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SHARED ACTIVITIES AND MARITAL SATISFACTION: CAUSAL DIRECTION AND SELF-EXPANSION VERSUS BOREDOM

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Fifty-three married couples were randomly assigned to engage in activities for 1.5 hours each week for 10 weeks that were self-defined as (a) exciting or (b) pleasant, or couples were in a (c) no-special-activity control group. Pretest and post-test data were obtained on a standard marital satisfaction measure (adjusted for scores on a social desirability index). A planned linear contrast comparing the two activities groups to the control group was not significant and had a small effect size; thus the theory that any kind of activity enhances marital satisfaction was not supported as an explanation for the well-established association of time together and satisfaction. However, the other planned orthogonal contrast found significantly higher satisfaction for the exciting than the pleasant group, a difference that had a moderate effect size. This finding is consistent with views emphasizing habituation as an obstacle to relationship maintenance — for example, Aron & Aron's (1986) prediction from their self-expansion model that sharing stimulating activities will enhance marital satisfaction.

This study examined the role of spending time with one's partner as a strategy in maintaining a marital relationship. It is clear that spending time together is considered to be an important maintenance strategy by couples themselves. Dindia & Baxter (1987) reported that about 10 percent of maintenance strategies listed by

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married couples fell within the general category of spending time together and that this was the second most frequently used category of 12. In another study, Baxter & Dindia (1990) found that married individuals described strategies involving spending time together as particularly constructive. Similarly, some marital therapists have considered increasing time spent together as a primary intervention strategy (Stuart, 1980).

There is also substantial evidence that time spent together is indeed associated with marital satisfaction. For example, significant correlations between marital satisfaction and various measures of time together (approximate average = .40) were found in five separate US studies conducted in the last 25 years employing probability samples (Kilbourne et al., 1990; Kingston & Nock, 1987; Orden & Bradburn, 1968; Orthner, 1975; White, 1983). One explanation for this association emphasizes the role of companionship and communication (e.g. Kingston & Nock, 1987; Orthner, 1975). The main thrust of this thinking seems to be that time spent together makes companionship and communication possible. Companionship and communication have become central elements of the marital role and are thus crucial to satisfaction with that role.

On the other hand, many of these same researchers (and others) recognize that the association between time together and marital satisfaction may also result from the opposite direction of causality: marital satisfaction may increase the desire to spend time together. In this light, White (1983) noted that in her study structural variables (such as work patterns) accounted for only about 6 percent of the variance in time spent together, indicating that there was considerable opportunity for individuals to choose to spend more or less time together. Indeed, she found that when marital satisfaction was added to the prediction equation, the variance accounted for in time spent together increased to 24 percent. In a path analysis of her data, she also found that the standardized path from interaction to marital satisfaction was .13, while the path from satisfaction to interaction was .27; however, while both paths were significant, the difference was not. Kingston & Nock (1987) also compared these two paths in their study and concluded that the direction of effect was not discernible. It is, of course, also possible that some third factor, such as communication skill, personal qualities or attitudes of the spouses, may explain some or all of the association between satisfaction and interaction. Finally,

the possible paths may operate in combination. But so long as only correlational data are available it remains very difficult to sort out causality. Thus, one purpose of our study was to attempt to untangle the causal direction(s) of the relationship between marital satisfaction and time spent together.

Another way of thinking about the role of time spent together in relationships has to do with the idea that a major problem in relationship maintenance is coping with habituation or, simply, 'getting tired of the other' (Aron & Aron, 1986: 91). A long-standing finding in the marital satisfaction literature is a precipitous decline during the early phase of marriage (e.g. Burgess & Wallin, 1953). This decline in satisfaction may be mainly a function of a corresponding decline in love (Tucker & Aron, in press). Such a decline in love has been explained by behaviorists as an example of standard habituation responses (e.g. Huesmann, 1980); by cognitive theorists as a decline in the opportunities for uncertainty reduction (e.g. Livingston, 1980); and by psychodynamic theorists as disillusionment after the breakdown of the idealization of the partner arising from familiarity (e.g. Reik, 1944). Thus, according to this perspective, time spent together may actually decrease satisfaction.

An approach directly relevant to the relation of habituation processes to time spent together is the self-expansion perspective developed by Aron & Aron (1986; also Aron et al., 1991, 1992). This model proposes that people have a primary motivation to expand the self, in the sense of enhancing their potential efficacy. It further posits that one way in which people seek to expand the self is through relationships. Relationships are perceived by the individual as expanding the self because the other person is seen as, to some extent, included in the self, in the sense that the other person's resources, perspectives and characteristics are seen as available to or possessed by the self. However, once a relationship has come about and other has been included in the self to a considerable extent, one may experience a lack of further opportunities for expansion, creating dissatisfaction in the form of boredom with the relationship.

