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Journal of Marriage and the Family, Vol. 62, No. 3. (Aug., 2000), pp. 822-832.

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The Reported Influence of Research Participation on Premarital Relationships

We examined the reported influence of participation in research on individuals in premarital relationships. Data were from a larger longitudinal study of 60 dating couples. We designed a questionnaire to evaluate the effects of participation. Responses to open-ended questions revealed 3 major sources of influence: attention to relationship evaluation, effects on relationship activities, and indirect or no influence. Closed-ended items yielded 2 dimensions: relationship-defining influence and relationship-evaluating influence. Relationship-evaluating influence was greater the more respondents participated in the study. The higher were respondents' scores on relationship-evaluating influence, the more their relationship satisfaction increased over the year long study. We conclude that the effects of participating in the research are primarily educational and enriching in nature, rather than therapeutic as suggested in previous research (Rubin & Mitchell, 1976).

Researchers who study family relationships examine some of the most private and sensitive as-

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Key Words: premarital relationships, relationship satisfaction, research participation effects.

pects of people's lives. Although ethics boards and human subjects committees regulate the degree to which methods comply with prescribed ethical standards for research, professionals need to know more about the actual effects of research and the benefits and costs associated with participation in it. According to some researchers, investigators avoid facing the possibility that they may be altering the phenomena they are examining and would be disturbed by evidence that they are causing change in the lives of their respondents (Veroff, Hatchett, & Douvan, 1992). Of special concern is the possibility that participants in long-term longitudinal studies have greater potential to be affected than do those in cross-sectional or short-term longitudinal studies. This investigation contributes to knowledge about how participants say they are affected by participation in an intensive longitudinal study of premarital relationships in which interviews were conducted monthly for 1 year.

Investigations of the effects of research participation have been spotty over the last 2 decades. Some researchers (Bradbury, 1994; Rubin & Mitchell, 1976) even have suggested that participants in couples' research are reluctant to report any effects from their studies. Our study examines the perceived influence of relationship research on premarital relationships using a questionnaire we developed for that purpose. We designed open-ended questions to tap insiders' perspectives, or respondents' own descriptions of effects from

their participation in research. We also developed closed-ended items to examine the effects of research on dating relationships and report on the psychometric properties of the questionnaire items. Additionally, we evaluate how perceived influence of research participation is related developmentally to degree of participation and relationship qualities.

RESEARCH ON PARTICIPATION IN RELATIONSHIP RESEARCH

In 1976, Rubin and Mitchell suggested that couples' research participation did affect their relationships. They studied processes in close relationships, using questionnaire, interview, and laboratory methods to collect their data over a 2-year period. One year into the study Rubin and Mitchell asked respondents to indicate whether they thought the study had had an impact on their relationship, on a scale that ranged from "no impact at all" to "considerable impact." Approximately half of the respondents reported at least a slight impact on their relationship. Additionally, respondents reported the effects of the study in an open-ended version of the question at the end of the 1st and 2nd year of the study.

Rubin and Mitchell (1976) argued that two major processes were at the base of the impact of study participation: definition and disclosure. Definition described the way the study affected how individuals saw or defined their relationships. Disclosure delineated how the study influenced the exchange of information about the relationship between partners. Rubin and Mitchell addressed implications for ethical standards of research by concluding that their study probably did not contribute to outcomes that were not already unfolding but that participation may have accelerated the processes. For couples headed toward breakup anyway, for example, the study may have facilitated movement in that direction. They also concluded that their research had the unintended effect of providing couples' counseling, rendering them "active agents in influencing the relationships of many of the couples" (p. 17).

Although Rubin and Mitchell's (1976) paper suggests guidelines for research on participation effects, their analysis was based more on their ideas about how couples are influenced by study participation than it was on the insiders' own reports of how they believed they were influenced. In addition, the researchers' ideas resulted from impressions drawn from their participants' an-

swers, rather than from a systematic analysis of their participants' reports. In this study, we analyze systematically insiders' responses to open-ended questions about the influence of their participation in research. We also designed closed-ended items derived from our own ideas and Rubin and Mitchell's proposals for how participants are influenced by study participation. We report data on the dimensionality and the reliability of the questionnaire items and examine associations with other constructs that have been found to relate to influence. Based on Rubin and Mitchell's idea that participation influences couples in at least two ways, we expected our questionnaire to be a multidimensional measure of influence.

