*Analysis of younger marriages.* Four multiple regression analyses identical to those reported in the previous section were computed for the subsample of 48 couples that had been mar-

ried 5 years or less. Marital satisfaction tended to be less stable from Time 1 to Time 2 in these couples (for husbands,  $r = .68$ ; for wives,  $r = .52$ ) compared with couples married more than 5 years (for husbands,  $r = .77$ ; for wives,  $r = .88$ ), and thus it was expected that Time 1 EPAQ variables would account for a greater portion of the variance in change in satisfaction.

As in the full-sample analyses, FP, MN, and MP did not predict change in satisfaction in the within-spouse analyses, nor did wives' scores on these variables predict change in husbands' satisfaction in a between-spouse analysis. However, the equation was significant for the prediction of change in wives' satisfaction,  $R^2 = .43$ ,  $F(7, 40) = 4.3$ ,  $p < .005$ . Specifically, the effect of husbands' MN on wives' change in satisfaction that was obtained in the full-sample regressions was also found in the subsample analysis,  $\beta = -.26$ ,  $r_{\text{partial}}(46) = -.30$ , the increment in  $R^2$  associated uniquely with MN was .05, and  $F(6, 41) = 3.8$ ,  $p < .05$ , indicating that wives tended to increase more or decrease less in satisfaction to the extent that their husbands were low in MN. Moreover, husbands' MP predicted change in wives' satisfaction,  $\beta = .27$ ,  $r_{\text{partial}}(46) = .26$ , the increment in  $R^2$  associated uniquely with MP was .04, and  $F(6, 41) = 3.0$ ,  $p < .05$ , indicating that wives tended to increase more or decrease less in satisfaction to the extent that their husbands were high in MP.

*Conclusion*

Study 2 demonstrates that husbands' undesirable masculine traits are detrimental to wives' marital satisfaction. The sub-

Table 4  
*Within-Spouse and Between-Spouse Predictions of Time 2 Marital Satisfaction From Time 1 Measures of Marital Satisfaction, Self-Esteem, Masculinity, and Femininity (Study 2)*

| Time 1 variables                                | Time 2 marital satisfaction |                      |       |          |         |                      |       |          |
|---|-----------------------------|----------------------|-------|----------|---------|----------------------|-------|----------|
|   | Husbands                    |                      |       |          | Wives   |                      |       |          |
|   | $\beta$                     | $r_{\text{partial}}$ | $R^2$ | $F$      | $\beta$ | $r_{\text{partial}}$ | $R^2$ | $F$      |
| <b>Prediction from husband's EPAQ variables</b> |                             |                      |       |          |         |                      |       |          |
| Husband's MAT                                   | .55                         | .54                  | .18   | 39.0**** | .20     | .24                  | .02   | 5.9*     |
| Wife's MAT                                      | .22                         | .26                  | .03   | 6.6**    | .54     | .56                  | .18   | 42.8**** |
| Husband's RSES                                  | .02                         | .02                  | .00   | <1       | -.04    | -.05                 | .00   | <1       |
| Wife's RSES                                     | .03                         | .03                  | .00   | <1       | .17     | .25                  | .03   | 6.1*     |
| Husband's EPAQ-FP                               | .06                         | .07                  | .00   | <1       | -.06    | -.07                 | .00   | <1       |
| Husband's EPAQ-MN                               | -.06                        | -.09                 | .00   | <1       | -.16    | -.22                 | .02   | 4.8*     |
| Husband's EPAQ-MP                               | -.00                        | -.00                 | .00   | <1       | .13     | .16                  | .01   | 2.5      |
| Overall   |                             |                      | .58   | 18.3**** |         |                      | .62   | 21.3**** |
| <b>Prediction from wife's EPAQ variables</b>    |                             |                      |       |          |         |                      |       |          |
| Husband's MAT                                   | .57                         | .56                  | .19   | 42.1**** | .23     | .26                  | .03   | 6.8**    |
| Wife's MAT                                      | .22                         | .25                  | .03   | 6.0*     | .56     | .55                  | .18   | 41.0**** |
| Husband's RSES                                  | .05                         | .07                  | .00   | <1       | .00     | .01                  | .00   | <1       |
| Wife's RSES                                     | .07                         | .09                  | .00   | <1       | .22     | .27                  | .03   | 7.3**    |
| Wife's EPAQ-FP                                  | .06                         | .07                  | .00   | <1       | -.02    | -.02                 | .00   | <1       |
| Wife's EPAQ-MN                                  | -.03                        | -.04                 | .00   | <1       | .01     | .01                  | .00   | <1       |
| Wife's EPAQ-MP                                  | -.08                        | -.10                 | .00   | <1       | -.11    | -.09                 | .01   | 1.7      |
| Overall   |                             |                      | .58   | 18.4**** |         |                      | .60   | 19.7**** |

