Miscarriage Effects on Couples' Interpersonal and Sexual Relationships During the First Year After Loss: Women's Perceptions

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Objectives: To describe inductively women's perceptions of the effects of miscarriage on their interpersonal and sexual couple relationships (IR and SR); and, guided by the Lazarus Emotions and Adaptation Model, to compare IR and SR patterns 1 year after loss for differences in backgrounds, contexts, appraisals, reappraisals, and emotions. **Methods:** This was a secondary analysis of data gathered at 1, 6, 16, and 52 weeks postmiscarriage from 185 women. Text data were content-analyzed. Relationship differences were examined using MANCOVA with Bonferroni adjusted pairwise comparisons. **Results:** There were three relationship patterns: closer, as it was, and more distant. At 1 year, women whose IR (44%) was as it was (vs. closer [23%] or more distant [32%]) or whose SR (55%) was as it was (vs. more distant [39%]) coped less passively and appraised less miscarriage impact. Women whose IR or SR was as it was (vs. closer) were more likely to have children and (vs. more distant), miscarried at an earlier gestation, conceived again, and experienced fewer negative events. Those whose IR was closer or as it was and whose SR was as it was (vs. IR or SR more distant) had less disturbed emotions, more emotional strength, and partners who performed more caring acts. Women whose IR was closer and whose SR was as it was (vs. more distant) had partners who engaged in more mutual sharing. **Conclusions:** Women differed in perceptions of how miscarriage affected their IR and SR. The Lazarus Model helped explain those differences. **Key words:** miscarriage, perinatal loss, emotions, sexual relationship, couples, marriage.

a = as it was; **c** = closer; **d** = more distant; **IMS** = Impact of Miscarriage Scale; **IR** = interpersonal relationship; **IRB** = Institutional Review Board; **MANCOVA** = multivariate analysis of covariance; **MCP** = Miscarriage Caring Project; **SR** = sexual relationship.

INTRODUCTION

Couples respond to miscarriage in a variety of ways. For some, getting through early pregnancy loss confirms their relationship's capacity to withstand difficult times. For others, miscarriage is experienced as an anxious journey marked by unexplored assumptions about each other's experience and a confusing mismatch in ways of expressing comfort and dealing with sadness. One sixth of all pregnancies end in miscarriage (1). Hence, many couples are tested by the challenges imposed in resolving this common loss. The purposes of this longitudinal investigation were 1) to describe prospectively and inductively women's perceptions of the effects of miscarriage on their couple relationships, both IR and SR, and 2) based on the Lazarus model of emotions and adaptation (2), to examine differences in background (demographics and obstetrical history), context (emotional strength, partner caring, pregnancies, miscarriages, and life events during the first year after loss), event appraisal (miscarriage impact), reappraisal (coping), and emotions (mood states) among women whose IR, SR, or both were closer, as it was, or more distant at a year postloss.

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LAZARUS EMOTIONS AND ADAPTATION MODEL

Lazarus (2) purports that people appraise events in terms of what is at stake for them and that backgrounds and life contexts affect their appraisals. An event (ie, miscarriage) may be experienced as benign (hardly worth noticing) or stressful (harmful, threatening, or challenging). Adaptation depends on how people appraise events as they unfold and reappraise them in light of what can be done about them. Ultimately, appraisals and reappraisals are the work of adaptation and emotion regulation. Events perceived as benign rarely evoke emotional responses or call on coping resources. Living through stressful events, however, arouses emotions and activates coping behaviors. For this study, miscarriage is considered an event that even 1 year after its occurrence can still affect women's lives. Of interest are differences in backgrounds, contexts, miscarriage appraisals, reappraisals (coping styles), and emotions among women who claimed that their interpersonal and sexual couple relationships prospered, diminished, or returned to the way they used to be a year after miscarrying.

REVIEW OF LITERATURE

Although some women refer to miscarriage as a minor setback or a more global loss (of an unhealthy pregnancy, our plans, the future), most refer to miscarriage as a distressing event involving the loss of a baby to whom they have already become attached (3–9). Considerable evidence supports the claim that women experience miscarriage as a distressing event that gives rise to unsettling emotional responses including grief, depression, anger, anxiety, confusion, and posttraumatic stress disorder (10–32). Women who face a longer time between loss and a subsequent conception experience even more despair and difficulty coping (33).

Studies that focus specifically on men's responses to miscarriage suggest that the baby is less real to them and that their greatest concern is the well-being of their partner (34–36). Their responses can range from feeling desperately sad to personally unaffected, albeit disturbed, by their partner's re-

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sponse (with the nature of such disturbance ranging from empathetic concern to resentment (36)). Men's experiences may include awareness of mortality and the fragility of life, loss of their family's hopes and dreams, and feeling vulnerable, powerless, and fearful that their wife might die (37).

