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Spouses' Social Control of Health Behaviors: Use and Effectiveness of Specific Strategies

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Forty-four couples described the strategies they used in attempting to prompt their partner to engage in particular health behaviors, strategies used by their partner that were effective and ineffective in prompting their own engagement in health behaviors, and their own psychological reactions to the partner's use of social control. Strategies that were more frequently mentioned as effective rather than ineffective included the partner also engaging in the desired health behavior, modeling the health behavior, discussing health issues, and providing emotional support. Spouses reported feeling lower self-esteem, less positive affect, and more negative affect in response to their partner's use of ineffective rather than effective strategies. In addition, both spouses rated their partners' use of ineffective (compared to effective) strategies as less motivated by a concern for the participant's welfare and more motivated by their partner's own desire to exert control within the relationship.

Over the course of two decades, an impressive body of research has indicated that socially integrated individuals have lower morbidity and mortality risks compared to those who are socially isolated (Seeman, 1996). Although the mechanisms through which the existence and quality of these social ties influence physical well-being are not completely understood, research in this area has primarily focused on the potential health benefits of social support (Cohen, 1988). However, relationships serve health-relevant functions other than providing support or assistance to others (House, Umberson, & Landis, 1988; Rook, 1994). One of these functions is social control. Social control involves implicit or explicit pressure from others to adhere to social norms and fulfill role obligations, which serve to decrease engagement in risky or deviant behaviors. Social control is proposed to operate in two basic ways (Rook, Thuras, & Lewis, 1990; Umberson, 1992). Indirect social control refers to feelings of responsibility and obligation to others. Direct social control, the focus of

the present study, refers to prompts from others such as requests, reminders, rewards, or threats. Socially integrated individuals may have lower morbidity and mortality risks than do isolated individuals because they are more likely to experience health-related social control.

The concept of social control has been widely applied in the field of sociology but has received less attention from social psychologists (Meier, 1982). However, the basic tenets of social control theory are consistent with social psychological perspectives on the development and function of social norms. For example, just as social control theory views adherence to social norms as serving an important function by discouraging deviant or risky behavior (e.g., Durkheim, 1897/1951), there is a long history in social psychology of viewing normative behavior as functional in achieving important social goals (Campbell, 1975; Sherif, 1936). In addition, direct social control involves the use of specific strategies to elicit the desired behavior change from the target. Thus, there is an important connection between social control theory and the social psychological literature on social influence, including the use and consequences of compliance-gaining strategies (Cialdini & Trost, 1998).

Empirical support for the social control of health behavior has been encouraging, although studies are few and their results somewhat mixed. The only published study using a nationally representative sample asked respondents, "How often does anyone tell or remind you to do anything to protect your health?" finding that the receipt of social control was prospectively associated with engagement in certain health-related

behaviors (e.g., cigarette smoking) but not others (e.g., alcohol consumption) (Umberson, 1992). Studies of married couples have indicated that intentional social control attempts (such as reminding) by one spouse are associated with greater medication adherence (Doherty, Schrott, Metcalf, & Iasiello-Vailas, 1983) and abstinence from smoking (Cohen & Lichtenstein, 1990). In contrast, Rook and her colleagues (1990) did not find the expected association between social control and engagement in health behaviors in a sample of older adults, leading these researchers to speculate that perhaps this was due to the sample generally reporting good health and engagement in few unhealthy practices.

An important limitation of the work to date on the social control of health behaviors involves the conceptualization and measurement of this construct. Studies of health-related social control often have relied on single-item measures of the construct (Rook et al., 1990; Umberson, 1992) or used bidimensional models of change strategies such as positive versus negative tactics (Cohen & Lichtenstein, 1990; Lewis & Rook, 1999). Little is known about the range of social control strategies that are used in attempting to regulate others' health behaviors, and no published research prior to the present study has attempted to systematically identify these specific strategies. Indeed, in the realm of social support, efforts to identify different types of social support and their relative helpfulness have proved extremely valuable in further understanding how social relationships influence physical health (e.g., Dakof & Taylor, 1990).

There have been a number of efforts in the broader social influence literature to delineate the strategies that people use to exert influence within their close relationships (variously known as manipulation, power, compliance, and influence strategies). Some of these studies have attempted to identify general social influence strategies (Buss, Gomes, Higgins, & Lauterbach, 1987; Falbo & Peplau, 1980). Other studies have identified goal-specific social influence strategies such as those used by spouses to resolve relationship conflicts (Sagrestano, Christensen, & Heavey, 1998) and influence purchasing decisions (Kirchler, 1993). Although some of the same influence strategies tend to emerge in these various studies (e.g., the use of positive affect, negative affect, and reasoning), it is also the case that certain strategies are goal-specific. Therefore, it cannot be assumed that classification schemes developed for other purposes will accurately describe the range of social influence strategies used to regulate health behaviors.

