A STUDY OF SOCIAL CONTROL: WHAT FACTORS PREDICT ITS USE, HOW IMPORTANT ARE PATIENT REACTIONS, AND DOES HELPFULNESS ENHANCE ITS EFFECTIVENESS?

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by

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CHAPTER 1

Introduction

The health protective effects of close relationships, specifically those of marriage, have long been recognized in the social psychological literature (see review by Burman & Margolin, 1992). To explain these health protective effects theorists have posited a variety of social regulation processes, such as social control. Social control refers to an attempt by one individual to influence or regulate the behaviors of another, including their health behaviors (Hughes & Gove, 1981). Most research has examined the direct effects of social control on the recipient’s health behaviors and psychological well-being, but less attention has been given to the recipient’s reactions to control attempts.

The present study examines spouses’ attempts to control the dietary adherence of their partners who have been diagnosed with type 2 diabetes. The purposes of the present study are two fold. The first purpose is to determine whether patients’ reactions to control attempts are associated with disease management after accounting for the effects of spouses’ control attempts themselves. The second purpose is to determine whether the associations between spousal control attempts and patients’ reactions are conditioned by the degree to which patients positively appraise their spouses’ involvement.

Effects of Social Control

Early studies found that parents and married individuals had better physical health than non-parents or the unmarried (Hughes & Gove, 1981; Umberson, 1987). Two possible explanations for these results were posited. The first explanation is that,
compared to the unmarried and non-parents, adults in these types of close relationships are more likely to self-regulate their health behaviors out of a sense of responsibility to remain healthy for the role partner. The second is that those in close relationships are recipients of partners’ efforts to regulate such behaviors. Along with its beneficial effects on health behaviors, social control has also been postulated to have harmful effects on psychological well-being to the extent that the agent's influence elicits irritation or frustration in the target (Hughes & Gove, 1981).

In addition to social control conceptualized as the presence or absence of a close social relationship (e.g., marriage), it has been conceptualized as the extent to which social partners engage in influence attempts, per se, regardless of the types of control exercised (referred to here as general social control; Helgeson, Novak, Lepore, & Eton, 2004; Lewis & Rook, 1999; Rook, Thuras, & Lewis, 1990; Umberson, 1992), or engage in specific types of social control (referred to here as social control strategies; Franks et al., 2006; Lewis & Rook, 1999; Tucker & Anders, 2001). Research has typically focused on two types of control strategies, negative and positive. Negative control strategies refer to attempts by an agent to coerce the target to improve their health behaviors or to warn the target about the consequences of not improving their behaviors. Positive control strategies refer to attempts by an agent to motivate or to encourage a target to improve their behaviors. So that the label of these constructs do not imply the valence of their expected outcomes (e.g., that positive social control will predict positive health outcomes), the terms pressure and persuasion are used instead of negative and positive control, respectively.
Research examining the effects of general social control on targets’ health behaviors and well-being has reported inconsistent results. Some work has shown that targets who receive greater amounts of control engage in better health behaviors (Umberson, 1992) whereas other studies show that those receiving greater amounts of control engage in poorer health behaviors (Helgeson et al., 2004; Lewis & Rook, 1999; Rook, Thuras, & Lewis, 1990). Likewise, more social control has been linked to both better (Rook, Thuras, & Lewis, 1990) and poorer (Helgeson et al., 2004) psychological well-being.

In contrast to studies examining general social control, studies of social control strategies have reported fairly consistent results. Most research on control strategies has examined agents’ pressure and persuasion separately. Findings have shown that when agents exert more pressure, targets are less likely to make positive health behavior changes (Cohen & Lichtenstein, 1990; Franks et al., 2006; Tucker & Anders, 2001) and are more likely to have poorer psychological well-being (Franks et al., 2006; Tucker & Anders, 2001). Conversely, when agents exert more persuasion, targets are more likely to make positive health behavior changes (Cohen & Lichtenstein, 1990; Lewis, Butterfield, Darbes, & Johnston-Brooks, 2004; Lewis & Rook, 1999; Tucker & Anders, 2001) and are more likely to have better psychological well-being (Tucker & Anders, 2001). When the two strategies are examined simultaneously, targets remain more abstinent from health compromising behaviors over time if the ratio of pressure to persuasive control from an agent favors persuasive control (Cohen & Lichtenstein, 1990).
Most research has examined the effects of social control among healthy individuals, focusing on control’s effect on lifestyle behaviors that are thought to prevent the onset of illness (e.g., improving diet, increasing exercise, quitting smoking; Lewis & Butterfield, 2005; Tucker & Anders, 2001). More recently, studies have examined social control's effect on adherence to medical recommendations among chronically ill individuals (Fekete, Stephens, Druley & Greene, 2006; Franks et al., 2006; Helgeson, et al., 2004). Because the stakes of non-adherence in chronic illness are often high, and because patients may have difficulty or resist making substantial lifestyle changes, those in the social network of chronically ill individuals may play a crucial role in patients’ adherence.

Findings regarding social control among the chronically ill have shown that patients whose spouses engage in more social control have poorer psychological well-being and are less likely to adhere to medical recommendations. Men with prostate cancer whose wives urged them to make healthy lifestyle changes post-surgery (i.e., general social control) reported experiencing greater depression and were less adherent to medical recommendations (Helgeson et al., 2004). Likewise, patients in cardiac rehabilitation had poorer psychological well-being and were less likely to adhere to medical recommendations to the extent that their spouses attempted to influence their health behaviors by employing pressure control strategies (Franks et al., 2006). In contrast, among patients recovering from total knee replacement surgery, pressure and persuasion from the spouse were unrelated to changes in adherence to medical recommendations, although each strategy was related to less improvement in
psychological well-being (Fekete, et al., 2006). The results of this last study may differ from other studies of control in the chronically ill because it focused on social control of post-surgery adherence. Although total knee replacement surgery is often the result of a chronic illness such as arthritis, patients undergoing surgery often need to adhere to their doctor’s suggestions for only a limited amount of time. Conversely, management of illnesses such as prostate cancer and heart disease often require lifelong adherence to a doctor’s recommendations. Therefore, it may be easier for patients to ignore the spouse’s short-term control of post-surgery adherence than it is to ignore the spouse’s long-term control of chronic illness management.

