

Research Article

MARITAL SATISFACTION AND DEPRESSION: Different Causal Relationships for Men and Women?

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Abstract—A sample of 150 recently married couples provided data regarding marital satisfaction and depressive symptoms. Approximately 18 months later, 116 of these couples provided complete information on marital satisfaction and depression once again. The data were examined using three sets of causal models, which yielded converging results. For men, causal paths emerged from depression to marital satisfaction, whereas for women causal paths were from satisfaction to depression. The results are discussed in relation to the marital discord model of depression.

Although the association between marital distress and depressive symptomatology has long intrigued marital researchers, several issues concerning this association remain unresolved. Perhaps one of the most important is whether the relation is causal and the direction of possible causal effects. A second issue is the extent to which gender influences the association between marital discord and depression, an important consideration in view of widely documented gender differences in depression (e.g., Nolen-Hoeksema, 1987). Finally, variation in the discord-depression association across data collection strategies and data analytic techniques makes it important to select populations that are relatively homogeneous and to use statistical procedures most sensitive to the identification of causal effects (Karney & Bradbury, 1995; Monroe & Depue, 1991). The present study therefore examines the relation between marital discord and depressive symptoms in recently wed spouses at two points in time separated by an 18-month interval.

THE ASSOCIATION BETWEEN MARITAL DISTRESS AND DEPRESSION

Concurrent Association

A number of studies document a robust association between depressive symptomatology and marital satisfaction in the general population (for reviews, see Beach, Smith, & Fincham, 1994; Gotlib & Hammen, 1992). No matter how robust the correlation between marital discord and depression, however, it does not speak to the issue of causation. A more promising means of addressing potential causal relations is to examine the association longitudinally.

Longitudinal Association

Brown and Harris (1978) found that the lack of a confiding relationship with a boyfriend or spouse increased the risk of depression among women. Focusing specifically on marital events, Christian,

O'Leary, and Avery (1993) found that 36% of women who had recently experienced a significant negative marital event (e.g., abuse, discovery of a violation of trust) and who had no history of prior depressive episodes were clinically depressed. Other longitudinal studies yield similar results (e.g., Beach & O'Leary, 1993b; Schaefer & Burnett, 1987), and in the first longitudinal test using a random probability sample of women working full time (Beach et al., 1995), marital satisfaction had a significant effect on depressive symptomatology 1 year later.

The existence of a possible prospective effect of marital discord on depression does not, however, preclude instances of depression leading to marital discord. Premarital dysphoria in husbands has been found to be a precursor of later marital discord for both spouses (Beach & O'Leary, 1993a), premarital dysphoric behavior during interaction tasks also predicts subsequent marital discord (Smith, Vivian, & O'Leary, 1990), and higher levels of neuroticism predict future marital difficulties (Karney & Bradbury, 1995). As these results make clear the effect of marital discord or negative marital events on depression does not preclude depression influencing marital discord.

A complete account of the etiology of depression, therefore, will have to encompass the potential bidirectional interplay of marital discord and depressive symptomatology. In addition, there is reason to expect that effects might vary as a function of gender.

GENDER AND THE ASSOCIATION BETWEEN MARITAL DISCORD AND DEPRESSION

Because women are about twice as likely as men to experience clinical depression (e.g., Weissman, 1987), the relation between marital discord and depression may differ across gender. However, existing data show that the magnitude of the cross-sectional relation does not often differ for men and women, and longitudinal relations typically show only marginal or nonsignificant gender differences (Beach et al., 1994). These findings are somewhat surprising in view of gender role differences for women and men.

Gender roles give rise to clear differences in expectations. Women are rated more favorably than men on helpfulness, kindness, compassion, and ability to devote oneself to another, and women display more emotional support for others (Eagly, 1987). Because gender roles are often internalized, women's gender roles may lead them to place greater emphasis on caring for others regardless of whether or not their own needs are being met and to sacrifice more to "save" a relationship (Lerner, 1987). Indeed, women are perceived as being more relationship oriented than men (e.g., Markus & Oyserman, 1989), are more willing to self-disclose than men (Prager, 1989), and so may feel (or have forced upon them) responsibility for the resolution of relationship difficulties. The result may be a stronger tendency for women than men to take responsibility when something goes wrong in their close relationships (Bar-Tal & Frieze, 1977), or to believe that other people will see marital failure as being their fault.