As long as a year postmiscarriage, receipt of low social support is one of the strongest predictors of a decrease in women's emotional strength and an increase in the tendency to cope passively, feel depressed, and experience emotionally intense feelings (23, 30). Particularly important to women's coping is receipt of partner support (11, 38–40). A lack of such support, whether around the time of miscarriage (11, 41), at 2 years postloss (17), or in a subsequent pregnancy (41, 42) has been associated with women's increased emotional disturbance. Yet after miscarriage, 85% of couples share their feelings to only a limited degree, if at all (37). Fearing they will say the wrong thing, men often resort to saying nothing (36). At 6 months postmiscarriage, women who experience the most depression are least likely to have a partner who is willing to discuss it, and at a year are most likely to experience marital conflict (11).

After miscarriage, couples with greater self-disclosure experience higher marital adjustment (43). For both sexes, increases in depression, grief, and difficulty coping are associated with lower intimacy and marital adjustment (37, 43–45). In the study by DeFrain et al. (46) of couples as long as 42 years (mean = 5.4 years) postmiscarriage, 74% of participants coped with miscarriage differently from their spouse. Most women wished to talk about their loss, whereas men preferred to deal with it inwardly. In spite of these differences in coping styles, in retrospect, 61% looked back and claimed their marriage was strengthened after miscarriage. They attributed their closeness to an ability to turn to each other in troubled times. Only 11% claimed their marriage was weakened and blamed it on an inability to communicate. Although 64% reported no change in their sexual relationship after miscarrying, 36% reported an unspecified change.

In summary, what is known is that men and women appraise, deal with, and respond to miscarriage differently and that whereas women tend to welcome the opportunity to discuss their loss, men tend to avoid the topic for fear of saying the wrong thing. What is not known are women's perceptions of how miscarriage prospectively impacts interpersonal and sexual relationships with their mates during the first year after loss and what differentiates those relationships that prosper, diminish, or return to baseline after loss.

METHODS

Data were derived from the Miscarriage Caring Project (MCP) by Swanson (47), a Solomon four-group randomized investigation of the effects of a caring-based counseling protocol, delayed measurement, and time on women's healing during the first year after miscarriage. The MCP was reviewed for protection of human subjects through the study site IRB and IRBs at all referring agencies. Participants included a nonrandomly selected sample who either responded to recruitment posters and advertisements or who were given a recruitment pamphlet by their health care providers. The posters, advertisements, and pamphlets explained our project and instructed women to call us if they wished to enroll. No records were kept of who was given a pamphlet; we did not report back to providers who called us. Hence, it is impossible to determine how representative our sample was of the sites referring. Furthermore, because the state of Washington does not record fetal losses before 20 weeks' gestational age, it is impossible to assess whether our sample was representative of the regional population from which it was drawn. Of the 249 women who called the study site, 242 met MCP inclusion criteria. Participation criteria were the following: at least 18 years of age, miscarried at 20 weeks or less, enrolled within 5 weeks of loss, and able to speak and write in English. Sixty-two percent were enrolled in the first week after loss; 91% were enrolled within 3 weeks of miscarrying. Participants were first randomly assigned to treatment (yes/no), then further randomized to early (mailed survey completion at 1, 6, 16, and 52 weeks postenrollment) vs. delayed (surveyed at 16 and 52 weeks postenrollment) measurement. The different data-gathering protocols had to do with a specific aim of the MCP to examine the effects of early vs. delayed measurement on women's responses to miscarriage. For these analyses, the effects of treatment and measurement were controlled for statistically. One hundred eighty-five women (76%) completed their entire study protocol. When comparing those who dropped out to those who did not, there were no significant differences in maternal age, gestational age at loss, or length of time (days) between miscarrying and study enrollment. Because of missing data on some surveys, reported sample sizes differ slightly for each analysis.

Derivation of Response Patterns

Inductive content analysis techniques (48) were used to analyze women's responses to two open-ended questions: 1) how has your miscarriage affected your relationship with your partner? and 2) how has your miscarriage affected your sexual relationship? There were two phases to the content analysis. In phase 1, handwritten responses were inductively coded by the topics women brought up. Topical codes were then categorized based on similarities. Finally, like categories were grouped into response patterns.

All four authors participated in the phase 1 inductive analysis of data gathered from those women who completed surveys at 1, 6, 16, and 52 weeks postenrollment. The first step was to determine what constituted a data bit or unit to be analyzed. Given that women's answers often included more than one topic (ie, "We're not talking as much and he says it is my loss only"), it was decided that each topic would constitute a unit to be coded. For both the IR and SR questions, women brought up from zero to four topics at each measurement time.