Other important issues regarding research participation have received attention, especially in the study of marital relationships. In their 4-year longitudinal study, Veroff et al. (1992) evaluated the effects of participation on marital satisfaction, stability, and dimensions of marital adjustment. The researchers also examined whether longer-term marital relationships would be less affected by the study, as found in other work on the association between length of dating relationship, reflection on the relationship, and disruption (Wilson, Kraft, & Dunn, 1989). Comparisons were made between spouses who participated in repeated face-to-face interviews and couples in a control group who participated minimally. Results indicated no significant differences between groups on marital stability and no significant findings for the length of relationship as a moderator of the effects. Couples who participated in extensive interviewing reported significantly better adjustment by the end of the study.

Bradbury (1994) produced further evidence that the unintended effects of research on marital relationships were mostly positive. The research involved two studies, the first of which required spouses to report individually on their demographic characteristics and marital satisfaction and to respond to semistructured interview questions about their marriage and previous relationships. After completing this session, respondents were mailed a questionnaire containing seven closed-ended items. The items evaluated the effects of participation in the study, and one open-ended item concerned how the study may have affected the way spouses thought about or defined their relationships. Results indicated that for the majority of participants, research participation improved

confidence in and security about the marital relationship.

In the second piece of Bradbury's study (1994), respondents answered pretest and posttest questions about participation in a laboratory procedure during which they discussed a marital problem. Although most spouses reported pretest anxiety about participation in the lab exercise, many found the lab session to be helpful in their problem-solving discussion. Bradbury concluded that his marital research had primarily positive effects, keeping some limitations in mind. Volunteer couples, for example, may be more inclined to expect a positive experience, distressed married couples may be at greater risk for negative outcomes, and the results of this marital research may not apply to dating or other close relationships.

A handful of related studies have examined the influence of research among daters, cohabitators, and married couples, using either indirect or one-item responses. These studies examined the break-up rate of daters 6 months after study participation (Seligman, Fazio, & Zanna, 1980), the experience of being interviewed among former cohabitators (Mika & Bloom, 1981), and reactivity and possible deleterious effects on marital relationships after videotaped lab sessions (Fichten & Wright, 1983). These researchers concluded that taking part in a study of relationships probably had little or mostly positive effects on the couples.

Given the dearth of information about whether similar effects are operating in premarital relationships, we derive our hypotheses from the findings reviewed above for married couples. We predicted that the degree of participation in our study of premarital relationships would be positively associated with the amount of influence of the study. As reported by Veroff et al. (1992), we expected to find no association between length of relationship and the effects of the study. Finally, we expected that increases in relationship satisfaction over time would be positively associated with the perceived influence of study participation.

As with Rubin and Mitchell (1976), Bradbury (1994) was concerned that dating couples may be particularly hesitant to report that research has affected their relationships. In response to this concern, we examine in depth the effects of research participation from systematically derived information about the nature of that influence on relationships. Our data come from a larger study of dating relationships that examined the developmental nature of commitment processes.

METHOD

Sample

A sample of 120 individuals participated in the initial interview of this three-phased longitudinal study. We recruited respondents by means of announcements in large undergraduate courses and letters to dormitory residents at a major Midwestern university. Upon agreement to participate, volunteers were asked to name their primary dating partner (PP) or the partner to whom they felt the closest and with whom they spent the most time. The PP was then contacted and asked to participate in the study. Of the 501 potential respondents contacted by letter and telephone, 120 (60 couples) completed the initial interview, 63% were not eligible (e.g., were not dating anyone or partner would not participate), and 12% of the eligible persons refused to participate.

Most of the original respondents (58%) were seriously dating their PP, 29% were publicly or privately committed to marriage, and 13% were casually involved. They ranged in age from 17 to 26 years; 12% were still in high school, 4% were college graduates, and the remaining respondents were current undergraduates.