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Marital Satisfaction and Depression

At the same time, women also rate emotions as more important than men, and spend more time talking about emotions and personal problems. In response to marital discord, then, women may be particularly likely to use emotion-focused coping, focus on the difficulty they are having, and blame themselves for marital problems, placing themselves at greater risk of depression (Nolen-Hoeksema, 1987). Such observations might lead one to hypothesize a relatively stronger prospective effect of marital discord on depressive symptomatology for women than for men.

Conversely, the male gender role is more consistent with activity and displays of anger and retaliation (Kuehli & Fivush, 1992). Men are more likely to use direct influence strategies to "make" others change (e.g., reward, coercion, appeal to expertise, Howard, Blumstein, & Schwartz, 1986). In addition, men are expected to show more calmness in a crisis and be able to "stand up to others" (e.g., Ruble, 1983). The internalization of these expectations may lead men to view interpersonal conflict in terms of competition and "winning" or lead them to withdraw or attempt to withdraw from conflict that might cause them to "lose their cool" (Gottman, 1994). Such tendencies should make men less likely to take responsibility for marital discord and more likely to minimize the seriousness of their partners' concerns. Finally, men may also be more likely to engage in distracting behaviors when they notice dysphoric feelings, to avoid personal blame for any deterioration in their own satisfaction, and to leave noxious interpersonal situations in order to repair their mood (Nolen-Hoeksema, 1987).

Thus, men may be relatively less likely to become dysphoric in response to marital problems and more prone to withdraw from and denigrate the relationship when they are dysphoric. Such a pattern seems consistent with a relatively stronger effect of depression on marital satisfaction for men than for women.

EFFECTS OF DATA COLLECTION STRATEGIES AND DATA ANALYTIC STRATEGIES

The methodologies and data analytic strategies used to date limit the discovery of causal relations and clear gender differences. Cross-sectional investigations dominate research on the relationship between marital discord and depression, whereas panel designs provide a better method for analyzing change as they yield information on cross-sectional and longitudinal variation. Unfortunately, correlations are the most frequently used estimates of longitudinal relations in marital research (Karney & Bradbury, 1995). Among the limitations of this technique for examining longitudinal relations is the fact that the predictor variable often correlates cross-sectionally with the predicted variable and failure to control for this association precludes the study of change. Although regression analyses overcome this problem, parameter estimates for predictor variables do not control for other paths posited in the causal system. Structural equation modeling (SEM) circumvents this difficulty by simultaneously estimating all parameters in a causal system. We therefore use SEM to analyze our data.

Finally, sampling methods also bias findings or limit their generalizability. Karney et al. (1995) argued that samples drawn from public records are more representative than those typically used in marital research and have the added advantage of allowing any bias resulting from refusal to participate to be quantified. Also, because the bidirectional effect of marriage on depression may vary as a function of length of the relationship (cf. Beach & O'Leary, 1993b), samples

homogeneous with regard to years of marriage are likely to result in less error variance and a better picture of true effects.

In view of these observations, the present study examines the relation between marital discord and depressive symptoms, in a sample of recently wed couples recruited from marriage-license records, at two points in time separated by an 18-month interval. In estimating parameters in a series of models, we (a) examine possible causal relations between depressive symptoms and marital discord over time, (b) determine whether these relations are mediated by the concurrent association between the predictor and predicted variable, and (c) examine possible bidirectional relations between the variables. In doing so, we pay particular attention to possible gender differences in the relation between discord and depressive symptoms.

METHOD

Sample

The sample comprised 150 newlyweds (range married 3–8 months) from small towns (range 10–100,000 persons). Potential participants were identified through marriage-license records. Couples were invited to participate in the study if they were living together, if both spouses could read and speak English, and if both spouses had completed at least the 10th grade of high school (to ensure that they could read and understand all questionnaires). More than 80% of eligible couples agreed to take part in the study.