Previous research investigating the social control of health behavior also has been limited by the scant attention paid to psychological reactions to social control and the possible link between these psychological reactions and the ultimate effectiveness of social control in modi-

fying behavior. A possible dual effect of social control has been discussed in the literature, suggesting that social control may elicit both a positive behavioral reaction by prompting healthier behavior and a negative psychological reaction by prompting such feelings as resentment and irritation (Hughes & Gove, 1981; Rook & Pietromonaco, 1987). However, there has been little empirical testing of this dual-effect hypothesis and the few relevant findings are mixed. Rook and her colleagues (1990) failed to find that social control elicits psychological distress among older adults, at least in terms of self-reported depression, loneliness, and lower self-esteem. In fact, those who indicated that others deter their unhealthy behaviors reported less loneliness. However, a subsequent study by Lewis and Rook (1999) reported that experiencing social control is associated with negative affect. It should be noted that neither of these studies included measures of positive affect or well-being, precluding the possibility of finding that social control may, under certain circumstances, be welcomed and affirming. Indeed, Holmila (1991) found that women who drink heavily reported both negative and positive reactions to social control, with some women desiring their family and friends to exert more social control in deterring their drinking.

These studies of social control raise two important issues. Social control may have the potential to elicit both positive and negative psychological reactions, depending on the nature of the social control (again arguing against the use of global social control measures). In addition, these positive and negative psychological reactions to the social control may have different effects on the target's behavioral reaction. In other words, the dual-effects hypothesis may be too simplistic. Rather than social control necessarily having positive behavioral and negative psychological consequences, it may be the case that social control attempts that elicit positive affect from the target may tend to be behaviorally effective, whereas attempts that elicit negative affect may tend to be ineffective. This model is consistent with the larger social psychological literature on the role of affect in social influence. For example, compliance research indicates that we are more likely to comply with requests when we are experiencing positive affect than negative affect (Cialdini & Trost, 1998; Forgas, 1998; Milberg & Clark, 1988), although research on helping behavior also indicates that the influence of current mood on behavior may depend on how engagement in the behavior is anticipated to affect subsequent mood (Salovey, Mayer, & Rosenhan, 1991). In addition, the work on psychological reactance indicates that when individuals perceive that others are threatening their freedom, they will behave in ways that serve to protect or restore their sense of freedom (Brehm & Brehm, 1981).

In other words, attempts at social control that are perceived by the target as overly controlling may backfire in terms of eliciting healthier behavior.

The purpose of this study is to delineate the specific social control strategies used by spouses in attempting to influence their partner's health behaviors, identify the strategies that are perceived to be effective and ineffective in eliciting the desired behavior change, and investigate the psychological responses to experiencing social control. Although any type of social tie may serve a regulatory function, marriage was chosen as the focus of the present study due to previous research suggesting that the direct social control of health behaviors in adulthood may operate most commonly within the marital relationship (Umberson, 1992). Due to the lack of prior research in this area, spouses were interviewed separately and asked to describe the strategies they use in attempting to prompt their partner to engage in a particular health behavior as well as the strategies that their partner uses that are effective and ineffective in influencing their own health behaviors. These audiotaped interviews were transcribed, and a coding scheme was developed to classify the responses and identify the different types of social control strategies. This approach has been successfully used in the social support literature to identify and classify types of social support strategies (Dakof & Taylor, 1990) as well as the relative helpfulness of these strategies (Dunkel-Schetter, Blasband, Feinstein, & Herbert, 1992; Lehman, Ellard, & Wortman, 1986). It was expected that social control strategies identified by targets as behaviorally ineffective would be associated with lower psychological well-being than would strategies identified as behaviorally effective. Well-being was assessed in terms of the target's feelings about self (self-esteem), the partner (attributions for the partner's use of social control strategies), and the relationship (positive vs. negative). Because sex differences have sometimes been found in the use of social influence strategies (Falbo & Peplau, 1980), sex differences in the use of social control strategies, as well as psychological responses to these strategies, also were investigated.

METHOD

Participants

Forty-five married couples participated in this study. One couple was dropped from the analyses because neither spouse reported using social control strategies. Couples who had participated in a previous study of health-related social control (Tucker & Anders, in press) were sent letters inviting them to participate in the present study. Thirty of these couples agreed. The remaining couples were recruited either by a letter that was sent to all married graduate students at a private Northeastern university or by flyers that were posted at this or other neighboring universities.[1] Couples received $15 for their participation.