The second step in phase 1 was to create coding rules that could meet the criteria of exhaustiveness (all data could be accounted for) and mutual exclusivity (each rule was precise enough that any topic could be clearly coded). Reliability of the analytic schema was supported by a commitment to coding all data until team consensus was reached. Disputes were resolved through active discussion, debate, revising coding rules, and on very few occasions, compromise in which majority vote ruled. Coded topics were then grouped into categories (ie, the code *communication decreased* was nested in the interpersonal category *not as close*). Finally, categories were grouped into patterns (ie, the category *not as close* was nested in the interpersonal pattern *more distant*).

Applying the team-derived analytic schema, the first author alone analyzed responses from those who were surveyed at 16 and 52 weeks postloss only. The capacity of the team-derived coding rules to guide classification of all topics in the delayed measurement group lends credibility to comprehensiveness of the inductively derived analytic scheme.

Phase 2 of the content analysis involved two levels of scrutiny of each subject's data. The goal was to assign each woman to one of three overall patterns (closer, as it was, more distant) at each measurement time. IRs and SRs were analyzed separately. The first scrutiny was to assess each woman's coded topics from each measurement time and to assign each woman into one pattern based on two assignment rules: 1) if the majority of coded topics in a given measurement time were of one type (ie, closer), then that type (ie, closer) prevailed; 2) if no clear majority existed, then the valence of the most emotionally charged topics took precedence. For example, at 6 weeks postloss, one woman's response about the effects of miscarriage on her SR contained two code-worthy topics: *choosing conception* (closer) and *sex is a*

fearful reminder of loss (more distant). Given the emotional intensity of the latter topic, she was assigned to the SR pattern *more distant*. In order to verify the validity of assignment decisions made based on coded topics, the second level of scrutiny was for the first author to return to each woman's original questionnaires and determine whether the newly assigned patterns (closer, as it was, or more distant) captured the overall sentiment of her original handwritten replies.

Findings from the phase 1 content analysis are reported as topics brought up at each point in time. In phase 2, our focus shifted to each woman's IR and SR pattern at each point in time; hence, findings are reported as percent of total subjects.

Examination of Differences Among Response Patterns at 1 Year Postloss

Once each woman was assigned to the final three IR and SR patterns, it was possible to address the second purpose of this study. For these analyses, IR and SR patterns at 1 year postloss were viewed as dependent variables. Lazarus model constructs (background, context, appraisal, reappraisal, and emotions) were each considered independent variables worthy of comparison for differences among women whose IR and SR prospered, diminished, or returned to base-line at a year postloss. Because this was a secondary analysis of data from the MCP, we began by documenting a lack of any significant associations between IR or SR patterns and exposure to treatment or delayed measurement (χ^2 analysis). As a further control for any potential interactive effects of treatment and delayed measurement with our independent variables, we built them in as covariates (additional information on how treatment and measurement affected women's healing after miscarrying, Ref. (47)). Comparison of differences among IR and SR patterns first involved a MANCOVA for each Lazarus model construct based on multiple indicators (ie, the construct *appraisal* was equal to the overall Impact of Miscarriage score, or the sum of scores on the subscales: personal significance, lost baby, isolated, and devastating event). Post hoc pairwise comparisons with Bonferroni adjustments were performed to identify where significant differences might lie among the three patterns. If results of the construct level MANCOVA and post hoc analysis were significant, then separate MANCOVAs, followed by post hoc pairwise contrasts, were run for each measure.

Constructs and Measures

Background variables

Demographic information included maternal age, income, and education. Obstetrical history included whether the women had children, total number of miscarriages, and gestational age at loss.

Contextual variables

Partner's caring was measured via the Caring Other Scale, an 11-item Likert-type inventory (1, not at all, to 5, all of the time). Based on caring theory by Swanson (49), it is used to rate the frequency of caring behaviors offered by another person after a specified event such as miscarriage (50). Psychometrics were established on 176 women from the MCP who rated their partners' caring behaviors. Principal components factor analysis with varimax rotation yielded two subscales: cares for me (does caring acts) and mutual sharing (talks and shares feelings). Coefficient α values were .93 and .87, respectively.

Emotional strength was measured via a subscale from the investigator-developed Successful Self Scale (51), a 12-item, 5-point Likert-type measure of how emotionally strong a woman rates herself. Items came from open-ended interviews about perceptions of success with 36 women of childbearing age. Psychometrics were established on 193 women at 1 year postmiscarriage. The scale consists of two factor-analyzed subscales: emotional strength (eight items) and not dissatisfied (four items). Cronbach α values were .83 and .86, respectively. Six-week test-retest reliabilities were .64. Only the emotional strength subscale was used.

Data on two possible obstetrical events during the first year after loss were considered. If women became pregnant or miscarried again, the events were coded as 0 (not) or 1 (occurred).