Out of the original 120 respondents, 64% participated in the last interview (Phase 3), which was 1 year after the initial interview ($n = 41$ women; $n = 36$ men). Of those who did not participate in the last interview, 8% broke up ($n = 9$) and 28% dropped out ($n = 34$). Of those who did participate in the last interview, 44% had broken up over the course of the study ($n = 34$). Respondents who were still dating their original partners either participated in Phase 3 as couples ($n = 34$; 17 couples) or as individuals ($n = 9$).

Procedure

Data were collected in three phases. Phase 1 consisted of face-to-face interviews conducted separately with each partner. During the interview, respondents completed questionnaires on their background and dating attitudes and constructed a graph of changes in the chance of marriage to the PP (cf. Surra & Hughes, 1997). Respondents then completed standard questionnaires describing the primary relationship (e.g., measures of love and trust) and rated current satisfaction with the relationship on a 7-point scale, where 0 was *extremely unhappy* and 6 was *perfect*.

Phase 2 consisted of telephone interviews that

occurred approximately monthly. The interviewer reminded the respondent of the purpose of the study and the definition of primary partner and then proceeded to ask whether the respondent still had a primary relationship with the same PP referred to in Phase 1. The interviewer also asked whether the respondent was dating additional partners other than the PP. After reacquainting the respondent with the graphing procedure, the relationship graph was updated. Respondents were also asked other questions about activities done together and about conflict, and they rated their relationship satisfaction using the same scale used in Phase 1. Of the initial 120 respondents, 96% completed at least one telephone interview. The average number of completed telephone interviews was 5.6, and the range was from 1 to 9. People missed interviews for a variety of reasons (e.g., illness, out of town).

Phase 3 interviews were conducted 1 year after Phase 1 and were a replication of Phase 1. Graphs of changes in the chance of marriage were redrawn from memory. Respondents completed all of the same questionnaires administered at Phase 1. Additionally, respondents rated their relationship satisfaction on a 7-point scale as they did in Phase 1. At this final phase, respondents also completed for the first time a questionnaire designed to tap their perception of how being in the study affected their relationships. The questionnaire included both open-ended and closed-ended questions about the perceived effects of participation. Respondents received a complimentary movie ticket for each face-to-face interview and for every other telephone interview completed.

In an effort to reduce reactivity to the research, at the beginning of each interview respondents were assured of complete confidentiality and reminded that we were interested in studying the natural courses of relationships. They also were requested to refrain from discussing the study with each other or with anyone else.

Measurement

Measures of perceived influence of study participation. Two sources of data were used to assess perceived influence. First, in Phase 3, all respondents were asked to "Please briefly describe how participating in the study affected your relationship with (name)." Respondents who broke up were asked to "Please briefly describe how participating in the study did or did not contribute to the breakup of your relationship with (name)."

The respondents' answers were analyzed for content regarding how participation in the study affected them and their relationships. Second, closed-ended scale items assessed how participation affected respondents' awareness and perceptions of their relationships. The items were based primarily on Rubin and Mitchell's (1976) impressionistic findings and on our own ideas about the likely influence of our study. Items included 13 questions answered on a 9-point Likert scale ranging from *not at all true*; *disagree completely* to *definitely true*; *agree completely*. In addition, a series of structured questions were asked about the telephone interviews (e.g., how much they talked with their partners about specific questions asked). Data derived from questions about the telephone interviews were not used here.

Degree of participation. The total number of Phase 2 telephone interviews completed by each respondent was used as a measure of the degree of voluntary participation in the study. It ranges from one to nine for this sample.

Relationship length. Relationship length was assessed as the total number of months the original primary partners had been together by the end of the study.

Relationship satisfaction. Answers to the satisfaction item measured at Phase 1 and at Phase 3 were used to assess the effects of study participation on satisfaction over the long run.

RESULTS

First, we report the results of the content analysis. Then we present the findings regarding the psychometric properties of the closed-ended items on perceived effects of participation. Finally, we report on hypotheses regarding the influence of research participation and relationship qualities.