*Note.*  $N = 105$  in each equation. Beta and  $r_{\text{partial}}$  values were computed with all seven predictors in the equation. For the individual predictors,  $R^2$  was computed by removing each variable and examining the decrease in the overall  $R^2$ ; these values therefore reflect the unique variance associated with a predictor. For the overall  $F$ ,  $df = 7, 97$ . EPAQ = Extended Personal Attributes Questionnaire; MAT = Marital Adjustment Test; RSES = Rosenberg Self-Esteem Scale; FP = Feminine Positive; MN = Masculine Negative; MP = Masculine Positive.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*\*  $p < .001$ .

sample analyses of younger couples indicate further that husbands' desirable masculine traits are beneficial to wives' satisfaction. This study is important because it overcomes significant limitations of Study 1, and it replicates three findings that help clarify the role of masculinity and femininity in marriage.

First, in both studies a significant association was obtained between indexes of sex role collected at Time 1 and reports of satisfaction 12 months later. This lends greater credence to the view that individual differences in these traits are more than concurrent correlates of marital satisfaction and may in fact contribute to the quality of marriage. Second, of the four types of predictions that were computed, only the associations between husbands' Time 1 sex role variables and change in wives' satisfaction were significant. Although this may reflect a general tendency on the part of wives to respond to partner characteristics and relationship events, it may also indicate that husbands' interpersonal behavior is linked more closely to their sex role identity than is that of wives. Third, although some evidence was obtained in Study 1 for the importance of husbands' femininity, change in wives' satisfaction was found to be a function of husbands' desirable masculine traits, using the IP subscale of the BSRI in Study 1 and using the MP subscale of the EPAQ in Study 2 (in the analysis of younger marriages). This pattern of results lends specificity to the association between husbands' sex role and change in wives' satisfaction, and, in direct contrast to cross-sectional studies of sex role in marriage, it highlights the possibility that masculine or instrumental characteristics may be at least as important as feminine or affectional traits in contributing to marital quality.

### Study 3

The longitudinal findings of Studies 1 and 2 are consistent with the possibility that individual differences in masculinity and perhaps femininity play a role in determining how satisfaction changes in marriage, yet they leave unaddressed the question of how such effects might arise. We conducted Study 3 to test the hypothesis that the association between husbands' interpersonal potency and interpersonal sensitivity and change in wives' satisfaction is mediated by the behaviors that husbands display when interacting with their wife to resolve a marital problem. The inclusion of behavioral data in the longitudinal analyses is important because it permits us to make comparisons among the five models of individual differences and interpersonal behavior that were outlined in the introduction.

A second purpose of Study 3 is to extend previous analyses of the cross-sectional associations between the interpersonal potency and sensitivity of both spouses and their observed behavior, by assessing this association before and after controlling for marital satisfaction. Prior studies (Burger & Jacobson, 1979; Sayers & Baucom, 1991) suggest that (a) spouses who are relatively high in IS will engage in behaviors that facilitate problem resolution, whereas IP will be unrelated to problem-solving behavior and (b) that associations between IS and behavior will be moderated by marital satisfaction such that IS will facilitate problem resolution in nondistressed marriages and will hinder problem resolution in distressed marriages. It is important to note that the results of Studies 1 and 2 appear to be at odds with the first of these hypotheses, because those results imply that IP

should also covary reliably with problem-solving behavior. We explore this discrepancy in the present study.

The final purpose of this study is to examine associations among Time 1 behavioral data and changes in marital satisfaction. Social-learning models of marriage maintain that marital quality deteriorates to the extent that spouses exchange more punishing behaviors and fewer rewarding behaviors (e.g., see Jacobson & Margolin, 1979), and, although some recent findings appear to contradict this view (Gottman & Krokoff, 1989; cf. Woody & Costanzo, 1990), the model has received some support, particularly with regard to rates of negative behaviors (e.g., Smith et al., 1990; also see Huston & Vangelisti, 1991). Study 3 is designed to add to this literature, first by using an observational coding system that permits analysis of avoidant behaviors along with the typically studied positive and negative behaviors, and second by analyzing sequences among avoidant, positive, and negative behaviors, which have not been widely examined. Marital satisfaction is expected to decline to the extent that spouses exhibit more negative and avoidant behavior and less positive behavior. With regard to behavioral sequences, satisfaction is expected to decline to the extent that partner behavior elicits an increased likelihood of negative and avoidant behavior and a decreased likelihood of positive behavior from the spouse.

### Method

#### *Participants, Procedure, and Measures*

The 32 couples providing data at Time 1 and Time 2 in Study 1 served as participants (see Study 1 for sampling and demographic information). Couples were separated after arriving at the laboratory and were asked to complete a consent form, a demographics questionnaire, the MAT, the BSRI, and an inventory of marital problems; the BSRI was scored for IP and IS. Couples were then reunited and instructed to work toward a mutually agreeable solution to one of the marital problems identified by both partners. The problem-solving discussion was ended after 15 min, and couples were debriefed and paid.