Reactions to Social Control

Although most social control research has focused on the effect of control on health behaviors and psychological well-being, researchers have recently begun to examine how a target’s affective reactions to given control strategies are related to their behavioral reactions to control (Lewis & Rook, 1999; Tucker & Anders, 2001). When agents exert more pressure, targets tend to react with greater negative affect (Lewis & Rook, 1999; Tucker & Anders, 2001), whereas when agents exert more persuasion, targets react with greater positive affect (Tucker & Anders, 2001). Importantly, evidence suggests that targets’ affective reactions to control are more strongly associated with their psychological well-being and their behavioral reactions to control than are the types of control strategies spouses report exerting (Tucker & Anders, 2001). Specifically, targets tend to comply with social control attempts to the extent that their affective reactions to
control are positive, and in contrast they tend to resist to the extent they react with negative affect (Tucker & Anders, 2001).

Although targets generally react more negatively to pressure and more positively to persuasion, there appear to be large individual differences in how targets appraise agents’ control attempts. Specifically, an agent’s use of pressure has been characterized as effective by some targets and ineffective by others. A similar pattern of variability in reactions has been shown for persuasive strategies (Tucker & Mueller, 2000). This individual variation in reaction may reflect, in part, the target’s perception of the agent. It has been shown that an agent’s attempt to influence a target is more effective when the target believes the agent is likable (Roskos-Ewoldsen & Fazio, 1992) and knowledgeable (Ross, 1976). As such, the way in which a target reacts to an agent’s control attempts may be a function of the fit between the agent’s control strategy and the target’s appraisal of the agent.

The Present Study

The present study examined social control processes in older married couples in which one partner has type 2 diabetes. The overarching aims were to examine: a) associations between spouses’ control strategies, patients’ behavioral and affective reactions to these strategies and disease-related outcomes, and b) patient’s appraisal of spousal involvement as a moderator in the relationship between social control strategies and patient reactions to this control. Because adhering to a healthy diet plan is crucial in managing diabetes, this study focused on spouses’ control strategies to influence patients’ dietary choices.
In this dyadic study, spouses’ reports of the types of control they exerted (pressure and persuasion) were used to predict patients’ reports of their reactions to control (affective and behavioral) and their disease-related outcomes (dietary adherence and disease management). Pressure was operationalized as spouses’ warning about the consequences of eating an unhealthy diet, whereas persuasion was operationalized as spouses’ encouraging patients to improve dietary choices. Patient reactions to control consisted of patients’ affective and behavioral responses to each control strategy. Affective reactions to a given control strategy included negative emotions, and behavioral reactions included resistance to control attempts.

The first aim of the present study was to investigate: a) the relationship between spouses’ use of warning and encouraging and patients’ disease related outcomes; and, b) whether patients’ reactions to spousal control strategies predicted patients’ disease-related outcomes after accounting for spousal control strategies. Based on findings from prior research (Lewis & Butterfield, 2005; Lewis & Rook, 1999; Tucker & Anders, 2001), it was predicted that patients whose spouses more frequently warned them about the consequences of an unhealthy diet would have poorer disease-related outcomes. Likewise, it was predicted that those whose spouses more frequently encouraged healthy food choices would have better disease-related outcomes. After considering spouses’ use of warning and encouraging, patients who reacted more negatively to each strategy (i.e., more negative affect and more behavioral resistance) were predicted to have poorer disease-related outcomes.
The second aim was to examine whether patients’ appraisals of their spouses’ involvement in dietary management would moderate the relationship between spousal control strategies and patient reactions to control. Appraisals of spousal involvement refer to patients’ perceptions that their spouse’s involvement in the management of their diabetic diet had been helpful (referred to here as perceived helpfulness). Based on prior research (Roskos-Ewoldsen & Fazio, 1992; Ross, 1976), different predictions were made for warning and encouraging strategies. For the relationship between warning and patient reactions to control it was predicted that patients who perceived their spouse’s involvement as unhelpful would react more negatively to warning than would patients who perceived their spouse’s involvement as very helpful. That is, at low levels of helpfulness, patients would react more negatively to spouses’ use of warning, and at high levels of helpfulness, there would be no relationship between spouses’ warning and patients’ reactions. For the relationship between encouraging and patient reactions to control it was predicted that patients who perceived their spouse’s involvement as very helpful would react less negatively to encouraging than would patients who perceived their spouse’s involvement as unhelpful. That is, at high levels of perceived helpfulness, patients would react more positively to their spouses’ use of encouraging, and at low levels of helpfulness, there would be no relationship between spouses’ encouraging and patient reactions.
CHAPTER 2

Method

Participants

Couples were recruited through newspaper advertisements, free online classified advertisements, and targeted presentations at senior citizen centers in Ohio, Michigan, South Carolina, and Pennsylvania. For a couple to be deemed eligible for the study the patient had to be at least 50 years of age or older and have a medical diagnosis of type 2 diabetes. Further, the patient’s spouse could not be diagnosed with either type 1 or type 2 diabetes, and had to be residing with the patient in the community, as opposed to an assisted living center.

A total of 240 patients and spouses were screened for eligibility. Of these, two couples (1%) declined participation as one or both partners were too ill to take part in the study. Moreover, 29 couples (12%) were deemed ineligible. The most common reason for ineligibility was that both members of the couple were diagnosed with type 2 diabetes ($n = 18$; 62% of all non-eligibles).

Of 209 eligible couples, 18 (9%) did not return both questionnaires, leaving a sample of 191 couples. Because the present study focused on spouses’ use of warning and encouraging, only those couples in which patients reported that the spouse provided both types of control strategies were included in the analyses. The final sample consisted of 132 couples. Compared to patients who did not receive both types of control strategies,
patients included in the analysis were older (67.5 versus 64.7; F(1, 186) = 5.35, p<.05) and were more likely to be men (χ²(1) = 17.90, p<.001); however, those included did not differ from those who did not report receiving both control strategies in education, ethnicity, BMI, years diagnosed with diabetes, years married and quality of marriage. Spouses included in the analysis were more likely to be women (χ²(1) = 15.29, p<.001) than those not included; however, there were no differences between included and excluded spouses on measures of age, education, BMI, and quality of marriage.