Respondents' Perceptions of How They Were Influenced by Participation

Answers to the open-ended questions about participation were read and organized according to their subjective meaning and then reread to find abstract concepts that subsumed many of the experiences. Similar concepts were grouped into larger categories based on the thematic nature of the categories and then analyzed for lack of overlap in meaning across categories. Categories were

TABLE 1. PARTICIPANT-DERIVED THEMES ABOUT THE PERCEIVED INFLUENCE OF RESEARCH PARTICIPATION

Themes and Subthemes	<i>n</i>	%
Attention to relationship evaluation	24	28
Made new discoveries about the relationship	7	8
Looked at and evaluated attitudes toward the relationship	15	18
Increased awareness of goals for the relationships	2	2
Effect of participation on relationship activities	20	23
Increased relationship communication	5	6
Made positive attributions about relationship as result of partner's participation in study	3	3
Contributed to togetherness	4	5
Contributed to talk of marriage	2	2
Affected awareness of relationship activities	6	7
Indirect influence or no influence	41	49
Had no influence	33	39
Had therapeutic effect	4	5
Brought up conflict	4	5

Note: Total number of responses = 85. Frequencies and percentages are based on responses.

defined and redefined until every case fit one and only one theme.

Analysis of 85 responses to the open-ended questions revealed three overarching themes for how respondents perceived that they were influenced by study participation. The major themes were that the study: (a) increased their attention to relationship evaluation, (b) influenced the activities in their relationships, and (c) had minimal or no influence on their relationships. Using the three major themes, all of the responses were coded by two independent coders, achieving satisfactory agreement (Cohen's kappa = .86). A summary of total frequencies and percentages by major theme and subcategory is displayed in Table 1. Next, we describe the meaning of each theme in more detail.

Attention to relationship evaluation. The theme "attention to relationship evaluation" encapsulated responses from participants who said they: (a) made new discoveries about their relationships; (b) looked at their relationships and evaluated their own and their partners' attitudes toward their relationships; and (c) had an increased awareness of their goals for their relationships. Apparently, the study inspired some respondents to forge a deeper understanding and evaluation of their re-

lationships. Our theme of attention to relationship evaluation is similar to Acitelli's (1988, 1992; Acitelli & Holmberg, 1993) construct of relationship awareness and Cate and coauthors' (Cate, Koval, Lloyd, & Wilson, 1995) construct of relationship thinking. They all pertain to the attention and introspection that individuals devote to their relationships and their qualities.

The first subcategory, made new discoveries about the relationship, included effects such as influencing new thoughts about the relationship and helping to fine-tune it, as found in the following quote: "Made me a little more aware of small problems between us, helped bring them out for discussion and solving them." Responses in this subcategory reflected that study participation increased respondents' awareness of small problems that required attention but that, overall, their relationships benefited from it.

The second subcategory, looking at their relationships and evaluating attitudes toward their relationships, involved scrutinizing closely one's own feelings about the relationship, one's partner's feelings, or both. The following example illustrated this subcategory: "It gave both of us a chance to take a closer look at our relationship and to really see what our strengths and weaknesses were." In this case, participation in the study encouraged reflection on the subjective or interpersonal qualities attributed to the relationship.

The last subcategory, increased awareness of goals for their relationships, described the experience of becoming more conscious of aspirations for the relationship. Participants' responses in this category expressed a future orientation for their relationships.

Effect of participation on relationship activities. The respondents' loci of awareness differentiated the theme attention to relationship evaluation from participation's effect on relationship activities. Internal evaluation processes were taking place when respondents experienced attention to relationship evaluation, whereas participation's effect on relationship activities involved changes in perception that resulted directly from behaviors caused by participation in the study. Subcategories of the theme were: (a) increased relationship communication, (b) made positive attributions about the relationship as a result of partner's participation in the study, (c) contributed to togetherness, (d) contributed to talk of marriage, and (e) affected awareness of relationship activities. All of

these themes were connected directly to relationship behaviors.

In the case of increased relationship communication, one respondent mentioned, "The study brought up discussions that helped define and strengthen the relationship." This quote mentioned the positive effect of an increase in communication, which was typical of the responses in this subtheme. Another subtheme, contributed to togetherness, captured the idea that participation in the study was or became an activity done as a couple.

The key experience in the category, affected awareness of relationship activities, was the doing of activities, rather than the evaluating of how the relationship was progressing. It is important to note that some of the other measures respondents completed on a near monthly basis were reports on activities that they did together. Answering these questions may have particularly affected participants' thoughts about activities done as a couple.