#### *Behavioral Coding and Analysis*

Verbatim transcripts of couples' interactions were prepared and divided into individual speaking turns. Trained coders used the transcripts and videotapes of the interactions to assign to each turn one of seven codes from the Verbal Tactics Coding Scheme (Sillars, 1981), using the verbal and nonverbal components of the exhibited behavior. Coders first determined whether the speaker was acknowledging and addressing the identified problem; if he or she was not, one of three *avoidant* codes was assigned, depending on whether the speaker (a) denied or minimized the problem (denial); (b) exhibited noncontinuous or ambiguous behavior that supplanted discussion of the problem (noncontinuity); or (c) shifted the conversation to abstract, general, or hypothetical issues that did not bear directly on the problem (shifting levels). If the speaker was acknowledging and addressing the problem, coders then determined whether the behavior warranted one of two *negative* codes, depending on whether he or she was (d) explicitly faulting, rejecting, or criticizing the partner in a hostile manner (direct negative) or (e) indirectly criticizing the partner, through presumptive attributions or self-centered demands that the partner change (indirect negative). If avoidant or negative codes were not applicable, coders assigned one of two *positive* codes, depending on whether the speaker was (f) facilitating problem resolution through nonevaluative description,



qualification, or disclosure (information) or (g) explicitly providing the partner with empathy or support in the process of resolving the problem (support). Behaviors could also be coded as *other*, but these were rare and were omitted from analyses. The seven-category system was used in the analysis of behavioral rates, and, to reduce the number of tests computed, the three-category system was used in the analysis of sequences. Independent coding of 20% of the videotapes revealed that coders were reliable (for the seven-category system, percentage agreement was 89% and coefficient  $\kappa = .80$ ; for the three-category system, percentage agreement was 91% and coefficient  $\kappa = .84$ ). To control for variation across spouses in the number of speaking turns, the number of times each of the seven codes was emitted by each spouse in the interaction was divided by his or her number of speaking turns.

Sequential patterning of the three classes of behavior between husbands and wives was examined with lag sequential analysis (see Sackett, 1979, and Bradbury & Fincham, 1991, for discussions of lag sequential analysis, and see Allison & Liker, 1982, for a description of the z-score computation used here). This procedure yields z scores representing the likelihood that a behavior by one spouse will be followed by a specified behavior exhibited by the partner, controlling for the base rate with which the partner exhibits that behavior. Thus, for example, this procedure generates values reflecting the likelihood that a wife will respond to her husband's negative behavior with her own negative behavior, taking into account her general tendency to exhibit negative behavior in the interaction. Because each spouse could respond to each of three partner behaviors with any one of their own three behaviors, the analysis produced nine z scores for husbands when they responded to their wives and nine z scores for wives when they responded to their husbands. Only immediate (i.e., Lag 1) contingencies between behaviors were investigated, because prior studies of sex role in marriage have examined only Lag 1 contingencies and because investigation of longer sequences of behavior generates a high number of nonindependent tests.

### Results and Discussion

Because the mediating analyses are contingent on demonstrated associations among (a) sex role variables and behavior and (b) behavior and change in satisfaction, we first present these two sets of analyses.

#### IP, IS, and Behavior

*Correlations and partial correlations.* Associations among IP, IS, and the behavioral variables, before and after controlling for marital satisfaction, are shown in Table 5. Husbands who are relatively high on IS were less likely to deny the marital difficulty and to be avoidant after their wife was positive; they were also more likely to reciprocate the wife's negative behavior and to respond to the wife's negative behavior with a positive behavior. Husbands who are relatively high on IP were less likely to be negative after their wife was avoidant and were less likely to be avoidant or positive after the wife was negative. Wives' IS was unrelated to their behavior, and to the extent that they were high on IP wives were less likely to be supportive and to avoid the problem by shifting levels.

In summary, the expectation that IS would covary reliably with behavior was confirmed for husbands but not for wives, and, contrary to expectations, IP covaried with behavior for husbands and for wives. The finding that IS covaries with increased negative reciprocity among husbands, although paradoxical, is similar to Sayers and Baucom's (1991) finding that wives with relatively high Femininity scores were more likely to

reciprocate negative behavior. As Sayers and Baucom obtained this result with distressed wives, we examine this association more closely in the moderating analyses.