Couples had a modal gross annual income between \$25,000 and \$29,999. Ninety-one percent of the sample were Caucasian, 2% were Hispanic, 2% were Asian, 3% were African-American, and 2% indicated "other" for their race. As regards religion, 58% indicated that they were Protestant, 16% marked Catholic, 3% indicated they were Jewish, 10% chose "other," and 13% said they were not associated with any religious grouping. Husbands averaged 27.8 years of age ($SD = 6.6$) and 15.4 years of formal education ($SD = 2.8$). Corresponding figures for wives were 26.6 years of age ($SD = 6.3$) and 15.0 years of formal education ($SD = 2.4$).

Measures

Marital satisfaction

Marital satisfaction was assessed using the Marital Adjustment Test (MAT, Locke & Wallace, 1959). This widely used measure of marital satisfaction reliably discriminates nondistressed spouses from spouses with documented marital problems, has adequate reliability (split half = .90), and correlates with clinicians' judgments of marital discord (Crowther, 1985).

Depressive symptoms

Depressive symptoms were assessed using the Beck Depression Inventory (BDI, Beck & Beamesderfer, 1974). This scale reliably measures the severity of depressive symptoms in nonpsychiatric samples (mean internal consistency over 15 samples = .81, range .73–.92), correlates highly with clinical ratings of depression, and differentiates depression from anxiety (Beck, Steer, & Garbin, 1988).

Procedure

Couples were invited to attend a laboratory session (Time 1) during which spouses individually completed consent forms, demon-

Table 1 Intercorrelations, means, and standard deviations of the study variables for husbands (above diagonal) and wives (below diagonal) N = 116

	Marital satisfaction, Time 1	Depression Time 1	Marital satisfaction, Time 2	Depression Time 2	Mean	SD
Marital satisfaction, Time 1					120.0	17.3
Depression Time 1	-.45**				4.1	3.7
Marital satisfaction, Time 2	.56**	-.23**			114.8	24.2
Depression Time 2	-.43**	.45**	-.57**		4.5	5.5
Mean	123.4	5.9	118.1	6.8		
SD	16.7	5.5	26.0	7.3		

** $p < .05$

graphic forms, and the two questionnaires reported in this study. Additional data were collected but are beyond the scope of this article. At the end of the session, couples were debriefed and paid \$30.

At Time 2, approximately 18 months later, an effort was made to contact the couples. Several couples had either separated or divorced ($n = 8$), the husband in one couple had died, 6 couples declined to participate, and 7 couples could not be contacted by mail or telephone. The remaining couples agreed to participate and were mailed two sets of questionnaires that included measures of marital satisfaction and

depressive symptoms, two postage-paid return envelopes, and a cover letter informing them about the study and the importance of independent completion of the questionnaires. Nine couples failed to return the materials despite repeated follow-up calls, and 3 provided incomplete information. There were therefore 116 couples for which both spouses provided complete information on marital satisfaction and depression at both time points. Initial MAT and BDI scores of those who provided and did not provide information at Time 2 were compared using a t test. No group differences were found on either measure for husbands or for wives ($p < .05$).

RESULTS

The correlations among the variables appear in Table 1 together with their means and standard deviations. It can be seen that both marital satisfaction and depressive symptoms are quite stable in early marriage. In addition, marital satisfaction and depressive symptoms are clearly related to each other whether examined cross-sectionally or longitudinally. Over the first 18 months of marriage, there is a decrease in marital satisfaction (from 120 to 114.8 for husbands, $t(115) = 2.80, p < .05$, and from 123.4 to 118.1 for wives, $t(115) = 2.66, p < .05$) and a slight, but nonsignificant, increase in depressive symptomatology (from 4.1 to 4.5 for husbands and from 5.9 to 6.8 for wives). Finally, consistent with the assumption that early marriage is a period of considerable change, and an optimal time to investigate the onset of both marital difficulties and depressive symptoms (Beach & Fincham, 1994; Bradbury & Karney 1993), there is a significant ($p < .05$) increase in the variances of both marital satisfaction and depression over time.

Are Depression and Satisfaction Related Over Time?: Cross-Lagged Stability Models

Cross-lagged stability models (see Fig. 1) allow examination of longitudinal relations between constructs while controlling for their stability. Significant cross-lagged effects reflect the presence of a relationship beyond that which can be accounted for by the stability of the constructs and the magnitude of their association at Time 1.