Indirect influence or no influence. The last theme, indirect influence or no influence, contained subthemes that participation "had no influence," "had a therapeutic effect," and "brought up conflict." The therapeutic and conflict-enhancing effects were included in this overarching topic because they appeared to be contingent rather than direct effects of study participation. The minimal amount of influence came from an interaction between participating in couples' research and relationship processes already in progress, whether it involved understanding these processes or weathering them.

Most of the responses in the indirect influence or no influence category reflected that participation in the study had no effect on respondents' relationships or that the study had no influence because it was unobtrusive (Table 1). The following comment was typical: "(name) and I didn't really talk about anything that we each discussed with our interviewers. From the very beginning we just decided to participate in the study but not talk about it, so I don't think it affected us much." This comment made reference to the study's lack of influence and also described a mechanism by which the effects were minimized. The mechanisms identified by respondents corresponded almost exactly to explicit instructions we gave to respondents during the interviews. The subcategory, the study had a therapeutic effect, was mostly mentioned after initially reporting no effect.

Participation in the study afforded some respondents information that they used to interpret their relationship, as shown in the following comment: "It did not contribute to the breakup. Our breakup was explained by the study better to me so I could except [sic] it, but in no way influenced it." This comment reflected a minimal, but clearly therapeutic, effect.

Committees on ethics in research on human subjects are concerned about subthemes such as "brought up conflict," which may be among the more negative effects of participation in relationship research. Of the four respondents who mention this theme, we found that two of the four included statements of no influence. As one woman explained: "At the time of our breakup there was a lot of tension in our relationship, and although at times the study may have enhanced that tension slightly, it was definitely not the cause of it." Another woman mentioned that if her partner ever found out how she answered questions, conflict most likely would erupt, but she made her assessment after stating that the study had not affected her relationship adversely. The conflict described in these illustrations is an outcropping of problems and tension that existed prior to participation in the study. These findings replicated Rubin and Mitchell (1976), who concluded from their work that relationship studies might accelerate processes already operating in dating relationships.

Dimensions of Participation Influence and Their Associations with Relationship Qualities

We used several different statistical techniques to explore dimensions of participation influence and their association with relationship qualities. First, we conducted a factor analysis to ascertain the dimensions of the scale we used to measure participation influence. Next, we computed correlations to assess whether the dimensions of perceived influence were associated with the degree to which respondents participated in the study and the length of their relationships. Finally, we assessed the association between influence factors and relationship satisfaction by employing a regression analysis.

Factors underlying the perceived influence of participation. We began by testing the psychometric properties of the 13 closed-ended items. Three items from the scale were dropped because of missing data, leaving the 10 items we used for the

TABLE 2. MEANS, STANDARD DEVIATIONS, AND FACTOR LOADINGS FOR CLOSED-ENDED ITEMS

Item	<i>M</i>	<i>SD</i>	Loadings	
			Factor 1	Factor 2
Assigning numbers to my feelings influenced those feelings	3.90	2.40	.52	
My agreeing to participate in the study in the first place influenced my definition of my relationship	3.77	2.44	.75	
My partner's agreeing to participate in the study in the first place influenced my definition of our relationship	4.08	2.52	.82	
Discussing questions asked in the study led to conflicts or tensions between us	3.22	2.21	.42	
Not discussing questions asked in the study led to conflicts or tensions between us	2.62	1.88	.53	
I decided to participate in the study because at that time I believed my relationship would lead to marriage	3.74	2.44	—	
Participating in the study made me more aware of strengths in my relationship that I didn't know were there	5.84	1.61		.96
Participating in the study made me more aware of problems in my relationship that I didn't know were there	5.39	2.07		.62
The questions asked in the interviews gave me an objective measure to use to evaluate the quality of my relationship	5.21	2.10		.50
I thought that participating in the study would help me evaluate my relationship because I wasn't sure it was workable	2.80	2.03		—
Eigenvalues			2.60	1.34
% of variance			32.5	16.8

Note: $n = 77$ respondents. Items answered on a scale where 1 = *not at all true; disagree completely* and 9 = *definitely true; agree completely*.

factor analysis. Excluded items concerned the perceived influence of study participation on ideas for communication with the partner, contribution to the breakup of the relationship, and whether participation led to becoming more involved in the relationship.