*Marital satisfaction as a moderator.* We next conducted moderating analyses to determine whether associations among IS, IP, and behavior would vary across levels of marital satisfaction.<sup>3</sup> Consistent with past research, groups of distressed and nondistressed participants were first formed, using the cutoff score of 100 on the MAT to determine group assignment. This resulted in groups of distressed husbands ( $n = 18$ ;  $M$  MAT score = 79.1,  $SD = 14.3$ ) and nondistressed husbands ( $n = 21$ ;  $M = 117.2$ ,  $SD = 11.0$ ) who differed in their MAT scores,  $t(37) = -9.41$ ,  $p < .0001$ , and groups of distressed wives ( $n = 20$ ;  $M = 67.7$ ,  $SD = 18.6$ ) and nondistressed wives ( $n = 19$ ;  $M = 117.3$ ,  $SD = 10.8$ ) who differed in their MAT scores,  $t(37) = -10.31$ ,  $p < .0001$ .

Following recommendations by Baron and Kenny (1986) for investigating moderating effects, we computed regression equations in which the behavioral variables were predicted from marital satisfaction group, either IS or IP, and the Group  $\times$  IS or Group  $\times$  IP interaction term. A significant contribution by the interaction term (beyond the effects of group and the appropriate sex role variable) can be interpreted as evidence that the association between the sex role variable and behavior is moderated by level of marital satisfaction. For those analyses in which the interaction term was significant, within-group correlations were computed; those instances in which at least one of the within-group correlations was significant are presented below.

Marital satisfaction was found to moderate the association between IS or IP and behavior in four cases for husbands and in two cases for wives. For husbands, higher levels of IS covaried with lower levels of denial in the distressed group,  $r(17) = -.47$ ,  $p < .05$ , but not in the nondistressed group,  $r(20) = -.13$ , *ns*. Higher levels of IS covaried with a greater tendency to reciprocate wives' negative behavior in the nondistressed group,  $r(20) = .44$ ,  $p < .05$ , but not in the distressed group,  $r(17) = .13$ , *ns*. Higher levels of IP covaried with a reduced tendency to be negative following wives' avoidant behavior in the nondistressed group,  $r(20) = -.62$ ,  $p < .005$ , but not in the distressed group,  $r(17) = .07$ , *ns*. Similarly, higher levels of IP covaried with a reduced tendency to be positive following wives' negative behavior in the nondistressed group,  $r(20) = -.54$ ,  $p < .01$ , but not in the distressed group,  $r(17) = .08$ , *ns*.

For wives, higher levels of IS covaried with lower levels of noncontinuity in the distressed group,  $r(19) = -.53$ ,  $p < .01$ , and higher levels of noncontinuity in the nondistressed group,  $r(18) = .46$ ,  $p < .05$ . Higher levels of IS also covaried with a reduced tendency to be positive following husbands' negative behavior in the distressed group,  $r(19) = -.55$ ,  $p < .01$ , but not in the

<sup>3</sup> The moderating analyses used all Study 1 couples who provided behavioral, IP, and IS data at Time 1 ( $n = 39$ ); we viewed this as appropriate because it would maximize the power of these tests and because their results can be understood independently of the mediating analyses. The larger sample was not used in the cross-sectional analyses between IP, IS, and behavior (see Table 5), however, because the results of these analyses figure prominently in the mediating analyses and thus had to be based on the same sample.

Table 5  
Correlations and Partial Correlations (Controlling for Marital Satisfaction) Between Interpersonal Potency and Interpersonal Sensitivity and Behavioral Variables, for Husbands and Wives (Study 3)

| Behavior                    | Husbands              |                             |                           |                             | Wives                 |                             |                           |                             |
|-----------------------------|-----------------------|-----------------------------|---------------------------|-----------------------------|-----------------------|-----------------------------|---------------------------|-----------------------------|
|                             | Interpersonal potency |                             | Interpersonal sensitivity |                             | Interpersonal potency |                             | Interpersonal sensitivity |                             |
|                             | <i>r</i>              | <i>r</i> <sub>partial</sub> | <i>r</i>                  | <i>r</i> <sub>partial</sub> | <i>r</i>              | <i>r</i> <sub>partial</sub> | <i>r</i>                  | <i>r</i> <sub>partial</sub> |
| <b>Behavioral rates</b>     |                       |                             |                           |                             |                       |                             |                           |                             |
| Denial                      | .14                   | .13                         | -.34*                     | -.36*                       | .00                   | .00                         | .05                       | .07                         |
| Noncontinuity               | -.11                  | -.10                        | .14                       | .17                         | .08                   | .09                         | -.13                      | -.17                        |
| Shifting levels             | .21                   | .22                         | -.22                      | -.19                        | -.26*                 | -.32*                       | -.37**                    | -.28                        |
| Direct negative             | .03                   | .06                         | -.18                      | -.12                        | .01                   | .00                         | -.01                      | .02                         |
| Indirect negative           | -.08                  | -.07                        | -.06                      | -.01                        | -.12                  | -.13                        | .01                       | .05                         |
| Information                 | .17                   | .15                         | .21                       | .16                         | .30*                  | .30                         | .12                       | .15                         |
| Support                     | .05                   | .04                         | -.17                      | -.22                        | -.37*                 | -.36*                       | .05                       | -.09                        |
| <b>Behavioral sequences</b> |                       |                             |                           |                             |                       |                             |                           |                             |
| Avoidant → avoidant         | .04                   | .02                         | .25*                      | .22                         | -.10                  | -.07                        | .10                       | -.01                        |
| Avoidant → negative         | -.36*                 | -.37*                       | .11                       | .09                         | -.14                  | -.13                        | .12                       | .09                         |
| Avoidant → positive         | .15                   | .15                         | -.05                      | -.05                        | .15                   | .13                         | -.09                      | .01                         |
| Negative → avoidant         | -.39*                 | -.41*                       | .05                       | .02                         | .00                   | .00                         | .10                       | .08                         |
| Negative → negative         | -.06                  | -.05                        | .27*                      | .31*                        | .03                   | .05                         | .19                       | .12                         |
| Negative → positive         | -.35*                 | -.36*                       | .38*                      | .37*                        | .08                   | .08                         | -.17                      | -.16                        |
| Positive → avoidant         | .18                   | .20                         | -.44**                    | -.43**                      | .22                   | .20                         | .02                       | .14                         |
| Positive → negative         | -.25                  | -.25                        | .16                       | .17                         | .00                   | .02                         | .03                       | -.08                        |
| Positive → positive         | .23                   | .23                         | .00                       | -.07                        | .01                   | .04                         | .20                       | .10                         |