Patients had a mean age of 68 years (S.D. = 7.76) and spouses had a mean age of 67 years (S.D. = 8.43). Couples had been married on average 40 years (S.D. = 12.76). In 95 couples, the husband was diagnosed with diabetes, and in 28 couples, the wife was diagnosed with diabetes. Of patients, 94% were Caucasian, 3% were African American, 2% were Hispanic, and 1% were of another ethnic background (e.g., Asian, Native American). Of spouses, 96% were Caucasian, 3% were African American, and 1% were Hispanic.

Procedure

Interested couples called the research office phone using a toll-free number and were screened for eligibility. Eligible and interested couples were then mailed a packet containing a cover letter with instructions, consent forms, and separate patient and spouse questionnaires. Upon completing both questionnaires, they returned them using an enclosed stamped envelope. Each member of the couple received $10.00 for participation.

Measures
Spousal warning and encouraging. Each patient’s spouse reported the extent to which he or she used warning and encouraging strategies to influence the patients’ dietary choices in the past month. These two strategies were assessed using items derived from prior research (Fekete et al., 2006; Lewis & Rook, 1999; Tucker & Anders, 2001). Warning was assessed as the frequency with which the spouse warned the patient about the consequences of eating an unhealthy diet as a means of influencing the patient’s dietary choices. Encouraging was assessed as the frequency with which the spouse attempted to influence the patient’s dietary choices by encouraging the patient to eat a healthier diet. Warning and encouraging were each assessed with a single item rated on a 5-point scale ranging from 0 (never) to 4 (very often (at least one time a day)). The mean frequency rating for warning was 1.59 (SD = 1.07, range = 0-4), and the mean frequency rating for encouraging was 2.01 (SD = 1.11, range = 0-4). Patients were also asked to report the extent to which their spouse used warning and encouraging strategies. The mean frequency rating for patient perceptions of warning was 2.19 (SD = 1.01, range = 1-4), and the mean frequency rating for encouraging was 2.50 (SD = .99, range = 1-4). Patient and spouse reports of spousal warning were correlated at r = .38, p < .001 and patient and spouse reports of spousal encouraging were correlated at r = .38, p <.001.

Patient negative affective reactions to control. Each patient reported the extent to which he or she reacted to the spouse’s warning and encouraging with negative affect. Negative affective reactions to warning were assessed with six items derived from previous research (Lewis & Rook, 1999; Tucker & Anders, 2001). Patients were asked to rate the extent to which, on a 6-point scale from 1 (not at all) to 6 (very much), they felt
the following emotions when their spouse warned them about the consequences of eating an unhealthy diet: 1) guilty or ashamed, 2) resentful or bitter, 3) irritated or angry, 4) loved or cared for, 5) appreciative or grateful, 6) hopeful or optimistic. Positive items were reverse-coded. An exploratory factor analysis with one factor specified was conducted on the scale items. Items that loaded above .45 on the factor were retained for the measure. Guilty or ashamed did not meet this criterion and was eliminated from the scale. Responses to the five items were summed, forming a negative affective reaction to warning scale with higher scores indicating greater negative reactions. Negative affective reactions to encouraging were assessed in the same way and had a similar factor structure. The mean for negative reactions to warning was 11.85 (SD = 4.72, range = 5 – 27, α = .72), and the mean for negative reactions to encouraging was 11.42 (SD = 4.76, range = 5 – 25, α = .75).

*Patient behavioral resistance to control.* Each patient reported the extent to which he or she reacted to the spouse’s warning and encouraging with behavioral resistance. Patient behavioral resistance to warning was assessed with three items derived from previous research (Tucker & Anders, 2001). Patients rated the extent to which, on a 6-point scale from 1 (*not at all*) to 6 (*very much*), they behaved in the following ways when their spouse warned them about the consequences of eating an unhealthy diet: 1) did the opposite of what the spouse was asking, 2) ignored their spouse’s request, and 3) hid behavior from their spouse. An exploratory factor analysis revealed one factor with an eigenvalue greater than 1.0 on which all items loaded at .45 or greater. These three items were summed, forming a behavioral resistance to warning scale with higher scores
indicating greater resistance. Behavioral resistance to encouraging was assessed in the same way and had a similar factor structure. The mean for behavioral resistance to warning was 5.18 (SD = 2.34, range = 3 – 15, α = .62) and the mean for behavioral resistance to encouraging was 4.96 (SD = 2.67, range = 3 – 17, α = .85).

*Diabetes management.* To assess diabetes management, patients were asked to report how well they were currently managing their diabetes. Responses for this one-item scale ranged from 1 (very well) to 4 (very poor). This item was reverse-coded so that higher scores indicated better diabetes management. The mean for diabetes management was 3.17 (SD = .59, range = 1 – 4).

*Patient dietary adherence.* Patients were asked to report on how well they had, in the past month: 1) eaten healthy foods that helped them manage their diabetes, 2) avoided unhealthy foods that interfered with their diabetes management, and 3) stuck to a diet that was recommended by their doctor. Responses were rated on a 4-point scale from 0 (not at all) to 3 (very much). An exploratory factor analysis revealed one factor with an eigenvalue greater than 1.0 on which all items loaded at .45 or greater. Items were summed, forming the patient dietary adherence scale. The mean for patient dietary adherence was 6.66 (SD = 1.75, range = 2 – 9, α = .75).

*Patient perception of spousal helpfulness.* Patients were asked to report on the extent to which they believed that the spouse’s involvement in their diet had been helpful during the past month. Responses for this one-item scale ranged from 1 (not at all) to 10 (very helpful). The mean perceived helpfulness was 7.81 (SD = 2.20, range = 1 – 10). Correlation coefficients between key study variables are shown in Table 1.
Analysis Plan

Prior to tests of study hypotheses, covariates were selected using a two-step process. First, potential covariates were selected by examining demographic (sex, age, race, education, income, BMI, number of children), health (dietary adherence, disease management, diabetes symptoms, overall health, comorbidity, diabetes-related anxiety, smoking/drinking status) and marital characteristic (e.g., number of years married, quality of marriage) variables that had significant bivariate correlations (p<.05) with the dependent variable in each analysis. Each dependent variable was then regressed on these potential covariates simultaneously, and those that remained significant predictors (p<.05) were retained as covariates in study analyses. Covariates in each analysis are noted in the footnotes of each table.