Given that the items were being tested for the first time, we employed an exploratory factor analysis technique using principal axis factoring and varimax rotation (Gorsuch, 1997). The factor structure was determined on the basis of interpretability of factors and statistical soundness. All items loaded .40 or greater on a given factor, and eigenvalues met or exceeded 1.0. We also inspected the scree plot to decide which factors were above the "elbow" of the curve, or the point at which the plotted eigenvalues noticeably changed direction, as a basis for retention (Tabachnick & Fidell, 1996). Using these criteria, two factors were extracted. Because of the small size of the sample, we ran tests of sampling adequacy to insure that the distribution of values was adequate for recovering underlying factors (cf. Gorsuch, 1983). Both tests revealed that the sample size was adequate for the analysis (Kaiser-Meyer-Olkin = .70; Bartlett = 253.72, $p < .0001$). The means, standard deviations, factor loadings, and eigenvalues for each factor are presented in Table 2. Cronbach's alphas were .76 for Factor 1 and .71 for Factor 2.

The unifying concept for items loading on Factor 1 was that participation in the study or some aspect of the study assisted the participants in defining their relationships. Thus, we labeled the factor "relationship-defining influence." The content of the items reflected the source of the effect. Definitions of relationships were influenced by assigning numbers to feelings, agreeing to participate in the study, the partner's participation in the study, discussion of the study leading to conflict, and avoiding discussion of the study leading to conflicts or tensions.

Items loading on Factor 2 concerned an increase in the awareness of intrinsic relationship qualities such as strengths, problems, and overall quality as a result of study participation. We labeled the factor "relationship-evaluating influence" because the underlying process was respondents' assessments of qualities such as strengths and problems in their relationships. Respondents influenced in this way looked to specific relationship characteristics to evaluate any changes resulting from study participation.

In the remainder of this section, all results reported are based on the factor scores on the relationship-defining and relationship-evaluating factors.

Influence factors and degree of participation. Our expectation that perceived influence of the study

TABLE 3. HIERARCHICAL REGRESSION OF RELATIONSHIP-DEFINING AND RELATIONSHIP-EVALUATING INFLUENCE ON PHASE 3 RELATIONSHIP SATISFACTION ($n = 52$)

Independent Variable	<i>B</i>	<i>SE B</i>	β
Step 1			
Satisfaction phase 1	.49	.13	.44**
Step 2			
Relationship-defining influence	-.07	.15	-.06
Step 3			
Relationship-defining influence	.49	.17	.34*
Adj. R^2	.32**		

Note: $R^2 = .23$ for Step 1 ($p < .001$); $\Delta R^2 = .02$ for Step 2; $\Delta R^2 = .11$ for Step 3 ($p < .01$).
 * $p < .01$. ** $p < .001$.

would be positively correlated with degree of participation was partially supported. We correlated the factor scores for perceived influence for each factor with degree of participation in the study, operationalized as the number of telephone interviews completed. The results showed that relationship-evaluating influence increased with degree of participation, $r = .24, p < .05$. Relationship-defining influence and degree of participation were not significantly correlated, $r = -.06, p < .59$.

Association between influence factors and relationship qualities. We attempted to replicate the finding for married couples (Veroff et al., 1992) that the length of the relationship does not moderate the effects of participation in relationship research. To test the association, we conducted correlations between the perceived influence of study participation and the length of the relationship at Time 1, before the couple had been influenced, and between influence and relationship length at Phase 3. All correlations were nonsignificant except for one; the correlation between length of relationship at Phase 3 and relationship-evaluating influence was marginally significant, $r = .19, p < .10$. As hypothesized, relationship length before participating in couples' research was not related to the effect of study participation. In long-term studies, however, there may be a tendency for relationship-evaluating influence and length of the relationship to be positively related. We note that support for hypotheses predicting no association between variables may be based on chance alone.