Note. *N* = 30 couples. For the behavioral sequences, *r* and *r*<sub>partial</sub> reflect the association between a spouse's interpersonal potency or interpersonal sensitivity score and his or her tendency to respond with the behavior indicated after the arrow, given that the partner exhibited the behavior before the arrow.  
\* *p* < .05. \*\* *p* < .01.

nondistressed group, *r*(18) = .05, *ns*. Corresponding analyses for wives' IP were nonsignificant.

Does femininity hinder problem resolution in distressed marriages while facilitating problem resolution in nondistressed marriages? Although distressed wives tended to be less positive following the partner's negative behavior to the extent they were high on IS, the present data provide little additional support for this hypothesis. Indeed, the results for wives' noncontinuity and for husbands' denial and negative reciprocity appear to contradict this view. Finally, whereas Sayers and Baucom (1991) reported a positive association between negative reciprocity and Femininity among distressed wives, in the present sample it was nondistressed husbands who exhibited this tendency. Additional data are needed to disentangle this discrepancy, but the present findings could indicate that relatively feminine husbands who are maritally satisfied may perpetuate negative cycles of behavior because they feel more comfortable contending with the negative reactions they elicit from their wives.

*Prediction of Change in Marital Satisfaction From Behavior*

To determine whether the behavioral variables coded at Time 1 would predict change in marital satisfaction, partial correlations were computed between the Time 1 behaviors and Time 2 satisfaction, after controlling for the Time 1 satisfaction of both spouses. With regard to behavioral rates, declines in wives'

satisfaction were predicted by lower rates of wives' supportive behavior, *r*<sub>partial</sub>(28) = .37, *p* < .05, and by higher rates of husbands' and wives' direct negative behavior, *r*<sub>partial</sub>(28) = -.38, *p* < .05, and *r*<sub>partial</sub>(28) = -.42, *p* < .05, respectively. Changes in husbands' satisfaction were not associated with the Time 1 behavioral rates of either spouse, and all three avoidant codes were unrelated to changes in satisfaction for husbands and for wives.

With regard to behavioral sequences, husbands' and wives' satisfaction declined less to the extent that husbands reciprocated wives' avoidant behavior, *r*<sub>partial</sub>(28) = .45, *p* < .05, and *r*<sub>partial</sub>(28) = .40, *p* < .05, respectively. Wives' satisfaction declined more to the extent that husbands responded to wives' negative behavior with avoidant behavior, *r*<sub>partial</sub>(28) = -.47, *p* < .05, and to the extent that wives were avoidant following the husbands' positive behavior, *r*<sub>partial</sub>(28) = -.52, *p* < .005.

These results demonstrate that higher rates of negative behavior and lower rates of positive behavior predict greater declines in marital satisfaction. Although important rival hypotheses remain to be ruled out (e.g., marital dissatisfaction may predict increased rates of negative behavior and decreased rates of positive behavior), the present findings lend clear support to the social-learning conception of marriage. The sequential findings expand our understanding of this model by showing that avoidant behaviors can also contribute to changes in marital satisfaction, depending on the type of behavior they follow and who exhibits them.