Participants were relatively young (M = 31.99 years, SD = 8.47) and well-educated (M = 2 years of graduate school). They had been married for an average of 5.60 years (SD = 7.14) and generally reported being happily married (as assessed by Spanier's [1976] Dyadic Adjustment Scale; M = 112.77, SD = 14.24, Range = 60-145). Participants generally reported engaging in a healthy lifestyle, with 85% reporting not smoking within the past 12 months, 91% identifying themselves as either abstainers or light drinkers, and 36% reporting engagement in aerobic exercise at least 3 times per week. Participants rated their current health status on a 5-point scale (1 = *much worse than average*, 3 = *average*, 5 = *much better than average*), with an average rating of 3.32 (SD = .85).

Procedure

Spouses were told that they would be completing separate audiotaped interviews regarding the ways in which husbands and wives influence each other's health behaviors as well as completing several paper-and-pencil measures. Spouses were encouraged to be as complete and honest in their answers as possible and were told that there were no right or wrong answers. They were further assured that their responses would not be shared with their partner.

The partners were then taken to separate rooms. Prior to the interviews, both spouses completed a questionnaire that asked about demographic information, current health behaviors, current health status, and current affect state (not used in the present study). The order in which husbands and wives were interviewed was counterbalanced. While one spouse was being interviewed, the other completed several questionnaires (assessing personality and emotional expressiveness) not used in the present study.[2] Couples were then reunited and debriefed.

Interview. Immediately prior to beginning the interview, participants completed a health behavior checklist. This checklist listed nine changes in health behaviors (quit smoking or smoke less, quit drinking alcohol or drink less, start exercising or exercise more frequently, lose weight/gain weight, eat healthier foods, see a doctor/dentist or have more regular appointments, sleep more/sleep less, take fewer over-the-counter medications, take prescription drugs more regularly) as well as several blank spaces for participants to add other relevant health behavior changes. Participants were asked to indicate which of these health behavior changes they would like their spouse to make and to rate how important it was for their spouse to change the behavior on a 7-point scale (1 = *not at all important* to 7 = *very important*;

$M = 4.47$, $SD = 1.39$). The interviewer began the interview by reviewing the completed health behavior checklist. For each health behavior change that was indicated, the interviewer asked participants to describe what, if anything, they specifically say or do in an effort to prompt their spouse to engage in the desired behavior. The interviewer asked participants to describe additional strategies and reviewed the stated strategies with participants until participants reported that they did not use any additional strategies to prompt their partner's behavior change. This procedure was repeated for each of the indicated health behavior changes.

Participants were then told that they were to focus on the things that their spouse says or does in an attempt to prompt them to engage in a healthier lifestyle. They were told the following:

> When your spouse does or says things in an attempt to prompt you to engage in a healthier lifestyle, some of these things may be effective in that you actually engage in healthier behavior and some of these things may be ineffective in that you choose not to engage in healthier behavior (e.g., you might ignore your spouse or even do the opposite of what she or he wants you to do).

Participants were then asked to describe the most effective/ineffective things, if anything, that their spouse says or does to prompt them to engage in a healthier lifestyle. It was emphasized that they should report things that their spouse says or does that—regardless of how it makes them feel emotionally—are usually effective/ineffective in prompting them to engage in healthier behavior. The order in which participants discussed effective and ineffective strategies was counterbalanced.

After describing the effective strategies and the ineffective strategies, participants completed several measures regarding their feelings when "your spouse does and says the things that you have just described." Specifically, they completed a relationship-relevant mood measure developed by Brunstein, Dangelmayer, and Schultheiss (1996). This measure consists of eight positive (*happy, pleased, harmonious, confident, loved, accepted, acknowledged*, and *secure*) and eight negative (*sad, depressed, fearful, tense, disappointed, hurt, betrayed*, and *suppressed*) affect adjectives, each rated on a 5-point scale (1 = *very slightly or not at all* to 5 = *extremely*, $\alpha \geq .80$). They also completed a self-esteem measure adapted from Rosenberg's (1965) Self-Esteem Scale and similar to the measure used by Clark and Stephens (1996). This measure consists of eight items (worthwhile, useless, incompetent, respect for myself, like a failure, proud, dissatisfied with myself, good about myself) rated on a 5-point scale (1 = *not at all* to 5 = *extremely*, $\alpha s > .80$). Participants also were asked to rate the partner's perceived motivations for engaging in the effective or ineffective social

controls strategies that they just described. Specifically, they rated the following three statements using a 5-point scale (1 = *not at all true* to 5 = *extremely true*): "My spouse says or does these things because he or she is concerned about my welfare," "My spouse says or does these things because he or she is concerned about his or her own welfare," and "My spouse says or does these things because he or she is concerned about being in control." On average, these six measures were weakly correlated (reactions to ineffective strategies: $r = -.07$ to $r = .45$, mean $r = |.21|$, *ns*; reactions to effective strategies: $r = .02$ to $r = .58$, mean $r = |.20|$, *ns*).