We used hierarchical regression analysis (cf. Cohen & Cohen, 1983) to test the prediction that changes in relationship satisfaction by the end of the study would be positively associated with the perceived influence of study participation. Order

of entry of variables was determined by causal priority. Satisfaction at the beginning of the study was entered first, and the factor scores for perceived influence were entered next.

As hypothesized, after controlling for satisfaction at Time 1, relationship-evaluating influence was significantly associated with increases in satisfaction at Time 3 (see Table 3), $F \Delta (3,48) = 8.19, p < .001$. Relationship-evaluating influence explained an additional 11% of the variance in satisfaction after it was added to the model. Relationship-defining influence was not associated with change in satisfaction at Phase 3, however, $F \Delta (2,49) = 1.13, p < .29$. Results (see Table 3) indicated that the more respondents said they became aware of strengths, problems, and the quality of their relationship by means of participating in the research, the greater was the increase in their satisfaction over the 1-year study period. As expected, Time 1 satisfaction was significantly related to satisfaction at Time 3.

DISCUSSION

Our study addresses researchers' (Bradbury, 1994; Rubin & Mitchell, 1976) concerns about respondents' willingness to report on the influence of research on their relationships. Respondents revealed by answering open-ended questions three ways that they believe their participation in our study influenced them: attention to relationship evaluation, effects on relationship activities, and indirect or no influence. These three influences differ from one another mostly with respect to where the study drew respondents' attention. Attention to relationship evaluation corresponds to perceptions that the study caused respondents to reflect on their relationships, their goals for them, their attitudes toward them, and stimulated aware-

ness of their feelings and problems. The second theme, effects on relationship activities, captures the idea that for some respondents, participation in the study itself became a relationship activity, one in which the interviews become part of the culture of the relationship.

The third theme, indirect influence or no influence on relationships contains many comments that make direct reference to the instructions that were designed to minimize the effects of participation in the research. The instructions included techniques such as reminding the respondents that they should not tell anyone, including their partners, what was asked or answered and that they should let their relationships take their natural courses. These instructions were repeated to respondents at each interview, as was the reminder that everything they said was completely confidential. The respondents' use of the same language as the instructions employed in the procedure underscores their effectiveness for those respondents who reported minimal influence. We concur with other researchers (Bradbury, 1994) that preventive research techniques such as those we practiced help to protect the welfare of respondents' relationships from the possible deleterious effects of participation in studies.

The factor analysis indicates that two dimensions of influence could be extracted: relationship-defining and relationship-evaluating. Relationship-defining influence reflects that study participation itself affects respondents' definition of the relationship, whereas relationship-evaluating influence illuminates the nature of the relationship for the respondents. Similar to Rubin and Mitchell (1976), we find a relationship-defining influence through which initial decisions about participation help some respondents to clarify whether they were in fact a couple. Unlike Rubin and Mitchell's (1976) findings, however, we find an educational effect such that for some respondents participation increases their knowledge and understanding of the quality of their relationships. Another major difference between our studies is the impact of discussion about the research. In Rubin and Mitchell's study, 89% of the women and 86% of the men reported that they discussed their answers with their partners. Some of our respondents said that they talked to their partners about our study questions, which is evident from the mean score on our closed-ended item that asked whether discussion led to conflicts or tensions. Nonetheless, the mean score for the item is low enough to suggest that our respondents were

not discussing participation in research to the extent that Rubin and Mitchell's respondents were communicating about it. Also, Rubin and Mitchell do not report either how the category of self-disclosure was derived or the number of responses in the category of self-disclosure. Thus, it is difficult to assess whether the researchers interpreted this disclosure process as an effect of their study or whether it was specifically reflected in the content of the respondents' answers.

The thematic categories dovetail with the closed-ended items we developed, suggesting that our questionnaire items validly target the potential effects of participating in research. Close inspection of the highest loading items, agreement to participate influenced definition of the relationship and participation increased awareness of strengths, connect tightly in meaning with two themes found in the content analysis to reflect specific research effects. Further, the subthemes offer insights into the experiences respondents may be referring to when answering a closed-ended item. For example, when reflecting on to what degree the questions asked in the interviews provided an objective measure for evaluating relationship qualities, respondents may think about the new discoveries or evaluations they made or the general increase in awareness that may have ensued from participating in the study. Given the harmonious fit between the themes and the dimensions extracted from the scaled items, as well as the soundness of reliability information, we validate our instrument's usefulness for examining the effects of relationship research on participants.