Aron & Aron (1986) proposed that a potential solution to getting tired of the other is for the partners to engage in activities together which are 'expanding' — that is, activities which are exciting and stimulating because they provide new resources or experiences. In this way, even if there are minimal new oppor-

tunities to expand through including the other in the self, the expansion of each self in the context of the joint activity becomes associated with the partner and the relationship. Even if the other is not an intrinsic source of new excitement, as was the case in the initial phase of the relationship, with joint expanding activities in an ongoing relationship, the two become partners in their individual expansions.

This suggests that spending time together would serve as a maintenance strategy only if the joint activity was expanding. Indeed, shared activities with a long-term partner which were not expanding might even intensify boredom with partner by forcing the individual to spend time with them in ways that do not expand the self.

Thus, the second issue for the present study was the relative impact on marital satisfaction of exciting vs merely pleasant activities.

In sum, the present study was designed as a first systematic step in addressing two questions: (1) What is the causal direction behind the association between time spent together and marital satisfaction? and (2) Does any impact of time spent together on marital satisfaction differ as a function of the degree to which the joint activities are perceived as exciting?

Method

Volunteer married couples completed measures of marital satisfaction and then were randomly assigned to one of three conditions: (1) instructed to do self-defined exciting activities together, (2) instructed to do self-defined pleasant activities together and (3) a waiting-list control group. Spanier's (1976) Dyadic Adjustment Scale was administered prior to assignment to groups and again 10 weeks later at the conclusion of the experiment. At each testing, we also administered Edmonds's (1967) Marital Conventionalization Scale to permit statistical control for social desirability influences.

Of the 53 married couples who participated, 9 were initially contacted through distribution of flyers at day-care centers, 14 through advertisements in various local newspapers and newsletters and 30 asked to be included in the study after reading an article about the project in a local newspaper. The couples had been married for an average of 14.65 years (with a range of 0–38 years), 66 percent had at least one dependent child living at home and 82 percent of the individuals were in a first marriage. Wives' mean age was 41.02; husbands' was 42.17. All of the respondents lived and worked in the San Francisco Bay area, and most at addresses in fairly affluent suburbs. Most were college graduates (74 percent of the wives, 75 percent of the husbands) and the majority were employed outside the home: of the wives, 60 percent were in professional positions, 18 percent were homemakers, 10 percent

were in managerial positions, 7 percent were in manual positions and 5 percent were self-employed; 60 percent of the husbands were also in professional occupations, 16 percent were self-employed, 10 percent were in managerial positions, 10 percent were in manual occupations and 4 percent were retired. There were no significant differences among the three experimental groups on any of the demographic variables.

Fourteen couples who had requested consent forms did not return the signed forms, and 4 couples who received the pretest questionnaire packet did not complete the forms. Of the 56 couples who completed all of the pre-experimental requirements on time and were assigned to one of the three experimental groups, only 2 dropped out: one (from the pleasant condition) had a death in the family and the other (exciting condition) did not choose to give any reason. One other couple (pleasant condition) completed the activities but returned the final questionnaire too late to be included in the data analysis.

The activities list included 90 activities selected mainly from Orthner's (1976) Leisure Activity-Interaction Index and MacPhillamy & Lewinsohn's (1982) Pleasant Events Schedule. Each subject first rated each activity for the number of times they had engaged in it with their spouse in the past 3 months. The subject was then directed to decide for each activity whether it 'is more likely to be "pleasant" or "exciting"'. The subject then rated the activity on a 5-point scale from 'not at all' to 'extremely' either for 'How pleasant was or would it be with your spouse' or for 'How exciting was or would it be with your spouse', using the scale corresponding to their decision as to whether the activity was pleasant or exciting. (It was not uncommon for the same activity to be considered pleasant by some subjects and exciting by others.)

Spanier's (1976) Dyadic Adjustment Scale was used to measure marital satisfaction. Edmonds's (1967) 15-item short-form Marital Conventionalization Scale was used to control statistically for potential social desirability influences in the Spanier scores. This was done both to reduce irrelevant variance contributing to the error term and to make the dependent variable more purely a measure of marital satisfaction alone.

An activity log was provided to each couple in the pleasant and exciting conditions for them to use to keep a record of the activities in which they participated over the 10-week period. On the activity log couples specified each activity, its date of completion and, on a 5-point scale, its degree of pleasure (for the pleasant condition) or its degree of excitement (for the exciting condition). This served as a kind of a manipulation check, and also as both a reminder to carry out the activities and as an additional push to think of their extra activities in the way designated by their condition.