Coding. After the interviews were transcribed, the following procedure was used to code the social control strategies described during the interviews. Five interviews were randomly selected to develop an initial set of coding strategies. Using this initial set of codes, two judges independently coded one third of the interviews. The reliability of the coding was checked and coding categories were modified or added as necessary. Once the list of social control strategies was finalized, a separate group of judges was trained on the use of the coding scheme. This training involved discussing the coding process and the distinctions between the categories as well as receiving feedback after coding 30 practice social control behaviors. All of the interview responses were then coded by the two judges and the reliabilities of their ratings were adequate (Cohen's kappa = .71 for the initial description of spouses' own strategies and .73 for the spouses' description of their partner's effective and ineffective strategies). A third judge's codes served as a tie-breaker for cases in which the initial two judges disagreed.

RESULTS

Types of Social Control

During the first part of the interview, husbands and wives were asked to describe the social control strategies that they use in attempting to modify their partner's health behaviors. The final set of social control strategies is shown in Table 1, along with the percentages of husbands and wives who reported use of each strategy. The strategies, which are described below, have been grouped as appropriate into broader conceptual categories. On average, spouses reported using several different types of strategies in their efforts to influence the partner's health behaviors, and results of a paired t test indicated that a greater number of different strategies was mentioned by wives ($M = 4.48$) than husbands ($M = 2.95$), $t(43) = -3.62$, $p < .001$.[3] The Cochran Q statistic (Fleiss, 1981; Hays, 1981) was used to test for differences in the percentages of husbands and wives reporting the use of each of the strategies.

TABLE 1:   Social Control Strategies Used by Spouses to Modify Their Partner's Health Behaviors

	Husbands		Wives		
Type of Strategy	n	%	n	%	Cochran Q
Engages in health behavior together	20	45	26	59	1.64, ns
Models health behavior	6	14	10	23	1.14, ns
Engages in facilitative behavior	15	34	31	70	9.85, p < .01
Discusses health issues with partner	18	41	24	55	2.25, ns
Tries to change partner's attitude	3	7	2	5	< 1
Hints	8	18	11	25	< 1
Sets positive contingencies	1	2	0	0	1.00, ns
Avoids unhelpful behaviors	2	5	6	14	2.67, ns
Requests that partner engage in behavior	30	68	36	82	3.00, ns
Tells partner to engage in behavior	27	61	29	66	
Asks partner if she or he is engaged in behavior	3	7	14	32	
Repeats or nags	6	14	3	7	
Provides emotional support	8	18	17	39	5.40, p < .05
Provides encouragement	5	11	15	34	
Asks how partner is doing or feeling	1	2	1	2	
Shows concern for partner	0	0	3	7	
Listens to partner	0	0	0	0	
Shows interest (nonspecific)	1	2	0	0	
Provides support (nonspecific)	4	9	1	2	
Reinforces partner (nonspecific)	0	0	1	2	
Expresses or elicits negative affect	4	9	10	23	3.60, p = .056
Expresses negative affect	2	5	5	11	
Elicits negative affect from partner	0	0	3	7	
Uses fear appeal	2	5	3	7	
Sets negative contingencies	0	0	0	0	

Engages in health behavior together includes inviting the partner to engage in a healthy behavior together or actually engaging in the behavior together. *Models health behavior* involves the spouse setting a good example by engaging in a healthy behavior in front of the partner. *Engages in facilitative behavior* refers to a spouse's action that directly facilitates the partner's engagement in the desired behavior by limiting the partner's options (e.g., prompting the partner to eat healthier by cooking healthy meals for him or her, prompting the partner to see the doctor by making doctor appointments for him or her). *Discusses health issues with partner* involves providing to the partner, or discussing with the partner, health-related information (e.g., discussing health-related news stories or their current health habits). *Tries to change partner's attitude* refers to intentional and explicit attempts to change the partner's health-related attitudes. *Hints* include such behaviors as jokes, sarcasm, and nonverbal displays (e.g., glares or smiles). *Sets positive contingencies* refers to rewarding the partner for engaging in the desired behavior. *Avoids unhelpful behaviors* refers to the avoidance of behaviors that would discourage the partner from engaging in healthy behavior (e.g., "I don't criticize my partner when she forgets to exercise"). *Requests that partner engage in the behavior* involves directly telling

the partner to engage in a health behavior (including repeated requests) or asking if the partner has engaged in a health behavior. *Provides emotional support refers* to a variety of strategies involving the communication of encouragement, interest, caring, and concern to the partner. *Expresses or elicits negative affect* refers to the spouse expressing negative affect (e.g., anger or frustration) to the partner, attempting to elicit negative affect (e.g., guilt) from the partner, using fear appeals (e.g., "You will die if you don't stop smoking"), or setting negative contingencies (e.g., punishing the partner if she or he engages in an undesirable behavior).