### *Husbands' Behavior as a Mediator of the Association Between Husbands' IP and IS and Change in Wives' Satisfaction*

*Testing the mediated model.* Following Baron and Kenny (1986), four tests must be met before any of the husbands' behavioral variables can be viewed as mediating the association between husbands' IP or IS and wives' change in satisfaction: (a) the behavior must covary with husbands' IP or IS, (b) the behavior must covary with wives' change in satisfaction, (c) husbands' IP or IS must covary with wives' change in satisfaction, and (d) when the associations represented by (a) and (b) are controlled, the association in (c) is no longer significant. The association in (c) has been demonstrated for IP and IS (see Table 2), and associations pertinent to (a) and (b) were reported in the two preceding sections.

One behavioral variable, husbands' avoidant behavior following wives' negative behavior, satisfied criteria (a), (b), and (c) and was therefore examined as a possible mediator of the association between husbands' IP and changes in wives' satisfaction. Specifically, (a) husbands relatively high in IP are less likely to be avoidant following wives' negative behavior, (b) wives' satisfaction declines more to the extent that husbands are avoidant after wives' negative behavior, and (c) wives' satisfaction declines less to the extent that husbands are relatively high in IP. To examine test (d) a multiple regression equation was computed in which wives' satisfaction was predicted from husbands' and wives' Time 1 satisfaction, husbands' IP, and the likelihood with which husbands responded to wives' negative behavior with avoidant behavior. With the associations represented by (a) and (b) controlled, the significant association between IP and changes in wives' satisfaction ( $r_{\text{partial}}[28] = .41, p < .05$ ) became nonsignificant ( $r_{\text{partial}}[27] = .26, p > .10$ ). This indicates that husbands who are relatively high in IP are less likely to be avoidant in response to the wife's negative behavior, which in turn has a beneficial effect on wives' satisfaction over time.

*Testing the integrated model.* The foregoing analyses indicate that behavior can mediate the association between sex role and change in satisfaction but that in most instances it does not; in this study the mediated model therefore fails to provide an accurate portrayal of how IP, IS, and behavior interrelate in predicting change in satisfaction. In an attempt to determine which of the remaining models were most appropriate for these data, a series of multiple regressions was computed in which Time 2 satisfaction was predicted simultaneously from Time 1 satisfaction of both spouses, either IP or IS, and one of the behavioral variables. These regressions were computed specifically for those 11 cases in which independent partial correlations indicated that the sex role variable predicted change in satisfaction and the behavioral variable predicted change in satisfaction.<sup>4</sup> The intrapersonal model would be supported if IP or IS dominated these predictions, the interpersonal model would be supported if the behavioral variables dominated these predictions, and the integrated model would be supported if IP or IS and behavioral variables made independent contributions to the prediction of change in satisfaction. Because both the sex role variable and the behavioral variable accounted for significant portions of variance in change in wives' satisfaction in 10 of the

11 regressions, the integrated model received clear support, and the remaining two models were rejected.

An alternative approach to investigating these models is to compute similar regressions for all possible pairings of a behavioral variable and a sex role variable as predictors of change in husbands' and wives' satisfaction. When change in wives' satisfaction is the dependent variable, in 25% of the equations neither a sex role variable nor a behavioral variable is a significant predictor, in 5% of the equations behavior is a significant predictor but sex role is not, in 52% of the equations sex role is a significant predictor but behavior is not, in 18% of the equations both sex role and behavior are significant predictors, and in 1% of the equations behavior served as a mediator between sex role and change in satisfaction. However, when change in husbands' satisfaction is the dependent variable, in 92% of the equations neither a sex role variable nor a behavioral variable is a significant predictor, in 2% of the equations behavior is a significant predictor but sex role is not, in 4% of the equations sex role is a significant predictor but behavior is not, in 2% of the equations both sex role and behavior are significant predictors, and in 0% of the equations behavior served as a mediator between sex role and change in satisfaction. Thus, the null model appears to represent change in husbands' satisfaction most accurately.<sup>5</sup>

### *Conclusion*

In Study 3 we examined whether husbands' behavior in problem-solving discussions would mediate the association, observed in Studies 1 and 2, between their sex role variables and changes in wives' satisfaction. Little evidence of mediation was obtained, and, instead, results indicated that sex role variables and behavior made unique contributions to the prediction of wives' satisfaction. In contrast, changes in husbands' satisfaction were not well predicted by sex role or behavior. Study 3 also indicates that masculinity and femininity covary with problem-solving behavior, particularly in the case of husbands' responses

<sup>4</sup> These 11 associations can be identified from the partial correlations already presented. In each case they involve prediction of change in wives' satisfaction from husbands' IP and IS, for six behaviors: husbands' rate of direct negative behavior, husbands' reciprocation of wives' avoidant behavior, husbands' avoidant responding following wives' negative behavior, wives' rate of direct negative behavior, wives' rate of support behavior, and wives' avoidant responding following husbands' positive behavior. Although this yields 12 associations, only 11 were tested because husbands' avoidant responding following wives' negative behavior was already found to mediate the association between husbands' IP and changes in wives' satisfaction.