We used SEM (using Lisrel 7.20) based on maximum likelihood estimation to obtain parameter estimates in a cross-lagged stability model.¹ Figure 1 shows the estimates obtained for husbands and for

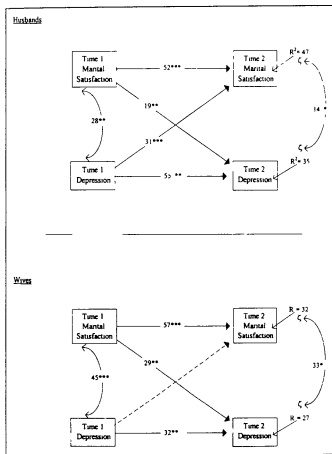


Fig. 1. Maximum likelihood estimation of a cross-lagged, stability model for husbands (top) and wives (bottom). ** $p < .05$ *** $p < .01$

¹ Because this is a fully saturated model without any degrees of freedom, it fits the data perfectly. In this and subsequent models, the interest is in parameter estimates rather than model fit.

Marital Satisfaction and Depression

wives. Two points are of particular interest. First, both cross-lagged relations yielded significant parameter estimates for husbands, whereas for wives only the path linking earlier satisfaction to later depression was significant. Second, model comparisons to test the equality of effects between models (using a stacked modeling procedure) showed that the path from depressive symptoms to later marital satisfaction was significantly stronger in husbands than wives, $\Delta\chi^2(1) = 9.1, p < .05$.

Are Longitudinal Relations Between Depression and Satisfaction Mediated by Their Concurrent Relation?: Recursive Models

Simple recursive models (see Fig. 2) allow examination of the extent to which cross-lagged effects reflect primarily shorter term concurrent effects and the extent to which they reflect processes that unfold over longer time periods. When previously significant cross-lagged effects are reduced or eliminated using simple recursive models, these effects are likely to be mediated through the current level of the predictor variable. Conversely, when cross-lagged effects remain significant, a longer causal time frame is likely.

Because longitudinal relations may be mediated by concurrent relations between the variables, we examined two sets of simple re-

ursive models. First, we examined a model with a path from Time 1 marital satisfaction to Time 2 depression while controlling for earlier satisfaction. Second, we examined a model with a path from Time 2 depression to Time 2 satisfaction while controlling for earlier depression. As Figure 2 shows, for husbands, the previously significant longitudinal relation between satisfaction and later depression is no longer significant, leaving an interesting gender-related pattern of results. For husbands, earlier depression is related to later depression, whereas for wives, earlier satisfaction is related to later depression. The figure also shows that the paths linking the Time 2 variables are significant in each model, providing support for the view that the path linking depression and satisfaction may be bidirectional. Simple recursive models do not, however, allow estimation of bidirectional effects.

Is Any Causal Relation Between Depression and Satisfaction Bidirectional?: Nonrecursive Models

To examine possible bidirectional or synchronous effects between satisfaction and depression, we estimated a nonrecursive model (see Fig. 3). For a synchronous-effects model to be identified, several conditions need to be satisfied. The present model satisfies these conditions in that earlier measures of satisfaction and depression are

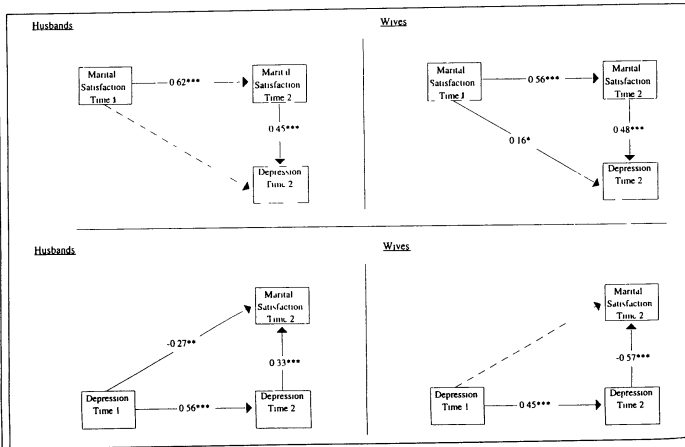


Fig. 2. Maximum likelihood estimation of husbands' and wives' structural relations between marital satisfaction and depression (top) and between depression and marital satisfaction (bottom). * $p < .10$, ** $p < .05$, *** $p < .01$.