Most frequently mentioned social control strategies. As shown in Table 1, four strategies were mentioned by at least 25% of both husbands and wives as ones that they used: engages in health behavior together, engages in facilitative behavior, discusses health issues with the partner, and requests that the partner engage in a health-related behavior. In addition, 25% of the wives reported using hints and 39% reported using emotional support to prompt their spouse to engage in healthy behavior. Two significant sex differences emerged: Wives were more likely than husbands to mention that they engaged in facilitative behaviors (p < .01) and that they provided emotional support (p < .05).

TABLE 2:   Social Control Strategies Reported by Husbands as Effective Versus Ineffective in Modifying Their Health Behaviors

	Effective		Ineffective		
Type of Strategy	n	%	n	%	*Cochran* Q
Engages in health behavior together	12	27	3	7	5.40, *p* < .05
Models health behavior	3	7	0	0	3.00, *ns*
Engages in facilitative behavior	13	30	4	9	5.40, *p* < .05
Discusses health issues with partner	10	23	4	9	2.57, *ns*
Tries to change partner's attitude	2	5	4	9	1.00, *ns*
Hints	4	9	1	2	1.80, *ns*
Sets positive contingencies	1	2	0	0	1.00, *ns*
Avoids unhelpful behaviors	0	0	1	2	1.00, *ns*
Requests that partner engage in behavior	19	43	9	20	5.56, *p* < .05
Tells partner to engage in behavior	19	43	7	16	
Asks partner if she or he is engaged in behavior	2	5	0	0	
Repeats or nags	0	0	2	5	
Provides emotional support	10	23	3	7	4.55, *p* < .05
Provides encouragement	5	11	1	2	
Asks how partner is doing or feeling	1	2	0	0	
Shows concern for partner	3	7	2	5	
Listens to partner	1	2	0	0	
Shows interest (nonspecific)	1	2	0	0	
Provides support (nonspecific)	0	0	0	0	
Reinforces partner (nonspecific)	2	5	0	0	
Expresses or elicits negative affect	7	16	7	16	< 1
Expresses negative affect	1	2	5	11	
Elicits negative affect from partner	5	11	3	7	
Uses fear appeal	1	2	1	2	
Sets negative contingencies	0	0	1	2	

Effective Versus Ineffective
Social Control Strategies

During the second part of the interview, spouses were asked to describe the effective and ineffective social control strategies that their partner uses in attempting to prompt their own healthy behavior change. To determine whether the effective and ineffective conditions differed in terms of the number of strategies mentioned by husbands and wives, a 2 (strategy type: effective vs. ineffective) × 2 (spouse's sex) analysis of variance (ANOVA) was conducted. Due to possible nonindependence in spouses' reporting, the dyad was used as the unit of analysis for all ANOVAs, with both the spouse's sex and the strategy type treated as within-participants variables. A significant main effect for strategy type indicated that spouses mentioned more effective strategies (*M* = 2.24) than ineffective strategies (*M* = 1.19), *F*(1, 43) = 23.39, *p* < .001. Husbands and wives did not differ in the number of strategies that they mentioned during this part of the interview, *F*(1, 43) = 2.16, *ns*, and there was not a significant Strategy Type × Spouse's Sex interaction, *F*(1, 43) = 1.60, *ns*. The percentages of husbands and wives who reported particular social control strategies as effective or ineffective are presented in Tables 2 and 3, respectively. The Cochran *Q* statistic was used to test for differences in the percentages of spouses mentioning a particular strategy as effective versus ineffective.

In reporting on the strategies that their wives used in prompting them to engage in a healthy lifestyle, only three strategies were mentioned by at least 25% of the husbands as being effective: engages in the health behavior together, engages in facilitative behavior, and requests that he engage in a health-related behavior. It is interesting to note that this last strategy was also the most frequently mentioned ineffective strategy by husbands. Four strategies were mentioned significantly more often by husbands as effective than ineffective: engages in health behavior together, engages in facilitative behavior, requests that partner engage in health-related behavior, and provides emotional support (see Table 2).