<sup>5</sup> When regressions were computed in which all possible pairings of a behavioral variable and a sex role variable were predictors of change in satisfaction, an important new finding emerged: When change in wives' satisfaction was predicted from their own IP and from one of the behavioral variables, higher levels of wives' IP consistently predicted deterioration in their satisfaction (with  $r_{\text{partial}}$  ranging from  $-.29, ns$  to  $-.50, p < .005$ ;  $Mdn = -.37, p < .05$ ). This indicates that the behavioral variables served to suppress the association between wives' IP and their changes in satisfaction. This result alters interpretation of Study 1 and lends further support for the importance of masculine traits in marriage, as wives' satisfaction appears to decline to the extent that they are high on IP and their husbands are low on IP and IS.

to wives' behavior, and that problem-solving behavior predicts deterioration in marriage, particularly when interactions are characterized by more direct negative behavior, by less support behavior, and by avoidant behavior following the partner's positive or negative behavior.<sup>6</sup>

## General Discussion

### *Rationale and Results of the Studies*

Our position is that the role of personality variables in marriage will remain poorly understood until they are examined in relation to longitudinal change in marital satisfaction and to behavior in marital interaction, with appropriate steps taken to control for plausible rival interpretations. In the present studies we applied this view to the traits of masculinity and femininity and obtained three findings that extend our understanding of sex role in marriage. First, sex role variables predicted change in marital satisfaction. In Study 1, wives' satisfaction declined to the extent that they endorsed more desirable masculine traits (see Footnote 5), and their husband endorsed fewer desirable masculine traits and fewer desirable feminine traits. In Study 2, after controlling for the self-esteem of both spouses, wives' satisfaction declined to the extent that their husband endorsed more undesirable masculine traits and, in marriages 5 years or less in duration, to the extent that husbands endorsed fewer desirable masculine traits. In contrast to cross-sectional studies of sex role and marital satisfaction, which highlight the importance of spouses' feminine characteristics, these results indicate that masculine traits may be at least as influential in determining the quality of a marriage, particularly when husbands' traits are used to predict wives' satisfaction.

Second, sex role variables covaried with behavior observed in problem-solving discussions, after controlling for marital satisfaction. These associations were significant in the case of behavioral rates (e.g., husbands high in femininity were less likely to deny or minimize the problem under discussion; wives high in masculinity were less likely to offer support) and were particularly evident in behavioral sequences involving husbands' responses to wives' negative behavior. For example, husbands high in masculinity were less likely to be positive after their wife was negative, whereas husbands high in femininity were more likely to be positive after their wife was negative. The present results give much greater weight than previous studies to masculine traits as possible determinants of interpersonal behavior in marriage, and they emphasize how masculinity and femininity may contribute not only to rates of behavior but also to how husbands respond to particular types of behaviors displayed by their wives.

Third, although change in husbands' satisfaction was predicted from few Time 1 variables, sex role and behavioral variables made independent contributions to change in wives' satisfaction. These results, together with the associations observed between sex role variables and interpersonal behavior, contradict (a) the tendency to ignore individual-differences variables in social-learning models of marriage and (b) the tendency to ignore interpersonal, behavioral variables in psychoanalytic and personality models of marriage. Thus, at least in the case of wives, joint consideration of personality traits and behavioral

exchanges is likely to prove fruitful in subsequent longitudinal research.

### *Limitations and Qualifications*

Although the longitudinal design used in these studies confers distinct advantages for understanding masculinity and femininity in marriage, its limitations must also be acknowledged. For example, this approach relies on correlational methods for inferences about causation and, hence, is susceptible to all criticisms that can be directed at nonexperimental research. Second, the interval between assessment periods was arbitrarily chosen so that weaker (or stronger) associations might emerge with different intervals. Third, all constructs were not measured at each assessment period. This leaves open the possibility, for example, that masculinity and femininity are a function of antecedent levels of marital satisfaction, which, if controlled, might reduce the associations between sex role and change in satisfaction. A related consequence of the incomplete longitudinal design is that an assumption of strong versions of intrapersonal models of marriage cannot be tested, namely, that personality determines interpersonal behavior.

Two other limitations arise when the sex role data are considered. First, in Study 2 negative feminine characteristics could not be measured reliably and thus their association with change in satisfaction could not be assessed. Second, in both studies sex role data were collected by asking participants how well particular adjectives and behavioral tendencies described them. Because other individuals (e.g., spouses, parents, and friends) may disagree with how the participants described themselves, it would be inappropriate to assume that participants' ratings are objective or socially acknowledged. The associations obtained between sex role variables and observed behavior, and between husbands' sex role variables and wives' change in satisfaction, do indicate that participants' ratings of their masculinity and femininity may be accurate (see Funder, 1987), but the possibility remains that sex role data collected from other sources would yield a different pattern of results.