Couples who had indicated their willingness to participate were sent the initial questionnaires and directed to complete them 'individually, in private' and to mail them back in separate envelopes. The only information volunteers were given about the purpose of the study — from either flyers, advertising or our correspondence with them — was that it was about 'marriage and shared activities'.

Upon our receipt of the completed questionnaires, each couple was randomly assigned to one of the three conditions: pleasant, exciting or control. We then chose the activities for each couple in the pleasant and exciting conditions based on their responses on the activity list (which they had completed prior to assignment to

conditions). Activities rated above 3 on the 5-point scale corresponding to their condition (i.e. pleasant or exciting) by *both* spouses became eligible as a couple activity. Activities participated in infrequently were put at the top of the list of possibilities (to maximize impact of the study), but if the couple did not have sufficient matched answers in that category, a more frequently engaged in eligible activity was used. We also avoided recommending some activities due to seasonal or similar constraints (e.g. going skiing if the couple was starting its activities in the summer).

Couples were sent a letter which included their list of activity possibilities and informed that we would give them a follow-up phone call halfway through their period of participation to see how they were doing. The letter also explained that they could make substitutions for the listed activities 'if you discover something pleasant [exciting] *both* of you would rather do for a shared activity', but that they were to be sure to spend about 1.5 hours each week at some additional shared pleasant (or exciting) activity for the next 10 weeks. The control group did not receive a list of activity possibilities or instructions to participate in activities, but expected to begin the active part of the study in 10 weeks. As necessary, we placed follow-up calls to see how the participants were progressing, and to encourage their faithful participation.

When a couple had completed the 10 weeks, we mailed the final questionnaire package, again reminding subjects to answer the questionnaires individually, in private. Follow-up calls were made as necessary to ensure the timely completion of the post-test questionnaires.

Effectiveness of experimental manipulation

According to the activity logs returned at the end of the study (73 percent), the couples were quite consistent in each week doing some additional activity appropriate to their condition. The actual activities in some cases were not ones on their list, but even in these cases they were almost always activities that were appropriate to their condition and which were rated as fairly high on their logs (either pleasant or exciting, according to the condition). Also, based on phone calls and other correspondence it was clear that couples had been very conscientious in making the time for and actually carrying out the extra activities each and every week. On the other hand, we had no reason to expect that the control couples did any extra activities. Some examples of the exciting activities were skiing, hiking, dancing and attending musical concerts, plays and lectures. Some examples of the pleasant activities were visiting friends, creative cooking (beyond meal preparation), seeing a movie, attending church and eating out. In sum, although the indications we have are less than ideal, the manipulation seems to have been successful in terms of impacting the amount and kinds of activities in which subjects participated and in terms of their perception of those extra activities as either exciting or pleasant.

Results

As noted in the Methods section, scores on the Dyadic Adjustment Scale (the measure of satisfaction) were adjusted for scores on the Marital Conventionalization Scale (the measure of social desirability). The adjusted satisfaction score was the satisfaction mean plus the result of subtracting the subject's unadjusted satisfac-

tion score from the satisfaction score predicted from his/her social desirability score. These adjustments were done separately for each gender and for pretest and post-test scores, and all analyses using these adjusted scores made appropriate reductions in the degrees of freedom for the error term. It was necessary to make these adjustments rather than use social desirability as a covariate because the principal analysis, described below, was already an analysis of covariance in which pretest scores were the covariate.

The primary comparisons were planned orthogonal contrasts based on an overall 3×2 least-squares analysis of covariance in which the independent variables were the three conditions (a between-subject factor) and wife vs husband (a repeated-measures factor), the dependent variable was post-test adjusted satisfaction, and the covariate was pretest adjusted satisfaction. The unit of analysis for all between-group comparisons was the dyad, following the recommendation of Kenny (1988). A check of interaction effects with pretest scores in the overall analysis indicated no basis for questioning the assumption of homogeneity of regression. This analysis-of-covariance approach to comparing change across groups (comparing post-test scores, with pretest scores as the covariate) is considered superior to comparing gain scores across groups (comparing simple post-test-minus-pretest differences) by virtually all authorities on data analysis (e.g. Cohen & Cohen, 1983). The analysis of covariance approach is considered superior because it does not inflate the influence of the pretest-post-test correlation.