In reporting on the strategies used by their husbands, at least 25% of the wives reported that the following strategies were effective: engages in health behavior together, engages in facilitative behavior, requests that partner engage in health-related behavior, and provides emotional support. As was the case for husbands, the strategy that wives most often mentioned as being ineffective was requesting that they engage in health-related behavior. Five strategies were significantly more likely to be mentioned by wives as effective than ineffective: engages in health behavior together, models healthy behavior, engages in facilitative behavior, discusses

TABLE 3:   Social Control Strategies Reported by Wives as Effective Versus Ineffective in Modifying Their Health Behaviors

	Effective		Ineffective		
Type of Strategy	n	%	n	%	*Cochran* Q
Engages in health behavior together	19	43	0	0	19.00, *p* < .001
Models health behavior	7	16	1	2	8.00, *p* < .05
Engages in facilitative behavior	16	36	1	2	13.24, *p* < .001
Discusses health issues with partner	10	23	0	0	10.00, *p* < .01
Tries to change partner's attitude	5	11	4	9	< 1
Hints	1	2	1	2	< 1
Sets positive contingencies	2	5	0	0	2.00, *ns*
Avoids unhelpful behaviors	2	5	0	0	2.00, *ns*
Requests that partner engage in behavior	18	41	13	30	1.19, *ns*
Tells partner to engage in behavior	14	32	10	23	
Asks partner if she or he is engaged in behavior	2	5	1	2	
Repeats or nags	3	7	4	9	
Provides emotional support	15	34	1	2	14.00, *p* < .001
Provides encouragement	11	25	0	0	
Asks how partner is doing or feeling	1	2	0	0	
Shows concern for partner	3	7	0	0	
Listens to partner	0	0	1	2	
Shows interest (nonspecific)	1	2	0	0	
Provides support (nonspecific)	0	0	0	0	
Reinforces partner (nonspecific)	1	2	0	0	
Expresses or elicits negative affect	3	7	8	18	2.78, *ns*
Expresses negative affect	1	2	6	14	
Elicits negative affect from partner	2	5	2	5	
Uses fear appeal	0	0	0	0	
Sets negative contingencies	0	0	0	0	

health issues with partner, and provides emotional support (see Table 3).

Ratings of Effective and Ineffective Strategies

It was expected that effective and ineffective strategies would differ in terms of the target's rating of self-esteem, positive affect, and negative affect. To test this hypothesis, 2 (strategy type: effective vs. ineffective) × 2 (spouse's sex) ANOVAs were conducted. The sample sizes are somewhat smaller for these analyses due to several spouses reporting that their partner did not use effective and/or ineffective social control strategies. As expected, spouses reported lower self-esteem, lower positive affect, and higher negative affect in response to their partner's use of ineffective than effective strategies.

It also was expected that effective and ineffective strategies would differ in terms of the target spouses' perceptions of their partner's motivations for engaging in social control. To test this hypothesis, we conducted 2 (strategy type: effective vs. ineffective) × 2 (spouse's sex) ANOVAs. Spouses perceived that ineffective strategies (compared to effective strategies) were less motivated by the partner's concern for the target's welfare and more motivated by the partner's concern for exerting control

within the relationship. However, contrary to predictions, there was not a difference between effective and ineffective strategies in terms of perceptions that the behavior was motivated by the partner's selfish concerns. There were no significant sex differences in any of these analyses (see Table 4).

DISCUSSION

One of the ways in which social relationships can benefit health is through the social control that they provide. The focus of the present study was on direct social control (prompts by others that serve to regulate behavior), with the main goal being the delineation of social control strategies used by husbands and wives to encourage each other to engage in a healthier lifestyle. Results of this study not only indicate that spouses intentionally use social control strategies in an effort to influence each other's health behaviors (see also Umberson, 1992) but use a variety of tactics in their regulatory efforts. The systematic coding of interviews with spouses identified 10 basic social control strategies. The most frequently mentioned of these strategies were requesting that the partner engage in the desired behavior, engaging in facilitative behavior (such as cooking healthy meals or

TABLE 4: **Psychological Responses to Partner's Use of Social Control by Sex of Target and Type of Strategy (effective vs. ineffective)**