Events during the year after loss were recorded via the Life Event Scale by Norbeck (52). Eighty-two events are marked for presence, evaluated as positive or negative, and finally rated on a 4-point scale for impact. Negative events have been correlated with negative moods and increased state anxiety. Norbeck (52) reports 1-week test-retest reliabilities of .78 to .83.

Appraisal

Perceptions of miscarriage were appraised via the IMS, a 24-item, 4-point Likert-type scale (definitely true to definitely not true for me). It was developed by Swanson (47) in three phases. In phase 1, item derivation, 105 emic statements were taken from interviews with 20 women who described what miscarriage meant (7). In phase 2, scale development, those 105 statements were mailed to a nonrandom sample of 446 North American women who were within 10 years of miscarrying. Based on expert critique, user comments, and reviewing item-level variances, item-to-item correlations, and item-to-total correlations, the IMS was reduced to 30 items with a Cronbach α value of .93. In phase 3, subscale derivation, using data gathered 1 year after loss from the MCP (N = 188), six additional items were dropped because of low variance or poor item-to-item or item-to-total correlations. Principal components factor analysis with varimax rotation of the remaining 24 items yielded four subscales. *Devastating event* refers to the recall of miscarriage as a hopeless, no-control, devastating experience. *Lost baby* measures how strongly a woman feels she lost her baby. *Personal significance* measures the degree to which miscarriage continues to be experienced as a personal setback. *Isolated* examines how alone and guilty a woman feels after miscarriage. The combined subscales account for 59.3% of the total variance of the IMS, suggesting that the overall impact is more than the mere sum of the four subscales. Hence, the total IMS (Cronbach α = .93) is used as an overall estimate of miscarriage impact. Subscale α values are devastating event, .86; lost baby, .86; personal significance, .83; and isolated, .79.

Reappraisal

Coping was measured by a modified version of the Lazarus and Folkman (53) Ways of Coping scale. The original scale consists of 67 4-point Likert-type items in seven factor analytic-derived subscales. The adapted measure consists of two subscales: passive coping (17 items from the original detachment, self-blame, keeping to myself, and wishful thinking subscales) and active coping (22 items from the original focusing on the positive, seeking social support, and problem-focused subscales). Cronbach α coefficients were .83 (passive) and .86 (active) (31).

Emotions

Current emotional states were measured via the Profile of Mood States (54), a 65-item self-report paper and pencil measure scored on a 5-point Likert scale. It is highly standardized and consists of six subscales: anxiety/tension, fatigue/inertia, vigor/activity, anger/hostility, depression/dejection, and confusion/bewilderment. The developers report subscale internal consistencies of .90 or better. The fatigue and vigor scales were not used because of the number of women who became pregnant after miscarrying. The physical symptoms of pregnancy made the meaning of high or low energy levels difficult to interpret.

For these analyses, all measures had internal consistency reliabilities of .79 or higher.

RESULTS

Sample

Maternal age ranged from 19 to 45 years (mean = 32.6; SD = 5.5). Mean gestational age at loss was 10.46 weeks (SD = 3.3), with 80% less than 12 weeks. At enrollment, the majority were employed (76.2%), somewhat to very religious (81%), and well educated (mean = 15.6 years, SD = 2.3), with an average annual family income of approximately $50,000. The overall sample had limited ethnic diversity: 92.6% were white. Others were Asian/Pacific Islander (3),

Hispanic (4), African American (3), Native American (1), or undisclosed (3).

Whereas 75% said their pregnancies were planned, only 2.7% said their pregnancies were not wanted. Participants miscarried from one to six times (mean = 1.4, SD = 0.81, median and mode = 1). Seventy-five percent had previous pregnancies, and 51.9% had children. Previous losses included elective abortions (29.6%), late-gestation losses (3.2%), and miscarriages (31%). By 1 year after loss, some had conceived (60.2%), miscarried (19%), or given birth (17%). At 1 year, 28.2% were pregnant, 28.8% were trying to get pregnant, and 33.9% were avoiding pregnancy.

Derivation of Response Patterns

Women's perceptions of the effects of miscarriage on their interpersonal and sexual relationships varied greatly. One woman at 6 weeks postloss described her interpersonal relationship: "It is a little strained. I'm always sad and unhappy. My husband just wants his wife back to the way she used to be." When asked if miscarriage affected her sexual relationship, she responded, "It is not very good. I feel like I don't have anything to give—besides, sex represents failure for me." Another woman, 4 months postloss, responded, "Our relationship is getting better, but intimacy is still scary." As for her sexual relationship, "It was a long time before I allowed intercourse and it is still not 'free.' It's restrained. I don't want to get pregnant again." Others, however, found that their loss brought them together. For example, one woman 4 months postloss stated, "We are closer than we've ever been." She further claimed, "The miscarriage has not affected our sexual relationship adversely. It seems more intense and passionate than ever."