Post-test means, adjusted for pretest, were 112.61 for the exciting condition, 109.09 for the pleasant condition and 111.17 for the control condition. Post-test means, not adjusted for pretest, were 112.81 for the exciting group, 107.68 for the pleasant group and 112.22 for the control group; corresponding pretest means, which were not significantly different across groups, were 109.95, 105.66 and 112.20 respectively. The means, not adjusted for social desirability, were nearly identical to these: for the post-test, 112.13 for the exciting group, 107.47 for the pleasant group and 113.14 for the control group; corresponding pretest means were 108.66, 104.41 and 114.69.

The analysis focused on two planned orthogonal contrasts: (1) the two activities groups vs the control group and (b) the exciting vs the pleasant group. These two contrasts were designed, respectively, to address the two research questions of the study; (1) whether spending time together of any kind impacts satisfaction and (2) whether spending time together doing activities perceived as particularly exciting (but not necessarily highly pleasant) impacts satisfaction more than spending time together doing activities perceived as particularly pleasant (but not necessarily highly exciting).

The first orthogonal contrast (the two activities groups vs the control group) was clearly not significant, $F(1,48) = .06$, effect size = .04 (all effect sizes of our analyses are reported as partial r s). In the studies cited in the introductory section that examined the link between time spent together and marital satisfaction, the approximate modal correlation was .40. The power of a study with 53 subjects (considering dyads as subjects) to yield significant results at the .05 level with a true effect size of $r = .40$ is greater than .80. Thus, the suggestion that spending time together of any kind increases relationship satisfaction was not supported.

The second orthogonal contrast (exciting vs pleasant) was significant, $F(1,48) = 5.41$, $p < .05$, and had an effect size of .32. Since the adjusted mean for the exciting

condition was higher than that for the pleasant condition (as noted above, 112.61 vs 109.09), this result is consistent with the prediction from Aron & Aron's (1986) model suggesting that exciting activities lead to a greater increase in satisfaction than pleasant activities do.

Post hoc comparisons were then conducted comparing each of the activities groups to the other two groups. The logic of these analyses was that if exciting activities, for example, are hypothesized to affect satisfaction, then anything other than exciting activities (no extra activities or pleasant activities) is, in effect, a control group. Results of these comparisons were consistent with the conclusion that participating in exciting activities increased satisfaction compared to those doing either no extra activities or pleasant activities, $F(1,48) = 4.02, p = .05$, effect size = .28; and were also consistent with the conclusion that participating in pleasant activities reduced satisfaction compared to those doing either no extra activities or exciting activities, $F(1,48) = 4.11, p < .05$, effect size = .28.

However, neither of the contrasts of the activities groups to the control group by itself were significant: exciting vs control, $F(1, 48) = 1.00$, effect size = .14; pleasant vs control, $F(1,48) = 1.70$, effect size = .19. This is not surprising given the low power of this study to detect small effects between two groups. Power for these comparisons at the .05 level is .11, assuming a true effect size of $r = .10$. (When evaluating the power of the contrast of any activity vs no activity we assumed an effect size of $r = .40$, based on previous research showing a correlation of about this size between time spent together and satisfaction. The present comparisons, on the other hand, are based on the self-expansion model which predicts effects for exciting vs control and for pleasant vs control, but in which these effects would be expected to be small in light of all the other factors that impact satisfaction.)

The analysis also revealed a significant main effect for wife vs husband, $F(1,47) = 4.98, p < .05$, effect size = .31, which is due to higher overall satisfaction for wives ($M = 112.36$) than for husbands ($M = 109.56$). However, this difference does not appear to qualify the effects noted above regarding experimental condition differences at the dyad level, since the interaction of husband-wife with experimental condition was not significant, $F(2,47) = 1.35$.

We also conducted some additional analyses to explore further the link of time together and satisfaction. These analyses were based on reports of time spent together (how often subjects engaged in various activities with their partner) on the activities list subjects completed prior to assignment to groups. Two interesting results emerged from these analyses. First, time spent together and adjusted dyadic satisfaction were significantly and positively related for wives ($r = .43, p < .01$), but much more weakly for husbands ($r = .18, p = .21$), although the difference between these correlations was not significant. Second, there were small but statistically significant negative correlations between level of education and amount of time spent together ($-.27$ for wives, $-.28$ for husbands), though not between level of education and adjusted marital satisfaction.

Discussion

This study was intended as a first systematic step in addressing two questions: (1) What is the causal direction behind the apparent

association between time spent together and marital satisfaction? and (2) Does any impact of time spent together on marital satisfaction differ as a function of the degree to which the joint activities are perceived as exciting?