	Husbands' M (SD)	Wives' M (SD)	ANOVA
Positive affect			Sex: $F(1, 27) = 1.73$, ns
Effective	3.38 (.87)	3.70 (.64)	Strategy: $F(1, 27) = 130.17$, $p < .001$
Ineffective	1.90 (.82)	1.97 (.85)	Sex × Strategy: $F(1, 27) = 1.24$, ns
Negative affect			Sex: $F(1, 28) < 1$
Effective	1.50 (.61)	1.39 (.64)	Strategy: $F(1, 28) = 29.16$, $p < .001$
Ineffective	2.36 (.95)	2.32 (1.10)	Sex × Strategy: $F(1, 28) < 1$
Self-esteem			Sex: $F(1, 27) < 1$
Effective	2.41 (.59)	2.42 (.46)	Strategy: $F(1, 27) = 14.86$, $p < .01$
Ineffective	2.14 (.73)	2.02 (.58)	Sex × Strategy: $F(1, 27) < 1$
Partner's concern for self			Sex: $F(1, 26) < 1$
Effective	3.07 (1.44)	2.93 (1.14)	Strategy: $F(1, 26) < 1$
Ineffective	3.11 (1.40)	2.89 (1.31)	Sex × Strategy: $F(1, 26) < 1$
Partner's concern for target			Sex: $F(1, 26) < 1$
Effective	4.70 (.47)	4.74 (.71)	Strategy: $F(1, 26) = 10.84$, $p < .01$
Ineffective	4.30 (1.07)	4.00 (1.36)	Sex × Strategy: $F(1, 26) = 1.56$, ns
Partner's concern for control			Sex: $F(1, 26) < 1$
Effective	1.63 (1.01)	1.67 (.92)	Strategy: $F(1, 26) = 8.95$, $p < .01$
Ineffective	2.22 (1.25)	1.89 (1.31)	Sex × Strategy: $F(1, 26) = 1.23$, ns

making doctor appointments), engaging in the desired health behavior with the partner, and discussing health issues with the partner.

Some of the strategies identified in the present study (e.g., those involving the use of positive affect, negative affect, reasoning) have been found in other efforts to categorize influence strategies (Buss et al., 1987; Falbo & Peplau, 1980), suggesting that there may be certain basic strategies that underlie influence attempts in a variety of domains and relationships. However, other strategies that were identified in this study, such as the behavioral strategies, appear to be more specific to the social control of health behavior. Attempting to influence a spouse to engage in a particular behavior by engaging (or offering to engage) in the behavior together, modeling the desired behavior in front of the spouse, and engaging in facilitative behavior that narrows the spouse's behavioral options were three of the most commonly mentioned strategies (and, with the exception of modeling, among those most commonly identified as behaviorally effective). The results of this study argue for the need to develop measures of specific influence strategies that are relevant to health-related social control rather than using existing measures that are either generic or were developed for use in other specific contexts. In addition, these results indicate the specific types of influence strategies that will be important to include in future measures.

Although some studies have found sex differences in the use of influence strategies (e.g., Falbo & Peplau, 1980), others have not (e.g., Sagrestano et al., 1998). In the present study, few significant sex differences were found in the use of specific strategies, although wives reported using a greater variety of social control strategies than husbands. One notable exception involved engagement in facilitative behavior, which was reported by nearly three quarters of the wives and only about one third of the husbands. By definition, facilitative behavior should be among the most effective social control strategies; indeed, it was one of the most frequently mentioned effective strategies in the present study. Although only suggested by the present study, wives may ultimately be more effective than husbands in regulating their partner's health behavior for two reasons. First, the wider repertoire of social control strategies may allow wives to better tailor their social control attempts to their partner's needs or to use multiple strategies simultaneously. Second, the greater use of facilitative behavior should make noncompliance with the social control attempt less likely—after all, a spouse is more likely to follow a low-fat diet when the appropriate foods are prepared and put in front of him or her than when he or she is simply reminded to engage in this behavior. If future research confirms these sex differences, it would help to explain the stronger association between marital status and physical health that is typically found for men (Shumaker & Hill, 1991; Tucker, Friedman, Wingard, & Schwartz, 1996). The more effective use of social control strategies by women may contribute to greater health benefits associated with marriage for men.

A second goal of this study was to differentiate between strategies that are perceived by spouses as effective versus ineffective in prompting their own engagement in health behaviors. Spouses were more likely to mention the following strategies as being effective than ineffective: engaging in the behavior with their partner,

having their partner model the healthy behavior (wives' report only), having their partner engage in facilitative behavior, discussing health issues with their partner (wives' report only), having their partner request that they engage in the desired behavior (husbands' report only), and having their partner provide emotional support. More research is clearly needed to fully understand which types of social control strategies are most effective and why. However, for health behavior change programs or patient compliance interventions that encourage the involvement of spouses or other family members (Burke, Dunbar-Jacob, & Hill, 1997; Roter et al., 1998), these results provide some preliminary guidelines in terms of educating social network members of the strategies that are more or less likely to be effective in eliciting positive health behavior change.