To address the first aim, hierarchical linear regression analysis was used to simultaneously test the effects of the two spousal control strategies and patient reactions to these strategies on disease-related outcomes. Four regression equations, two for each disease-related outcome, were computed. In the first block of each equation, covariates were entered; in the second block, a given the spousal control strategy (either warning or encouraging) was entered; and in the third block, patient reactions to the focal control strategy were entered (e.g., if warning was entered in the second block, patient affective and behavioral reactions to warning were entered in the third block). Spousal warning and encouraging were positively correlated (r = .67). Therefore, in order to determine the specific effects of each strategy, when one strategy was entered as a predictor, the effects of the other were controlled by entering it as a covariate.
<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
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<tbody>
<tr>
<td>1. Spousal Warning</td>
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<tr>
<td>2. Spousal Encouraging</td>
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<tr>
<td>3. Patient Report of Spousal Warning</td>
<td>.38***</td>
<td>.32***</td>
<td>—</td>
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<tr>
<td>4. Patient Report of Spousal Encouraging</td>
<td>.37***</td>
<td>.38***</td>
<td>.72***</td>
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<tr>
<td>5. Patient Negative Affect Re: Warning</td>
<td>.07</td>
<td>.02</td>
<td>.10</td>
<td>-.01</td>
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<tr>
<td>6. Patient Negative Affect Re: Encouraging</td>
<td>.12</td>
<td>.06</td>
<td>.11</td>
<td>-.03</td>
<td>.83***</td>
<td>—</td>
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<tr>
<td>7. Patient Resistance Re: Warning</td>
<td>.15</td>
<td>.10</td>
<td>.20*</td>
<td>.06</td>
<td>.43***</td>
<td>.37***</td>
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<tr>
<td>8. Patient Resistance Re: Encouraging</td>
<td>.20*</td>
<td>.12</td>
<td>.27**</td>
<td>.15</td>
<td>.48***</td>
<td>.50***</td>
<td>.78***</td>
<td>—</td>
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<tr>
<td>9. Diabetes Management</td>
<td>-.14</td>
<td>-.18</td>
<td>-.15</td>
<td>-.13</td>
<td>-.25**</td>
<td>-.25**</td>
<td>-.28***</td>
<td>-.37***</td>
<td>—</td>
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<tr>
<td>10. Dietary Adherence</td>
<td>-.20*</td>
<td>-.05</td>
<td>-.10</td>
<td>-.11</td>
<td>-.20*</td>
<td>-.31***</td>
<td>-.14</td>
<td>-.37***</td>
<td>.43***</td>
<td>—</td>
<td></td>
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<tr>
<td>11. Perceived Helpfulness</td>
<td>.03</td>
<td>.23**</td>
<td>.15</td>
<td>.18*</td>
<td>-.34***</td>
<td>-.27**</td>
<td>-.21*</td>
<td>-.28**</td>
<td>.23**</td>
<td>.41***</td>
<td>—</td>
</tr>
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</table>

*p<.05, **p<.01, ***p<.001
To address the second aim, moderated multiple regression analysis was used (Baron & Kenny, 1986). One equation was computed for each of the four outcome variables (negative affective reaction to warning, negative affective reaction to encouraging, behavioral reactions to warning, and behavioral reactions to encouraging). After entering covariates in the first block, followed by perceived helpfulness and the spousal control strategy in the second block, the interaction term (the product of perceived helpfulness and the spousal control strategy) was entered in the third block. Perceived helpfulness and the spousal control strategy were centered before creating the interaction term to decrease the likelihood of multicollinearity between the interaction term and its components (Aiken & West, 1991; Jaccard et al., 1990). Again, because warning and encouraging were positively correlated, when one strategy was entered as a predictor the other was entered as a covariate.

Decomposition analyses were conducted for each interaction term that was a significant predictor of the outcome (p < .05; Aiken & West, 1991; Jaccard et al., 1990). The slopes of the spousal control strategy on patient reactions to control at high and low levels of perceived helpfulness were examined using unstandardized regression coefficients. High and low levels of the moderator were defined as one standard deviation above and below the mean, respectively.
CHAPTER 3

Results

Effects of Spousal Control Strategies and Patients’ Reactions to Control

As shown in bold type in Table 2, greater spousal warning predicted poorer dietary adherence ($\beta = -.37, p < .001$), and greater spousal encouraging predicted better adherence ($\beta = .23, p < .05$). Contrary to the hypotheses, neither spousal warning nor spousal encouraging was related to diabetes management. Displayed in the top half of Table 2, neither negative affective reactions to warning nor resistance to warning were related to patient dietary adherence or diabetes management. The bottom half of Table 2 reveals that behavioral resistance to encouraging was inversely related to both dietary adherence ($\beta = -.25, p < .01$) and diabetes management ($\beta = -.23, p < .05$). In contrast, negative affective reactions to encouraging was not related to dietary adherence or to diabetes management.

To address the possibility that this pattern of findings was due to social control, per se (i.e., regardless of the source of the report) rather than only the spouse’s provision of social control, a second set of analyses was conducted. The analyses shown in Table 2 were conducted again with the exception that patients’ reports of spousal warning and encouraging were substituted for spouse’s reports of these control strategies. Results (not shown in the table) indicated that patient perceptions of spousal warning were not related to dietary adherence ($\beta = -.01, p = \text{ns}$) or to disease management ($\beta = .05, p = \text{ns}$). Similarly, patient perceptions of spousal encouraging were not related to dietary
Table 2

Regression Analyses Predicting Patient Disease Outcomes From Spouses’ Warning And Encouraging And From Patients’ Affective And Behavioral Reactions To Spousal Control (N = 132)

<table>
<thead>
<tr>
<th>Predictors:</th>
<th>Patient Outcomes</th>
<th>Dietary Adherence</th>
<th>Diabetes Management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Beta (SE)</td>
<td>Beta (SE)</td>
</tr>
<tr>
<td>Spousal Control Strategies(^a):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spousal Warning</td>
<td>-.37*** (.18)</td>
<td>-.05 (.01)</td>
<td></td>
</tr>
<tr>
<td>Patient Reaction to Warning:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>-.08 (.03)</td>
<td>-.06 (.01)</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>-.06 (.07)</td>
<td>-.12 (.02)</td>
<td></td>
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<tr>
<td>Spousal Control Strategies(^b):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spousal Encouraging</td>
<td>.23* (.17)</td>
<td>.00 (.06)</td>
<td></td>
</tr>
<tr>
<td>Patient Reaction to Encouraging:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Negative Affect</td>
<td>-.09 (.03)</td>
<td>.02 (.01)</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>-.25** (.06)</td>
<td>-.23* (.02)</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\)Dietary Adherence equation controls for spousal encouraging and patient diabetes symptoms; Diabetes Management equation controls for spousal encouraging, patient adherence, and patient diabetes symptoms.