Of the two dimensions we found in the factor analysis, only relationship-evaluating influence demonstrates any association with length of relationship and relationship satisfaction. Because relationship-defining influence seems insignificant in this study, however, does not necessarily mean that it is. It may be that this sort of influence is important in ways we did not study. Participants who score high on relationship-defining influence are those for whom just being in the study with the partner was consequential and for whom discussing and not discussing aspects of the study were problematic. Although we do not have a large enough sample to test these propositions, we suspect that people who report such impacts may be those who are not sure where they stand in the relationship, are asymmetrically involved, or whose relationships are conflicted to begin with. In this relationship climate, respondents may see the partner's agreement to participate in a long-

term study as a particularly meaningful indication that they are a couple, and the study itself may serve as a vehicle for discussion of problems. Relationship-defining influence may be difficult to detect at later phases of the study because couples who experience this influence will be more likely to break up.

Relationship-evaluating influence seems to be playing the biggest role in predicting changes in relationships over the period of the study. Similar to previous findings from research on the effects of participation on marital relationships (Bradbury, 1994; Veroff et al., 1992) we find that respondents perceive positive benefits from participation in research on premarital relationships. The higher were individuals' scores on relationship-evaluating influence, the greater was the increase in their relationship satisfaction over the 1-year study period. In addition, individuals' scores on this influence dimension were higher the more telephone interviews they completed. Paralleling findings from previous work (Veroff et al.) we find that neither influence dimension is related to relationship length, except the tendency for relationship-evaluating influence to be positively related to length of the relationship by the end of the study. Taken together, these findings suggest that relationship-evaluating influence is a mechanism by which respondents become more aware of strengths, qualities, and even problems in their relationships as a result of being in the study and that this increased awareness has beneficial effects over the long run. Relationship-evaluating influence can be interpreted as an educational effect resulting from increasing respondents' sensitivity to a range of relationship issues. Increasing evaluations about a dating relationship is particularly important before marriage (cf., Cate et al., 1995). Although making respondents more aware of relationship problems may seem like a potentially undesirable effect, respondents' responses to the open-ended questions indicated that often problems are perceived as rough edges in the relationship that needed to be sanded down, rather than as insurmountable barriers.

Another interpretation of these results is that the respondents who score highest on relationship-evaluating influence are those who are predisposed to thinking deeply about relationship behaviors and issues in the first place (cf., Acitelli, 1988, 1992; Acitelli & Holmberg, 1993; Cate et al., 1995). Such people may reap greater benefits from research on relationships than may those who are less prone to introspection about relation-

ships. As found in other work (Cate et al.; Tesser & Paulhus, 1976), the time devoted to thinking about one's partnership may actually enhance positive feelings. Tesser and Paulhus found that the degree of love felt for a specific partner was directly enhanced by increases in recent thoughts about that partner. The premise is that one is likely to think about a partner that one loves, as implicitly conveyed in lovelorn statements such as, "I can't stop thinking about her."

Our goal was to examine not only the effects of research on participants' relationships, but also to ascertain how those effects occurred, to expand on what researchers know about this methodological and ethical question. Overall, our findings suggest that when research participation does affect respondents' relationships, it does so mostly in positive ways. Unlike other researchers (Rubin & Mitchell, 1976) who maintained that the primary impact of research participation on respondents was therapeutic, we found little evidence that participation helps to solve respondents' problems. The only examples of indirect therapeutic effects occurred in the open-ended responses in which some people mentioned that the study helped them accept the ending of a bad relationship. Instead, the effects of research participation seem to be primarily educational and enriching in nature. Relationship researchers who are trained to consider any effects of participation as undesirable may have to come to terms with the inevitability of influencing their participants.

NOTE

This study was supported by the following grants to the second author: The National Institute of Mental Health (R011-6-53694MH47975) and Projects 1-6-53543 of the Agricultural Experiment Station, University of Illinois at Urbana—Champaign. We thank Christine Williams, Walter Schumm, Stephen Wieting, and Kimberly M. Downs for their helpful comments on this paper.

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