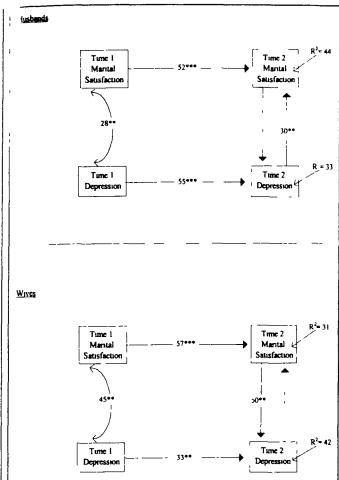


Fig. 3 Maximum likelihood estimation of a reciprocal effects model for husbands (top) and wives (bottom) ** $p < .05$ *** $p < .01$

presumed to be predetermined variables and thereby uncorrelated with the disturbance terms in both Time 2 equations, and both cross-lagged effects are constrained to be zero.

A clear-cut difference in parameter estimates that was consistent with the longitudinal paths emerged across gender. For women, later satisfaction influenced later depression, whereas for men, it was later depression that influenced later satisfaction. The estimate of the path from marital satisfaction to depression for wives was substantial and was significantly greater than the corresponding path for husbands, $\Delta\chi^2(1) = 7.42, p < .05$. In a similar vein, the estimate of the path from depression to marital satisfaction for husbands was marginally larger than the corresponding path for wives, $\Delta\chi^2(1) = 3.21, p < .10$.

Does a Spouse's Depression Influence the Partner's Satisfaction and Vice Versa?

To examine interspouse effects, we reran the models using partner instead of own reports of satisfaction or depression. Only one effect merged above and beyond significant stability coefficients: Wives' depression influenced husbands' concurrent satisfaction.

DISCUSSION

The present study offers methodological as well as substantive findings. At the level of methodology, the study compares parameter estimates yielded by a series of complementary models and demonstrates that although the relationship found between depressive symptoms and marital discord can vary as a function of the manner in which the data are examined, there is impressive and theoretically important consistency across various model specifications. At the substantive level, the results of this study suggest that there are theoretically important bidirectional causal effects between marital satisfaction and depression, as well as theoretically important gender differences in the way in which marital satisfaction and depression are related.

In addressing the relation between depression and marital satisfaction, the study also replicated a number of findings. Consistent with prior correlational research, significant concurrent and longitudinal correlations were found between marital satisfaction and depressive symptoms for both husbands and wives. Also in keeping with prior research, when examined at the level of simple correlations, the relationship between marital satisfaction and depression appeared slightly stronger for women than for men, but this difference was minimal. Finally, for both men and women, the relationship between marital satisfaction and depression increased early in the marital relationship, with marital satisfaction decreasing slightly and depressive symptoms increasing slightly (Beach & O'Leary, 1993b). In all respects, then, the current correlational findings are consistent with the prior literature and underscore the relation between marital satisfaction and depressive symptoms for both men and women (Beach et al., 1994).

In view of these findings, the gender differences that emerge when parameter estimates are examined in different models are all the more interesting. Because women are often perceived as being more relationship oriented than men, and so may feel (or have forced upon them) greater responsibility for the resolution of relationship difficulties, one might expect greater vulnerability to marital stressors for women than for men. Likewise, because women may be less likely than men to adopt a "dismissive" style in response to relationship difficulties, they may be less able to fend off the negative effects of marital discord. In either case, one might expect enhanced vulnerability to depressive symptoms among women in response to declining marital satisfaction. This expectation appears to fit nicely with the current pattern of findings.

In particular, there is a divergence between husbands and wives in the causal relation between marital satisfaction and depression that is found across models. In the cross-lagged stability model, the prospective effect of marital satisfaction on depression was slightly, though not significantly, larger among women than men, and the prospective effect of depression on marital satisfaction was significantly greater among men than among women. In the simple recursive models, the prospective effect of marital satisfaction on depression was significant only for wives, and the prospective effect of depression on marital satisfaction was significant only for husbands. It therefore appears that for husbands, the prospective relationship between marital satisfaction and depression reflects only the Time 2 relation between the constructs and the stability of marital satisfaction. Finally, the bidirectional models show that the prospective effects found also occur concurrently, the causal path from marital satisfaction to depression was

Marital Satisfaction and Depression

significant for women, and the causal path from depression to marital satisfaction was significant for men.