Right after loss, most IR topics were about being closer (60%); for the remainder of the year, the majority of IR topics were about being more distant (44% at 6 weeks**,** 47% at 16 weeks, and 49% at a year). At 1 year postloss, most SR topics were about being as it was (50%), yet right after miscarrying and at 6 and 16 weeks, the majority were about being more distant (62%, 48%, and 48%, respectively). At 1 year, 25% of all IR topics were classified closer (enhanced relationship or shared loss); 49% were classified more distant (not as close, her loss only, afraid of trying again, and tension between us); and 26% were classified as it was (same, was and is good, history of problems). At 1 year postloss, 7% of all SR topics were classified as closer (loving reassurance, sex is a pleasure, choosing contraception); 43% more distant (avoiding intercourse, less than it used to be, sex is a functional necessity, sex is a fearful reminder of loss, sex is a source of tension); and 50% as it was (same, was and is good, history of problems).

As displayed in Table 1, at 1 year, 23% of women described their IR as closer, 44% said it was as it was, and 32% claimed to be more distant. Sexually, at 1 year, only 6% of women were closer, 55% were as it was, and 39% were more distant.

Differences in Relationship Patterns at 1 Year Postloss

Table 2 depicts differences among IR and SR patterns based on demographic or obstetrical backgrounds. Number of previous miscarriages, income, and maternal age and education did not significantly differentiate among IR and SR patterns at 1 year postloss. Women whose IR or SR was as it was were more likely to have had children at the time of loss than those closer (a > c) and more likely to have miscarried at an earlier gestational age than those more distant (a < d).

As depicted in Table 3, the overall context of those whose IR or SR was closer or as it was, was significantly better than those more distant ([c & a] > d) at a year postloss. Analysis of individual context variables provided evidence that miscarrying again and the occurrence of positive life events did not significantly differentiate among IR or SR patterns. Compared with those more distant, those whose IR or SR was as it was were more likely to be pregnant again (a > d) and less likely to have experienced negative events during the year after loss (a < d). When compared with those whose IR or SR was more distant, those closer or as it was had greater emotional strength ([c & a] > d). There were some differences in assessment of partner caring at a year postloss. Those whose IR was closer claimed that their partners engaged in the most mutual sharing (c > [a & d]). Women whose SR was as it was claimed that their partners engaged in more mutual sharing than those more distant (a > d). Compared with those whose IR was described as closer or as it was ([c & a] > d) or whose SR were deemed as it was (a > d), those more distant claimed their partners did fewer things to demonstrate caring (cares for me).

Table 4 depicts differences among IR and SR comparison groups on appraisal of miscarriage impact at 1 year postloss. Because so few women (N = 10) claimed that their SR was

TABLE 1. Percentage of Women Claiming Their Interpersonal and Sexual Relationships Were Closer, As It Was, or More Distant During the First Year After Miscarriage

		1 Week (N = 99)[a]	6 Weeks (N = 95)	4 Months (N = 185)	1 Year (N = 185)
Closer	Interpersonal	59%	34%	32%	23%
	Sexual	20%	13%	12%	6%
As it was	Interpersonal	5%	28%	30%	44%
	Sexual	15%	43%	44%	55%
More distant	Interpersonal	36%	38%	38%	32%
	Sexual	65%	45%	44%	39%

[a] Sample increases at 4 months and 1 year due to delayed measurement.

TABLE 2. Differences in Backgrounds Among Women Whose Interpersonal and Sexual Relationships Are Closer, As It Was, or More Distant at 1 Year

Variables	Interpersonal									Sexual								
	Closer (N = 39)		As it was (N = 81)		More distant (N = 55)		F	p	Differences in means[c,d]	Closer (N = 12)		As it was (N = 108)		More distant (N = 71)		F	p	Differences in means[c,d]
	Mean	(SD)	Mean	(SD)	Mean	(SD)				Mean	(SD)	Mean	(SD)	Mean	(SD)			
Number of miscarriages	1.42	(.66)[c]	1.48	(.89)	1.38	(.67)	.42	NS		1.5	(.67)	1.4	(.80)	1.4	(.73)	.09	NS	
Has children[a]	0.33	(.47)	0.65	(.48)	0.50	(.50)	6.36	.002	c < a	.17	(.39)	.59	(.49)	.51	(.50)	4.08	0.19	c < a
Weeks' gestational age	10.6	(3.0)	9.7	(3.0)	11.2	(3.0)	4.09	.018	a < d	11.1	(2.8)	9.7	(2.8)	11.3	(3.5)	5.93	.003	a < d
Age	33.0	(4.8)	32.2	(5.5)	32.5	(6.0)	.30	NS		34.3	(6.7)	32.2	(5.4)	32.7	(5.3)	.77	NS	
Education	15.6	(2.1)	15.5	(2.3)	15.8	(2.6)	.26	NS		15.1	(1.8)	15.5	(2.4)	16.0	(2.3)	1.29	NS	
Family income[b]	5.1	(2.1)	5.5	(2.1)	5.0	(2.6)	1.05	NS		5.1	(2.2)	5.6	(2.1)	4.9	(2.4)	1.90	NS	

[a] 0 = No, 1 = yes.
[b] Increments of $10,000.
[c] Bonferroni adjustment for pairwise comparisons of multiple means.
[d] $p \leq 05$.