It should be mentioned that none of the 10 strategies (with the exception of setting positive contingencies, which was mentioned quite infrequently) were exclusively mentioned as effective or ineffective. This points to the importance of identifying variables that moderate or mediate the association between experiencing social control and behavioral reactions. Although some strategies may be generally more effective than others, as indicated in the present study, no strategy will be consistently effective for all individuals and in all situations. With the basic social control strategies now identified, it will be important for future research to focus on the conditions under which these strategies tend to be effective versus ineffective, as well as the mechanisms through which social control influences health practices. The present study made an initial step in this direction by comparing effective and ineffective strategies in terms of how the use of these strategies made target spouses feel about themselves, their partner, and their relationship. As expected, spouses reported feeling lower self-esteem, experiencing less positive and more negative relationship-relevant affect, and having less favorable attributions for their partner's behavior in response to social control attempts that they described as being ineffective than effective in eliciting the desired health behavior.

These results are consistent with the idea that the effectiveness of social control strategies is not independent of the target's feelings about the social control, as implied by the dual-effects hypothesis; rather, how direct social control makes targets feel about themselves, their partner, and their relationship may mediate the association between experiencing social control and behavioral reactions. Social control strategies may be effective in prompting the desired behavior to the extent that they elicit positive psychological responses from the target and ineffective to the extent that they elicit negative psychological responses. It is interesting to note that the

strategies predominantly identified as effective by both husbands and wives involved the active participation of the social control agent in the behavior change effort (engaging in the behavior together, engaging in facilitative behavior, providing emotional support). These active strategies may be particularly likely to be perceived by the target as reflecting a high level of caring and commitment on the part of the social control agent. As a result, targets may be more likely to have a positive psychological reaction to the agent's use of these strategies compared to unilateral or passive directives for them to change a particular behavior.

Of course, causal models other than the one just described are possible. For example, behavioral responses to social control may have some influence on the target's psychological reactions. Spouses who comply with their partner's wishes to engage in certain health practices may report greater psychological well-being because they are doing something that they think will please their partner and perhaps enhance their relationship. It also is possible that individuals who engage in healthy behaviors as a result of social control tend to feel better than those who do not because of the psychological well-being that comes from engagement in certain behaviors such as regular exercise (although this would not necessarily be the case for avoiding certain enjoyable or addictive behaviors). Although the present study cannot evaluate these possibilities, an important next step in this line of research will involve better understanding the association between psychological and behavioral responses to social control.

There are several limitations of this study that should be noted. The sample is relatively homogeneous in that most of the couples are relatively young, White, well-educated, healthy, and satisfied with their marriage. Although there is little reason to suspect that the basic social control strategies identified in this study are unique to this sample, the use and effectiveness of these strategies may vary across groups differing on these and other characteristics. In addition, this study relies exclusively on the retrospective self-reports of husbands and wives. Although this was considered to be the best method for identifying the social control strategies used by spouses in the present study, future research should employ complementary methods such as diary reports for assessing the current use of social control strategies and behavioral measures of the effectiveness of these strategies in eliciting behavior change.

A central goal of research on the social control of health behaviors should be to develop interventions that will help individuals initiate and maintain healthy behavior change by involving their social networks in a way that promotes psychological, interpersonal, and physical well-

being. This study provides an initial step by identifying the specific strategies used in the social regulation of health behaviors. The variety of strategies identified in the present study highlights the importance of taking the nature of social control into account in attempting to understand the consequences of social control. Although social control certainly has the potential to backfire, as some proponents of the dual-effects hypothesis have warned, it also has the important potential for promoting healthy behavior by harnessing the power of social influence in a positive way. An important future direction for this research is to identify the conditions under which the social control of health behaviors has positive versus negative behavioral effects, such as by further investigating the psychological, emotional, and interpersonal consequences of social control.

NOTES

1. MANOVA was used to compare spouses who did versus did not participate in the initial study of social control on the following variables: the number of social control strategies that they reported using; the number of effective and ineffective strategies that they reported their spouse using; their self-esteem, positive mood, and negative mood in response to their partner's use of effective and ineffective strategies; and the three ratings of their attributions for the partner's use of effective and ineffective strategies. An overall difference between these groups was not found, $F(15, 52) = 1.67$, *ns*.

2. A MANOVA was used to compare spouses who completed the additional measures prior to the interview versus after the interview on the variables indicated in Note 1. An overall difference between these groups was not found, $F(15, 52) < 1$.

3. Background variables (age, education, self-reported health, marital satisfaction, and length of marriage) were not significantly correlated ($p < .05$) for husbands or wives with the number of social control strategies that they reported using, and neither were the number of effective and ineffective strategies that they reported their spouse using.

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