These results are consistent with previous findings pertaining to men. That is, men may respond to their own depression by denigrating their relationships or by withdrawing from relationships to a greater extent than is true for women. This would account for the greater effect of depression on marital satisfaction among men than among women.

It is important to remember that the appropriate time frame within which to observe causal effects between marital satisfaction and depression is not known. This uncertainty creates some difficulty in estimating the magnitude of any hypothesized causal relationship between marital discord and depression. Because use of the correct lag should result in the largest estimate of causal effect, the causal relation between the two variables may be seriously underestimated if our estimate of causal effect consists of only the cross-lagged relationship between the variables measured across an arbitrary time interval. When the observation period is longer than the temporal lag for the effect to occur, the relationship is often best approximated by two-way causal relationships (Fisher, 1970). Accordingly, a contrast of effect estimates for cross-lagged and nonrecursive models allows for some estimate of the time frame over which effects may occur.

It is therefore instructive to notice that the effect of marital satisfaction on depression for wives is greater when estimated in the nonrecursive model (-50) than in either the cross-lagged (-29) or the simple recursive (-16) models. This pattern of results suggests that the effect of satisfaction on depression may occur over a relatively shorter time frame than 18 months. In contrast, the effect of depression on marital satisfaction for men is similar in magnitude for cross-lagged (-31), simple recursive (-27), and nonrecursive (-30) models. This pattern may suggest a relatively longer time frame for the effect of depression on marital satisfaction for men. Although these comparisons do not tell us the "correct" lag in either case, they do suggest that the lagged effects between marital discord and depression and between depression and marital discord may be different in time frame as well as in magnitude.

The magnitudes of the effects are compatible with any of three nonspurious patterns of causation. It may be that only some wives show a depressive response to marital dissatisfaction, but that this reaction is sufficiently large to produce observable group effects. A second possibility is that the relationship between marital discord and depression is general, but nonlinear, leading to threshold effects that are underestimated by linear analytic approaches. A third possibility is that the effect of marital discord on depressive symptomatology is general and linear, but modest in magnitude. A similar set of plausible patterns could be identified for the effect of depression on marital satisfaction for husbands. The precise clinical implications of the results await further investigation of these competing models, as programs of intervention or prevention derived from them would differ. Moreover, replication with samples exhibiting clinical levels of depression and marital discord would further enhance the generalizability of the results.

Notwithstanding these caveats, the results suggest methodological changes in research on the relationship between marital discord and depression as well as substantive changes to the marital discord model of depression. From a methodological standpoint, the results suggest that parameter estimates for effects hypothesized in any causal model of marital satisfaction on depression may vary as a function of model

specification. Because the "correct" lag time for effects of marital satisfaction is not known, it seems prudent to hypothesize that, at varying degrees, all parameter estimates underestimate the "true" magnitude of the relationship between marital satisfaction and depression.

From a substantive standpoint, the current results suggest that the marital discord model should be amended in two ways. First, the model should specify potential gender differences in the preponderance of causal flow from marital satisfaction to depression and vice versa. Specifically, even though there appears to be a substantial influence of marital satisfaction on depression for wives, there may be a relatively stronger influence of depression on later marital satisfaction for husbands. Second, the model should specify potential differences in time frame for the causal effect of marital satisfaction on depression as opposed to the effect of depression on marital satisfaction. Indeed, the current data suggest a divergence in the optimal lag for an effect of marital satisfaction on depression (which may be relatively shorter—at least for women) and the optimal lag for an effect of depression on marital satisfaction (which may be relatively longer—at least for husbands).

The current data help advance the marital discord model of depression by indicating important bidirectional effects between marital satisfaction and depression, by identifying a possible divergence in the time frame required for effects of depression on satisfaction compared with that required for satisfaction to influence depression, and by identifying divergence by gender in the causal processes linking marital satisfaction and depression. Although generally supportive of the marital discord model of depression, this information also can be used to refine the model. Most important, the current results suggest that marital interventions for depression may need to be tailored quite differently for depressed husbands than for depressed wives (Kaslow & Carter, 1991).

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