### *Implications for Theory and Research*

The primary implication of these data is that models of marriage and empirical tests of those models are likely to provide a less accurate portrayal of how marriages change to the extent

<sup>6</sup> We have argued previously for measuring marital satisfaction with questions assessing spouses' global evaluations of their marriage, rather than with instruments (such as the MAT) that include questions about the frequency of particular behaviors, in part because with the latter approach associations between satisfaction and other measures of behavior may be inflated (Fincham & Bradbury, 1987). Study 3 does not appear to be subject to this problem because the focus is on (a) the cross-sectional association between sex role variables and behavior, in which case statistically controlling for MAT scores actually might underestimate the degree of covariation between sex role and behavior, and on (b) the longitudinal association between behavior and change in satisfaction, in which case statistically controlling for Time 1 MAT scores in predicting Time 2 MAT scores would appear to eliminate the confounding that can be caused by including questions about behavior in the measure of satisfaction.

that they exclude either traitlike characteristics of spouses or variables that capture behavioral exchanges between spouses. Emerging models of close relationships are beginning to acknowledge the importance of intrapersonal and interpersonal factors, but most prior research on marriage has tended to emphasize one factor or the other as the principal cause of change in marital satisfaction. The present data indicate that these approaches may be misleading and that progress toward understanding change in marriage might be more rapid if comparisons are made between models that differ qualitatively rather than quantitatively. That is, although it will be useful to establish, for example, whether one type of behavior affords better prediction of marital satisfaction than another type of behavior, these studies suggest that it might be more informative to determine whether a model that includes behavioral and personality variables allows better prediction of satisfaction than either the behavior or personality variables alone.

The foregoing recommendations must be tempered by the finding that sex role variables and behavior predicted change in satisfaction for wives, whereas few such associations were reliable for husbands. The possibility remains that some sort of integrated model, involving a different set of personality and behavioral variables, will predict change in husbands' satisfaction, but this pattern of results raises the more general point that fundamentally different mechanisms may operate to produce change in husbands' and wives' satisfaction. The present results, which probably reflect no more than one small element of these mechanisms, indicate that wives tend to become less satisfied partly as a function of husbands' sex role (particularly masculinity) and the behaviors they exchange when discussing problems, whereas the factors contributing to husbands' changes in satisfaction remain uncertain (see Heavey, Layne, & Christensen, 1993; Huston & Vangelisti, 1991; and Kurdek, 1991b, for similar patterns of results). The only consistent clue in this regard was that husbands were relatively more distressed over time to the extent that they failed to reciprocate their wife's avoidant behavior. If a wife changed topics in the problem-solving discussion, her husband became more distressed if he continued discussing the problem rather than avoiding it. This result must be interpreted with caution, yet it does suggest that husbands' avoidance may be beneficial to marriage in particular situations. In any case, the means by which husbands decline in their satisfaction, and how this compares with that of wives, is an important topic for future study.

An additional implication of the present results can be drawn from the specific longitudinal associations obtained between masculinity, femininity, and changes in satisfaction. Although two such associations are readily understood—specifically, that wives would be more satisfied over time to the extent that their husbands described themselves as more “affectionate,” “sympathetic,” and “sensitive to others' needs” (Study 1) and as less “arrogant,” “egotistical,” and “cynical” (Study 2)—it is not as apparent that wives' satisfaction would decrease over time to the extent that they described themselves as “dominant,” “assertive,” and “forceful” (Study 1; see Footnote 5) and would increase to the extent that husbands endorsed these same adjectives (Study 1) as well as “active,” “very self-confident,” and “never gives up easily” (Study 2 subsample analyses). However, if these results replicate, it may mean that higher levels of wives'

masculinity increase the likelihood of marital conflict, whereas higher levels of husbands' masculinity decrease the likelihood of marital conflict.<sup>7</sup>

### Conclusion

The complexity of marriage as a social relationship has long been recognized, but most psychological studies of change in marriage have focused on either intrapersonal factors or interpersonal factors as the principal determinants of marital quality. The present data indicate that an integration of these factors in research and theory may prove more effective in clarifying how marriages improve and deteriorate. Terman's (1938) conclusion on this topic still seems appropriate more than 50 years later: “The importance of the problem and success thus far obtained call for the continuance and intensification of such research. The attack should proceed from many angles” (p. 377).

<sup>7</sup> Although the association between IP and change in wives' satisfaction is significant and positive for husbands ( $r_{\text{partial}}(28) = .41$ ) and significant and negative for wives ( $r_{\text{partial}}(28) = -.37$ ), the two correlations themselves may not differ reliably. A direct test of the difference showed that it was indeed reliable ( $z = 4.33, p < .0001$ ).

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