\(^b\)Dietary Adherence equation controls for spousal warning and patient diabetes symptoms; Diabetes Management equation controls for spousal warning, patient adherence, and patient diabetes symptoms.

\(*p<.05, **p<.01, ***p<.001.\)
adherence ($\beta = -.13, p = \text{ns}$) or disease management ($\beta = -.05, p = \text{ns}$).

*Moderating Effects of Perceived Helpfulness*

As shown in the top half of Table 3, moderated regression analysis revealed a significant interaction between perceived helpfulness and warning in predicting negative affective reactions to warning ($\beta = -.23, p < .01$) as well as behavioral resistance to warning ($\beta = -.20, p < .05$). Figure 1 shows that the slope of patient negative affective reaction to warning on spousal warning was significantly different from 0 at low levels of perceived helpfulness ($t(128) = 1.73, p < .05$) but not at high levels. These findings reveal that at low levels of helpfulness, greater spousal warning was associated with greater patient negative affective reactions to warning. However, at high levels of helpfulness, greater spousal warning was not associated with patient negative affective reactions to warning. Figure 2 shows that the slope of patient behavioral resistance to warning on spousal warning was significantly different from 0 at low levels of perceived helpfulness ($t(128) = 1.88, p < .05$) but not at high levels. These findings reveal that at low levels of helpfulness, greater spousal warning was associated with greater patient resistance. However, at high levels of helpfulness, greater spousal warning was not associated with patient resistance.

As shown in the bottom half of Table 3, moderated regression analysis revealed a significant interaction between perceived helpfulness and spousal encouraging in predicting patients’ negative affective reactions to encouraging ($\beta = -.22, p < .01$) as well as patients’ behavioral resistance to encouraging ($\beta = -.28, p < .001$). Figure 3 shows that the slope of patients’ negative affective reactions was significantly different from 0 at
Table 3

Moderated Regression Analyses Predicting Patient Reactions To Control From The Interaction Of Patients’ Perceived Spousal Helpfulness And Spouses’ Use Of Warning And Encouraging (N = 132)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Patient Negative Affective Reaction to Control</th>
<th>Patient Resistance To Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta (SE)</td>
<td>Beta (SE)</td>
</tr>
<tr>
<td>Spousal Warning</td>
<td>-.36*** (.19)</td>
<td>-.20* (.10)</td>
</tr>
<tr>
<td>Perceived Helpfulness</td>
<td>.03 (.50)</td>
<td>.07 (.25)</td>
</tr>
<tr>
<td>Spousal Warning</td>
<td>-.23** (.16)</td>
<td>-.20* (.08)</td>
</tr>
<tr>
<td>Helpfulness X Warning</td>
<td>.17</td>
<td>.16</td>
</tr>
<tr>
<td>Total R²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spousal Encouraging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Helpfulness</td>
<td>-.27** (.21)</td>
<td>-.24** (.11)</td>
</tr>
<tr>
<td>Spousal Encouraging</td>
<td>.17 (.51)</td>
<td>.18 (.27)</td>
</tr>
<tr>
<td>Helpfulness X Encouraging</td>
<td>-.22** (.17)</td>
<td>-.28*** (.09)</td>
</tr>
<tr>
<td>Total R²</td>
<td>.18</td>
<td>.31</td>
</tr>
</tbody>
</table>

aNegative affective reaction equation controls for spousal encouraging; patient resistance equation controls for spousal encouraging and patient diabetes management.
bNegative affective reaction equation controls for spousal warning and patient dietary adherence; patient resistance equation controls for spousal warning, patient diabetes management, patient dietary adherence, and patient diabetes-related anxiety.

*p<.05, **p<.01, ***p<.001.
Figure 1. Perceived helpfulness as a moderator of spousal warning in the prediction of patient negative affective reaction to warning.

Figure 2. Perceived helpfulness as a moderator of spousal warning in the prediction of patient resistance to warning.
Figure 3. Perceived helpfulness as a moderator of spousal encouraging in the prediction of patient negative affective reaction to encouraging.
low levels of perceived helpfulness ($t(128) = 2.36, p<.01$) but not at high levels. These findings reveal that at low levels of helpfulness, greater spousal encouraging was associated with significantly greater negative affective reactions, but that at high levels of helpfulness, spousal encouraging was unrelated to negative affective reactions. Figure 4 shows that the slope of patients’ behavioral resistance was significantly different from 0 at low levels of perceived helpfulness ($t(128) = 3.01, p<.01$) but not at high levels. These findings reveal that at low levels of helpfulness, greater spousal encouraging was associated with significantly greater behavioral resistance, but that at high levels of helpfulness, spousal encouraging was unrelated to behavioral resistance.

Table 3 also shows that there were significant main effects of perceived helpfulness, even after accounting for the effects of spousal warning and encouraging, and the interaction of perceived helpfulness and the focal control strategy. Greater perceived helpfulness was associated with less negative affective reactions to both warning ($\beta = -.36, p<.001$) and encouraging ($\beta = -.27, p<.01$). Further, greater perceived helpfulness was associated with less resistance to warning ($\beta = -.20, p<.05$) and encouraging ($\beta = -.24, p<.01$). No significant main effects were found for spousal warning or encouraging on patient affective and behavioral reactions to each control strategy.
Figure 4. Perceived helpfulness as a moderator of spousal encouraging in the prediction of patient resistance to encouraging.
CHAPTER 4

Discussion

The present study reveals the complexity of the relationship between spousal control strategies and patient health outcomes. Specifically, the extent to which diabetic patients’ adhere to a diet recommended by a physician is associated not only with the types of strategies exerted by the spouse to regulate patient’s food choices, but also by the way in which patients react to spousal control. Further, the extent to which patients react negatively to spouses’ control depends, in part, on patients’ appraisal of the spouses’ involvement.

Regarding the first aim of the study, it was predicted that spousal control through warning and encouraging would be associated with disease-related outcomes, but in differing directions (Lewis & Rook, 1999; Tucker & Anders, 2001). Consistent with this hypothesis, patients whose spouses reported exerting warning more often had poorer dietary adherence, whereas those whose spouses reported exerting encouraging more often had better dietary adherence. Neither warning nor encouraging was related to diabetes management, findings that were inconsistent with the hypothesis.