TABLE 3. Differences in Context Among Women Whose Interpersonal and Sexual Relationships Are Closer, As It Was, or More Distant at 1 Year

Variables[a]	Interpersonal									Sexual								
	Closer (N = 40)		As it was (N = 79)		More distant (N = 60)		F	p	Differences in means[c,d]	Closer (N = 9)		As it was (N = 106)		More distant (N = 68)		F	p	Differences in means[c,d]
	Mean	(SD)	Mean	(SD)	Mean	(SD)				Mean	(SD)	Mean	(SD)	Mean	(SD)			
Total context[b]	96.3	(17.9)	92.0	(19.3)	78.3	(23.6)	11.30	.000	(c & a) > d	98.7	(9.3)	93.7	(19.9)	77.8	(21.7)	14.22	.000	(c & a) > d
Pregnant again	.65	(.48)	.67	(.47)	.47	(.49)	3.52	.032	a > d	.33	(.50)	.72	(.45)	.46	(.50)	7.52	.001	a > d
Miscarried again	.30	(.46)	.13	(.33)	.22	(.42)	2.91	NS		.33	(.50)	.16	(.37)	.22	(.42)	1.28	NS	
Positive life events	18.6	(10.2)	15.5	(8.7)	19.8	(14.0)	2.96	NS		21.3	(10.5)	17.1	(9.8)	17.5	(13.2)	.57	NS	
Negative life events	8.5	(7.9)	5.9	(6.3)	11.7	(9.9)	8.86	.000	a < d	7.3	(5.3)	6.6	(6.8)	11.3	(9.9)	7.19	.001	a < d
Emotional strength	47.9	(5.8)	48.2	(5.9)	42.1	(7.7)	17.42	.000	(c & a) > d	47.6	(3.3)	48.5	(5.8)	41.6	(7.4)	25.0	.000	(c & a) > d
Partner mutual sharing	13.0	(4.7)	10.1	(4.6)	8.5	(3.7)	12.85	.000	c > (a & d)	12.1	(3.3)	10.9	(5.0)	9.0	(4.0)	4.58	.011	a > d
Partner caring by doing	25.0	(4.7)	23.6	(5.4)	19.4	(6.4)	14.54	.000	(c & a) > d	25.1	(3.4)	23.3	(5.4)	20.7	(6.7)	5.32	.006	a > d

[a] Treatment and measurement controlled for as covariates.
[b] Total context = pregnant again − miscarried again + positive life events − negative life events + partner mutual sharing + partner caring by doing + emotional strength.
[c] Bonferroni adjustment for pairwise comparisons of multiple means.
[d] $p \leq .05$.

TABLE 4. Differences in Appraisal Among Women Whose Interpersonal and Sexual Relationships Are Closer, As It Was, or More Distant at 1 Year

Variables[a]	Interpersonal									Sexual							
	Closer (N = 42)		As it was (N = 84)		More distant (N = 59)		F	p	Differences in means[c,d]	Closer (N = 10)		As it was (N = 110)		More distant (N = 69)		F	p	Differences in means[c,d]
	Mean	(SD)	Mean	(SD)	Mean	(SD)				Mean	(SD)	Mean	(SD)	Mean	(SD)			
Appraisal[b]	62.5	(12.4)	52.8	(14.7)	65.9	(15.1)	17.08	.000	a < (c & d)	59.7	(13.9)	55.5	(15.7)	65.4	(13.5)	10.87	.000	a < d
Personal significance	17.1	(4.6)	13.3	(4.3)	18.2	(5.1)	22.38	.000	a < (c & d)	16.2	(4.7)	14.2	(4.8)	18.2	(4.8)	16.37	.000	a < d
Devastating event	14.0	(3.8)	12.0	(4.7)	15.1	(4.1)	9.29	.000	a < (c & d)	13.3	(4.6)	12.5	(4.6)	14.9	(3.9)	6.43	.002	a < d
Isolated	13.4	(4.1)	11.7	(3.7)	14.7	(4.3)	10.45	.000	a < d	12.6	(3.5)	12.3	(4.1)	14.6	(4.1)	8.31	.000	a < d
Lost baby	18.1	(3.8)	15.8	(5.3)	17.9	(4.7)	5.49	.005	a < (c & d)	17.6	(5.2)	16.5	(5.1)	17.6	(4.5)	1.72	NS	