With regard to the first question, the results of this study suggest that the direction of causality is not mainly from time spent together to satisfaction. Subjects randomly assigned to spend more time together (and who reported they actually did so), overall did not show a greater increase in marital satisfaction than a no-special-activity control group.

There are, however, some potential alternative explanations for the apparent lack of effect of time together on satisfaction. One is that the manipulation of the independent variable — an increase in activities of only about 1.5 hours per week — was insufficient to impact satisfaction. But this explanation seems unlikely since the experimental manipulation was quite sufficient to create a significant effect when comparing the exciting activities vs the pleasant activities groups. Yet another possibility is that there is some special feature of the present sample in which time together would not in any case be associated with satisfaction. This alternative, too, seems unlikely, since even in this sample (at least for the wives) correlations of the magnitude seen in other studies were found between pre-experiment time spent together and pre-experiment satisfaction. Still, it is possible that the present lack of effect is due to some special feature of the sample or to the somewhat artificial nature of the experimental situation. For example, perhaps it is the freely made effort to spend time with partner that matters as much or more as the actual time spent; or perhaps there are kinds of activities in which couples spontaneously engage that are especially important and are not of the kinds encouraged in this study.

To the extent that the present study throws doubt on the theory that spending time together enhances satisfaction, by elimination it lends some support to the view that satisfaction causes an increase in time spent together. This would seem, on the face of it, to be a perfectly reasonable explanation. Nevertheless, as noted in the introduction, other possibilities involving third factors and more complex causal paths cannot be ruled out on either theoretical grounds or on the basis of previous studies.

The second main question, whether any impact of time spent together on marital satisfaction differs as a function of the degree

to which the joint activities are perceived as exciting vs pleasant, appears to have been answered positively. There was a clearly significant result of moderate effect size in which the increase in satisfaction for those couples assigned to exciting activities was greater than that for those assigned to merely pleasant activities.

The overall pattern of adjusted post-test means was exciting activities, no added activities (control) and then pleasant activities. Post hoc comparisons indicated that the exciting group's satisfaction significantly increased compared to the other two groups taken together, and that the pleasant group's satisfaction significantly decreased compared to the other two groups taken together. However, power was not adequate to yield significant differences between each activity group vs the control group alone so that interpretations of the entire pattern of results requires some caution.

In any case, the quite unambiguous findings of a greater increase in satisfaction for the exciting than the pleasant group is consistent with Aron & Aron's (1986) suggestion, based on their self-expansion model, that joint exciting activities enhance satisfaction by combating boredom. Equally consistent with this model, it could be that spending more time with one's partner doing merely pleasant activities intensifies boredom.

This finding of greater increase for the exciting than the pleasant condition is provocative both theoretically and practically. From a theoretical point of view it is consistent with the self-expansion model, for which it provides the first tentative support for this aspect of the model. But in a general way, it also supports theories such as Huesmann's (1980) which emphasize boredom and lack of novelty as key elements needing to be addressed in any relationship maintenance strategy. From a practical point of view, these results suggest that encouraging couples to carry out exciting activities together (rather than just encouraging them to spend time together doing any kind of activity) may be a beneficial clinical or preventive intervention. Such practical applications, however, should be undertaken with considerable caution since, in addition to the more general methodological limitations of this first systematic study of these issues, (1) the present study was conducted with relatively well-functioning couples who would probably not be representative of a clinical population and (2) this study was designed to address the specific theoretical questions noted above, the procedures did not involve follow-up assessments

to examine any possible benefits or even whether subjects continued the activities beyond the period of the study.

Regarding the more general limitations of the present study, it should be emphasized that this is only a first attempt to address what seem to be important theoretical issues with great potential practical significance. The sample was one of convenience and is probably at best representative of professional, dual-earner North American couples who are interested in strengthening their relationship.

On the other hand, the present study has some methodological strengths that are unusual in the field of relationship research. First, it uses an experimental design to begin to untangle questions of causal direction. As such, we believe that it models in a small way the potential for going beyond the correlational methodology that overwhelmingly characterizes the field. Even work that uses laboratory procedures (e.g. Gottman, 1979) is still primarily correlational in that independent variables are not manipulated. In addition, the present study had the virtues of working outside the laboratory with people in real-life long-term relationships, it attempted to control for some of the effects of social desirability, and it permitted direct assessment of theoretical issues.

Thus, while this work certainly has its limits, it suggests potentially powerful alternative research strategies as well as offering evidence in support of two conclusions with wide import for relational maintenance and for personal relationship theory more generally: just spending more time with one's partner may not cause increased satisfaction; but, spending time together engaged in exciting activities may do so to a greater extent than spending time engaged in merely pleasant activities.

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