One explanation for the links between spousal control of dietary choices and patient dietary adherence but not patient diabetes management may lie in the specificity of the controlling behaviors assessed. Although making good dietary choices is an important part of diabetes management, it is one of many behaviors often recommended
to successfully manage the disease. Other recommendations may include increasing exercise and beginning a medication regimen. Therefore, it is possible that spousal control of one important health behavior (dietary choices) was not related to overall diabetes management because diet-specific control attempts did not generalize to other behaviors required for successful diabetes management.

It was predicted that, after considering the effects of spousal warning and encouraging, patients reacting to each control strategy with greater negative affect and more resistance would have poorer disease-related outcomes. As predicted, findings revealed that patients who were more resistant to their spouse’s encouragement had poorer dietary adherence and were less likely to be managing their diabetes well. It is likely that patients who resisted this form of spousal control had poorer disease related outcomes because they were less likely to make appropriate dietary changes.

Contrary to predictions, negative affective reactions to warning and encouraging and resistance to warning were unrelated to both indicators of disease outcomes. A possible explanation for this pattern of results is that the types of control to which patients were reacting were not the same control attempts reported by spouses. That is, although patients’ and spouses’ reports of spousal warning and encouraging corresponded to a significant degree ($r = .38$ and $r = .38$, respectively), these reports contained a considerable amount of unique variance. Moreover, patients’ reports of warning and encouraging were unrelated to disease outcomes. These findings suggest that patients considered different actions from the spouse when reporting their reactions to control. As
such, these reactions (as with patients’ reports of spousal control) were unrelated to diabetes outcomes.

A possible explanation for the finding that spousal control, but not patient perceptions of control, was associated with dietary adherence is that certain aspects of spouses’ influence attempts were not encoded as influence by the patients. Previous research has suggested that support provided by a spouse that goes unnoticed by the recipient (i.e., invisible support) is more effective than that which the recipient encodes as support (Bolger, Zuckerman, & Kessler, 2000). It is speculated that perceived support draws a recipient’s attention to the condition for which support is required, thereby increasing negative affect and diminishing the support’s effectiveness (Bolger et. al, 2000). In the present study, it may be that encouragement reported by spouses included effective regulation that promoted adherence without drawing patients’ attention to the poor dietary choices they were making. Likewise, unnoticed warning may have been associated with poorer dietary adherence because patients did not encode spousal warning as control but as a different type of negative interaction (i.e., nagging, teasing). Finally, most of the patients in the present study were men. Therefore, it may be that the majority of patients did not notice that their wives were controlling their diets by making subtle changes to the foods they prepared.

Regarding the second aim of the study, it was predicted that patient reactions to spousal control would be a function of the fit between the strategies exerted by the spouse and the patient’s perception of the helpfulness of the spouse’s involvement in their dietary choices. As hypothesized, patients who perceived the spouse’s involvement in the
diet as not very helpful reacted to spousal warning with greater negative affect and more behavioral resistance; and among those who perceived the spouse’s involvement as very helpful, there was no relationship between the spouse’s use of warning and patients’ affective and behavioral reactions. Contrary to hypotheses however, the results for spousal encouragement were similar (rather than opposite) to those for warning. Patients who perceived the spouse’s involvement as not very helpful reacted to spousal encouraging with greater negative affect and more behavioral resistance, but when spousal involvement was perceived to be helpful, greater spousal encouraging was unrelated to patient affective and behavioral reactions.

Results indicated that, when spouses’ involvement in patients’ diet is perceived to be unhelpful, the use of either type of control strategy is associated with negative patient reactions to control. Prior research may help explain these findings. Specifically, research has shown that when a spouse’s attempts to aid the patient’s recovery are perceived as unhelpful patients have lower self-esteem and have a more negative perception of the spouse (Clark & Stephens, 1996). In the present study, patients who perceived the spouse to be less helpful may have had a poorer sense of self worth, which lead to more negative affect and greater resistance to spousal control attempts.

Another potential explanation for these findings is that patients who appraised their spouse’s involvement as unhelpful felt incapable of making appropriate and independent dietary choices. Help that restricts an individual’s sense of autonomy is likely to be viewed negatively by the recipient (Fisher, Nadler, & Whitcher-Alagna, 1982). When a person’s autonomy is restricted they are more likely to react with negative
affect (Ryan & Deci, 2000) and they may attempt to regain a sense of independence by resisting those who attempt to limit their choices (Brehm & Brehm, 1981). Therefore, a lack of autonomy may have driven patients in the present study to react with increased negative affect and greater resistance.

Among patients who perceived the spouse's involvement in their diet to be very helpful, there was no relationship between the spouse's use of warning or encouraging and patient negative affective reactions or resistance. Prior research has shown that patients who perceive their spouses' assistance as more helpful have better marital relationships (Clark & Stephens, 1996), and those with better relationships are more likely to focus on the positive qualities in their partners' less desirable attributes (Murray & Holmes, 1999). In the present study, patients who believed their spouse's involvement to be helpful may have been able to refrain from reacting negatively to spousal control because they focused on the positive intentions of their spouse. For example, a patient who appraised the spouse’s involvement as helpful may have considered their spouse’s control as motivated by genuine concern for the patient’s health rather than by the desire to restrict autonomy.

Despite its strengths, the present research has a number of limitations. One limitation is that several of the study constructs were assessed with a single item. One-item measures are less reliable than multi-item scales and may under represent the constructs they are intended to represent. It should be noted, however, that these measures yielded a number of findings consistent with study predictions. As such, scales
with greater reliability and validity may have strengthened the findings reported in this study.

Another limitation is that the cross-sectional nature of the study limits inferences about causal ordering. For example, it is not known whether patient reactions to control and appraisals of spousal involvement precede disease-related outcomes as we predicted, or whether the process works in the opposite direction. It is possible that patients with poorer adherence and diabetes management react more negatively to spousal control. Consistent with this example, a review of the literature suggested that when patients resist their spouse’s involvement, the spouse may exert greater influence in an attempt to improve the patient’s adherence (Coyne, Wortman, & Lehman, 1988). The present cross-sectional study cannot fully explore the causal ordering of spousal control, patient disease-related outcomes, patient negative affect, and patient behavioral resistance. More complex studies that employ longitudinal designs or daily diary assessments may be useful in further elucidating these relationships.