[a] Treatment and measurement controlled for as covariates.
[b] Appraisal (total impact of miscarriage) = personal significance + devastating event + isolated + lost baby.
[c] Bonferroni adjustment for pairwise comparisons of multiple means.
[d] $p \leq .05$.

closer, in both the analysis of overall impact and separate impact subscales, closer was not statistically different from the other two SR response patterns. For the most part, appraisal findings were quite consistent. Compared with those whose IR was closer or more distant, those as it was attributed less overall meaning to their miscarriage, claimed less personal significance, were less likely to claim that they had lost a baby, and recalled their miscarriage as less of a devastating event (a < [c & d]). Also, those whose IR was as it was felt less isolated than those more distant (a < d). Compared with those whose SR was more distant, those as it was attributed less overall impact to their miscarriage, claimed less personal significance, felt less isolated, and recalled their miscarriage as less of a devastating event (a < d). Claiming that a baby had been lost through miscarriage did not differentiate SR patterns.

Table 5 contains information on differences in reappraisals among IR and SR patterns at a year postloss. Active coping did not significantly differentiate among IR and SR response patterns. Those whose IR was as it was engaged in significantly less total and passive coping than those closer or more distant (a < [c & d]), and those whose SR was as it was used less total and passive coping strategies than those more distant (a < d).

Table 6 includes information about differences in emotions expressed by women in the three IR and SR patterns. Compared with those whose SR was more distant, those as it was had less overall disturbed moods, depression, anger, confusion, and tension (a < d). Compared with those whose IR was more distant, those closer or as it was experienced significantly less overall disturbed moods, depression, and confusion ([c & a] < d). Lastly, those whose IR was as it was experienced less tension and anger than those more distant (a < d).

DISCUSSION

A major strength of this study was the relevance and richness of using each woman's personal assessment of how miscarriage affected her own IR and SR. Analysis of each woman's words allowed prospective consideration of the impact of miscarriage against her own assessment of her preloss IR and SR. Our findings provide evidence to support the claim that miscarriage affects women's interpersonal and sexual couple relationships during the first year after loss and that there are differences in background, context, appraisal, reappraisal, and emotions among women who claim their IR or SR is closer, as it was, or more distant 1 year after miscarrying. Unlike the retrospective findings of DeFrain et al. (46) that most women (64%) experienced greater closeness in their couple relationship after miscarriage, we found that at 1 year postloss, only 23% claimed to be closer interpersonally and a mere 6% sexually. At a year postloss, at least one third of women claimed that their IR (32%) or SR (39%) was more distant. Inductive content analysis of women's own words suggested that those whose IR was more distant feared trying again, were unable to share the loss with their partners, and experienced more tension and less love, communication, and

TABLE 5. Differences in Reappraisal Among Women Whose Interpersonal and Sexual Relationships Are Closer, As It Was, or More Distant at 1 Year

Variables[a]	Interpersonal									Sexual								
	Closer (N = 42)		As it was (N = 82)		More distant (N = 60)		F	p	Differences in means[c,d]	Closer (N = 10)		As it was (N = 108)		More distant (N = 69)		F	p	Differences in means[c,d]
	Mean	(SD)	Mean	(SD)	Mean	(SD)				Mean	(SD)	Mean	(SD)	Mean	(SD)			
Reappraisal[b]	45.1	(13.9)	37.2	(15.5)	45.8	(13.6)	7.33	.001	a < (c & d)	43.5	(14.4)	38.5	(15.4)	46.8	(12.9)	6.99	.001	a < d
Active coping	30.3	(9.1)	26.4	(11.6)	28.2	(9.5)	1.97	NS		28.9	(8.2)	26.7	(11.2)	29.6	(9.4)	1.71	NS	
Passive coping	14.7	(7.1)	10.8	(6.4)	17.6	(8.1)	16.07	.000	a < (c & d)	14.6	(8.1)	11.8	(6.7)	17.2	(8.1)	11.49	.000	a < d

[a] Treatment and measurement controlled for as covariates.
[b] Reappraisal = active + passive coping.
[c] Bonferroni adjustment for pairwise comparisons of multiple means.
[d] $p \leq .05$.