The present study is also limited in that the constructs of pressure and persuasion each consisted of only one strategy. Specifically, pressure was operationalized as the extent to which spouses warned patients about the consequences of eating an unhealthy diet and persuasion was operationalized as the extent to which spouses encouraged patients to make healthy dietary choices. However, research has shown that when spouses exert social control, they typically utilize a variety of pressure and persuasion strategies (Tucker & Mueller, 2000). It may be that the spouses in the present study were more likely to exert pressure and persuasion strategies not examined in the present study.
Further, patients may have had stronger or weaker reactions to unmeasured pressure and persuasion strategies. Future research should employ multifaceted indicators of pressure and persuasion.

The lack of ethnic and racial diversity in the study is a further limitation to the present research. A recent study found that African-Americans and Mexican Americans are twice as likely to be diagnosed with diabetes as are non-Hispanic whites (Cowie et al, 2006). As the majority of the sample in the present study consisted of non-Hispanic whites, the extent to which these findings would generalize to other racial and ethnic populations is unknown. Furthermore, the present study examined social control only within the context of diabetes, limiting the extent to which these conclusions can be extended to healthy couples and couples coping with other chronic illnesses.

It should also be noted that all participants in the present study volunteered to participate after taking the initiative to respond to advertisements and presentations. These participants, then, may have characteristics different from those recruited by other methods where such initiative is not required (i.e., random-digit dialing). It has been shown that, compared to individuals whose participation was initiated by the researchers, those who self-initiate participation in research are healthier and better educated (Ganguli, Lytle, Reynolds, & Dodge, 1998). As such, it is possible that the volunteers in the present study were healthier and more educated about their diabetes than those who did not take the initiative to volunteer. In order to better understand the effects of social control on the general population, future research should rely less upon classified
advertisements and targeted presentations and strive to employ more diverse recruitment strategies such as random digit dialing.

Results of the present study contribute to the growing literature on the differential effects of health-related social control strategies among married couples in at least three ways. First, although other works have either employed a dyadic design or studied the differential effects of pressure and persuasion strategies within the context of chronic illness, the present study is the first to incorporate both. As such, the present study was able to demonstrate that spousal reports of pressure and persuasion were related to patient reports of dietary adherence, but in opposite directions. Second, it was shown that spousal control strategies were associated with disease-related outcomes, but that patient perceptions of control strategies were not. This finding suggests that unnoticed control might be more potent than the control patients perceive.

Finally, the present study extends the current literature by examining the importance of the patient’s appraisals of spousal involvement. By taking the patient’s appraisal of spousal involvement into consideration, it was demonstrated that both pressure and persuasion, when deemed not very helpful, are associated with negative reactions. However, when involvement is deemed to be helpful, neither the strategy nor the frequency with which the strategy is used is associated with negative patient reactions. Thus, the present study provides evidence that, as long as spouses exert persuasion control or are involved in the patient’s diet in a helpful way, spousal influence may work to improve the health of their diabetic partners without having a negative effect on well-being.


*Social Science Medicine, 14*, 907-917.
Appendix A

Spouse Study Measures and Instructions
As you know, the main purpose of our study is to gain a greater understanding of how diabetes affects the lives of married couples. This packet contains questions about your general health, your moods, and your emotions. It also asks questions about your wife’s health and things that you may or may not do to help her manage her diabetes-related food choices (i.e., her diet).

When we refer to **eating a healthy diet**, we are referring to eating such foods as fruits, vegetables, whole grain breads, poultry, and other foods that are recommended by your wife’s doctor or health care provider.

When we refer to **eating an unhealthy diet**, we are referring to such foods as fried foods or foods that are high in fat, sugary foods and drinks, candy, and other foods that your wife’s doctor or health care provider recommends that she avoid.

Please try your best to complete each question by circling the one number that best describes your answer.

1 Questionnaires were modified to spouses’ gender.
TYPES OF SPOUSAL INVOLVEMENT

QUESTIONS ON THE NEXT FEW PAGES ASK ABOUT VARIOUS WAYS YOU MAY HAVE TRIED TO INFLUENCE YOUR WIFE’S DIETARY CHOICES. THESE STRATEGIES INCLUDE WARNINGS AND ENCOURAGEMENT ABOUT HIS FOOD CHOICES, AS WELL AS SHARING IN AND RESTRICTING THESE CHOICES.

WARNING

Husbands sometimes try to warn their wives about the consequences of eating an unhealthy diet. For example, a husband might tell his wife that if she does not eat right, she will become very sick. In these next questions, think about the warnings you have tried to give your wife about the consequences of eating an unhealthy diet.

1. Describe what you said or did to try to warn your wife about the consequences of eating an unhealthy diet.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. How often, IN THE PAST MONTH, have you tried to warn your wife about the consequences of eating an unhealthy diet?

<table>
<thead>
<tr>
<th>Code</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Never</td>
</tr>
<tr>
<td>1</td>
<td>Not Very Often (A Few Times in the Past Month)</td>
</tr>
<tr>
<td>2</td>
<td>Occasionally (Once a Week)</td>
</tr>
<tr>
<td>3</td>
<td>Often (Three or Four Times a Week)</td>
</tr>
<tr>
<td>4</td>
<td>Very Often (At Least One Time A Day)</td>
</tr>
</tbody>
</table>
ENCOURAGEMENT

Husbands sometimes try to encourage their wives to eat a healthier diet. For example, a husband might reassure his wife that she has the ability to make healthy food choices. In these next questions, think about your attempts to try to encourage your wife to eat a healthier diet.

1. Describe what you said or did to try to encourage your wife to eat a healthier diet.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

2. How often, IN THE PAST MONTH, have you tried to encourage your wife to eat a healthier diet?

   0………. Never
   1………. Not Very Often (A Few Times in the Past Month)
   2………. Occasionally (Once a Week)
   3………. Often (Three or Four Times a Week)
   4………. Very Often (At Least One Time A Day)
Appendix B

Patient Study Measures and Instructions
As you know, the main purpose of our study is to gain a greater understanding of how diabetes affects the lives of married couples. This packet contains questions about your general health, your moods, and your emotions. It also asks questions about things that your husband may or may not do to help you manage your diabetes-related food choices (i.e., your diet).

When we refer to **eating a healthy diet**, we are referring to eating such foods as fruits, vegetables, whole grain breads, poultry, and other foods that are recommended by your doctor or health care provider.

When we refer to **eating an unhealthy diet**, we are referring to such foods as fried foods or foods that are high in fat, sugary foods and drinks, candy, and other foods that your doctor or health care provider recommends that you avoid.

Please try your best to complete each question by circling the one number that best describes your answer.

\[ Questionnaires \text{ were modified to patients' gender.} \]
3. How did you respond when your husband tried to warn you about the consequences of eating an unhealthy diet?

[If your husband did not try to warn you in the past month, please answer according to how you think you would have responded if your husband had tried to warn you]

I ……

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Not At All</th>
<th>Moderately</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt Loved/ Cared For</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Felt Resentful/ Bitter</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Felt Appreciative/ Grateful</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Felt Irritated/ Angry</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Felt Hopeful/ Optimistic</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ignored her request</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Did the opposite of what she wanted you to do</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hid or disguised your eating behavior</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
3. How did you respond when your husband tried to encourage you to eat a healthier diet?

[If your husband did not try to encourage you in the past month, please answer according to how you think you would have responded if your husband had tried to encourage you]

I …..

<table>
<thead>
<tr>
<th></th>
<th>Not At All</th>
<th>Moderately</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Felt Loved/ Cared For</td>
<td>1</td>
<td>2</td>
<td>3 4 5 6</td>
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<tr>
<td>Felt Resentful/ Bitter</td>
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<td>2</td>
<td>3 4 5 6</td>
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<tr>
<td>Felt Appreciative/ Grateful</td>
<td>1</td>
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<td>3 4 5 6</td>
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<tr>
<td>Felt Irritated/ Angry</td>
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<tr>
<td>Felt Hopeful/ Optimistic</td>
<td>1</td>
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<td>Ignored her request</td>
<td>1</td>
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<td>3 4 5 6</td>
</tr>
<tr>
<td>Did the opposite of what she wanted</td>
<td>1</td>
<td>2</td>
<td>3 4 5 6</td>
</tr>
<tr>
<td>Hid or disguised your eating</td>
<td>1</td>
<td>2</td>
<td>3 4 5 6</td>
</tr>
</tbody>
</table>
DIABETES MANAGEMENT

1. How well do you think that you are managing your diabetes?
   1. Very Well
   2. Fairly Well
   3. Fairly Poor
   4. Very Poor

DIETARY CHOICES

(PATIENT ADHERENCE)

The next three questions ask about the choices you have made regarding your diabetic diet.

To what extent have you done each of the following IN THE PAST MONTH to manage your diet as recommended by your doctor or health care provider.

1. Ate healthy foods that helped you manage your diabetes.

   0……….Not At All
   1……….A Little
   2……….Somewhat
   3……….Very Much

2. Avoided unhealthy foods that interfered with your diabetes management.

   0……….Not At All
   1……….A Little
   2……….Somewhat
   3……….Very Much

3. Stuck to a diet that was recommended by your doctor or health care provider.

   0……….Not At All
   1……….A Little
   2……….Somewhat
   3……….Very Much
SPOUSAL INVOLVEMENT IN DIETARY CHOICES  
(PERCIEVED HELPFULNESS) 

1. How helpful was the amount of involvement your husband provided? 

1 2 3 4 5 6 7 8 9 10  
Very Unhelpful Very Helpful
Appendix C

Informed Consents
Patient Consent Form: Understanding Couples Coping with Diabetic Diet

We want to do research on couples coping with Type 2 Diabetes. We are interested in this because the number of adults diagnosed with Type 2 Diabetes is increasing every year. We would like you to take part in this project. If you decide to do this, you will be asked to fill out a questionnaire booklet that will ask you questions about your diabetes related diet, and some of your thoughts and feelings about living with Type 2 Diabetes. The enclosed questionnaire will take you approximately one hour to complete. We have provided a postage-paid envelope for you to mail the completed booklet and this consent form back to us.

There is minimal risk associated with your participation in this study. There is no physical risk associated with participating in this study. Some people may feel uncomfortable answering some of the questions that we ask, while others may find answering the questions to be helpful.

If you take part in this study, your name will in no way be linked to any information that you give to us and, you will receive $10.00 for your participation. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you do take part, you may stop at anytime. Also, you have the right to refuse to answer any question if you feel that it is too uncomfortable or wish not to answer it.

If you want to know more about this research study, please call our research office at 1-866-820-6422. This study has been approved by Kent State University. If you have any question about Kent State University’s rules for research, please call Dr. John West, interim Vice President and Dean, Division of Research and Graduate Studies (Tel. 330-672-3012).

If you agree to participate, please sign one of the enclosed consent forms and return it with your questionnaire booklet. You may keep the other enclosed consent form for your records.

Sincerely,

Mary Ann Parris Stephens, Ph.D.
Principal Investigator
Kent State University

I agree to take part in this project. I know what I will have to do, and that I can stop at any time.

__________________________________________________________________________
Signature       Date
Spouse Consent Form: Understanding Couples Coping with Diabetic Diet

We want to do research on couples coping with Type 2 Diabetes. We are interested in this because the number of adults diagnosed with Type 2 Diabetes is increasing every year. We would like you to take part in this project. If you decide to do this, you will be asked to fill out a questionnaire booklet that will ask you questions about your spouses’ diabetes related diet, and some of your thoughts and feelings about living with a spouse who has Type 2 Diabetes. The enclosed questionnaire will take you approximately one hour to complete. We have provided a postage-paid envelope for you to mail the completed booklet and this consent form back to us.

There is minimal risk associated with your participation in this study. There is no physical risk associated with participating in this study. Some people may feel uncomfortable answering some of the questions that we ask, while others may find answering the questions to be helpful.

If you take part in this study, your name will in no way be linked to any information that you give to us and, you will receive $10.00 for your participation. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you do take part, you may stop at anytime. Also, you have the right to refuse to answer any question if you feel that it is too uncomfortable or wish not to answer it.

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If you agree to participate, please sign one of the enclosed consent forms and return it with your questionnaire booklet. You may keep the other enclosed consent form for your records.

Sincerely,

Mary Ann Parris Stephens, Ph.D.
Principal Investigator
Kent State University

I agree to take part in this project. I know what I will have to do, and that I can stop at any time.

__________________________   _________________________
Signature                  Date