TABLE 6. Differences in Emotions Among Women Whose Interpersonal and Sexual Relationships Are Closer, As It Was, or More Distant at 1 Year

Variables[a]	Interpersonal									Sexual								
	Closer (N = 42)		As it was (N = 84)		More distant (N = 60)		F	p	Differences in means[c,d]	Closer (N = 10)		As it was (N = 110)		More distant (N = 70)		F	p	Differences in means[c,d]
	Mean	(SD)	Mean	(SD)	Mean	(SD)				Mean	(SD)	Mean	(SD)	Mean	(SD)			
Emotions[b]	31.4	(19.9)	25.1	(22.5)	45	(31.5)	10.52	.000	(c & a) < d	34.8	(22.5)	27	(23.3)	43.2	(29.1)	8.26	.000	a < d
Depression	8.3	(8.2)	5.9	(8.5)	14.3	(11.5)	13.43	.000	(c & a) < d	9.6	(9.1)	6.6	(8.6)	13.4	(11.2)	10.49	.000	a < d
Anger	6.9	(6.3)	5.8	(6.6)	10.2	(9.6)	5.43	.005	a < d	8.5	(7.1)	5.9	(6.7)	10.0	(8.9)	5.64	.004	a < d
Confusion	6.6	(4.5)	5.4	(4.1)	9.0	(5.7)	9.81	.000	(c & a) < d	7.2	(4.3)	5.8	(4.5)	8.6	(5.3)	6.75	.001	a < d
Tension	9.6	(5.8)	7.9	(6.5)	11.9	(7.2)	6.0	.003	a < d	9.5	(5.6)	8.6	(6.5)	11.5	(7.1)	3.49	.032	a < d

[a] Treatment and measurement controlled for as covariates.
[b] Emotions (emotional disturbance) = depression + anger + confusion + tension.
[c] Bonferroni adjustment for pairwise comparisons of multiple means.
[d] $P \leq .05$.

support with and from their mates. Women who were sexually more distant avoided intercourse, experienced less desire, and saw sex as a functional necessity, fearful reminder of loss, and source of tension.

Similar to the studies of others (15, 44), our study found that distance in both IR and SR was associated with women's increased emotional disturbance, including more depressed, anxious, confused, and angry moods. As previously suggested by Speraw (37, 43), Beutel et al. (11), and others (38–40), partner support in the form of caring actions and words was a significant positive predictor of women's assessment of miscarriage effects on their IR and SR.

Surprisingly, there were actually very few differences in appraisal of miscarriage impact and tendency to cope passively between those whose relationships grew closer or more distant. There were, however, considerable differences in emotions, backgrounds, and life contexts during the year after loss. It seems that when miscarriage affects couples, it may stimulate growth or, conversely, unearth inability to support each other through troubling times. Interestingly, when women felt that their male partners failed do to things to show they cared, women perceived greater distance in their IR and SR at a year postloss. However, when women perceived that their partners engaged in mutual sharing of feelings and experiences, they claimed to be closer interpersonally and sexually back to the way they used to be. Perhaps when partners failed to do things that showed they cared, women felt abandoned, whereas when men shared feelings, women perceived this sharing as the two of them pulling together through a difficult time.

Limitations

There are several limitations. First, the male partner's perspective is not considered. His accounting of her caring is lacking, and nothing is known about how his background, life context, appraisals, coping, or emotions influence his assessment of their IR or SR. Second, there are no preloss indicators of IR and SR; hence, potential interactive effects of preloss relational quality and postloss IR or SR patterns are unknown. Third, because there were no standardized measures of relationship quality, it is unclear what *closer*, *as it was*, or *more distant* mean relative to other indicators of relationship quality**.** Finally, our nonrandomly recruited sample may be biased toward 1) the experiences of married white women who had access to prenatal care, 2) women who were sufficiently affected by miscarriage to bother to enroll in and remain with a year-long research study, 3) women whose providers thought they might need what the study had to offer, and 4) women who were not so overwhelmed by their loss that they could not bring themselves to call our site.

Clinical Implications

Focusing only on those who perceived that their IR, SR, or both were more distant at a year postloss, findings do have implications for practice. First, women most at risk for experiencing interpersonal or sexual distance or both were less likely to have had children at the time of loss and tended to have miscarried at a later gestational age, not to have conceived again, and to have lived through additional negative events in the first year after loss. Second, they had less emotional strength, engaged in more passive coping, and viewed their partners as having demonstrated less caring through their actions or words. Third, they were more likely to attribute personal significance to their miscarriage, recall miscarriage as a devastating event, claim to have lost a baby, and feel more isolated in their loss. Finally, those who claimed their SR, IR, or both were more distant at a year postloss were more depressed, anxious, angry, and confused. These results combined with the findings of others that men tend to keep to themselves after miscarriage (36), deny their own loss (55), engage in avoidance, distract themselves through work (11) and, if highly self-critical, experience greater despair and difficulty (33) suggest that couples may need coaching in how best to care for each other after miscarriage.

Research Implications

Future research is needed to understand better men's perceptions of the effects of miscarriage on their couple relationships, both interpersonal and sexual. Therapeutic protocols are needed to identify effective and compassionate ways to help women and their mates find meaning in their loss and restore both individual and couple wellness after miscarriage.

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