

LONG-TERM EFFECTS OF SPOUSAL SUPPORT ON COPING WITH CANCER AFTER SURGERY

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The possible influence of spousal support on patient characteristics is examined within a longitudinal research design to assess coping and adjustment of 108 patients after tumor surgery. Spouses are regarded as key sources within the patients' support networks. Their extension of emotional, instrumental, and informational support may improve coping attempts, such as accommodation, downward comparison, fighting spirit, or search for meaning. The analysis was performed in a time-lagged fashion, with spousal support reported 1 month after surgery and patient variables reported 6 months after surgery. Received support and coping were associated with earlier spousal support, but this partner effect emerged only for the subsample of dyads with female patients and male partners. Results are discussed with respect to gender differences and recent advances in the field of dyadic coping.

In the context of dyadic coping with a critical life event, the present study mainly addresses three questions: (a) Can cancer patients' *received* social support be predicted by *provided* support, as reported by their spouses five months earlier? (b) Can cancer patients' *coping* be predicted by *provided support*, as reported by their spouses five months earlier? (c) Are these relationships different for two subgroups of partner-patient

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dyads, that is, are such associations the same for *male patient—female partner* as for *female patient—male partner* dyads? This study attempts to contribute to our understanding of support transfer processes in couples during times of crisis. Previous research on this topic has not always been longitudinal, and it has often failed to include the intimate partners of patients, thus relying only on patients' self-reports. The present study addresses this topic by repeatedly examining patients within half a year after tumor surgery and by using couples as the unit of analysis.

INTRODUCTION

Social support plays a role in coping with severe health conditions, such as myocardial infarction and cancer, and in the recovery phase (Revenson, 1994; Schwarzer, Knoll, & Rieckmann, 2004; Wills & Filer Fegan, 2001). Social support has been defined in various ways. For example, it may be regarded as resources provided by others, as coping assistance, or as an exchange of resources. Several types of social support have been investigated, such as instrumental (e.g., assist with a problem), tangible (e.g., donate goods), informational (e.g., give advice), and emotional (e.g., give reassurance), among others. A distinction is made between provided support and received support. Both are self-reported accounts of social interactions within a given time period. These two constructs need not necessarily have much in common. They can be closely related, but they may also be unrelated, depending on the research context (Cohen & Wills, 1985; Schwarzer, Dunkel-Schetter, & Kemeny, 1994; Thoits, 1986; Vaux, 1988).

Studies among patients have found social support to be beneficial for recovery from surgery. Some researchers have focused on the mere existence of social networks, whereas others have examined perceived or actually received social support. Kulik and Mahler (1989), for example, studied men who underwent coronary artery bypass graft surgery. Husbands whose wives visited them often in the hospital were, on average, released sooner than those who received only few visits. In a longitudinal study, the same authors also found that emotional support from spouses facilitated recovery from surgery (Kulik & Mahler, 1993). Other researchers obtained similar results (Fontana, Kerns, Rosenberg, & Colonese, 1989). King, Reis, Porter, and Norsen (1993) found that perceived availability of support was associated with emotional and functional improvement up to a year following coronary artery surgery. In particular, esteem support (that one is respected and valued by others) appeared to be related to improved health over the follow-up period. Social support operates best when matched to the particular situation at hand (Wills & Filer Fegan, 2001). Emotional support, for ex-

ample, may be beneficial for recovery from surgery because it can instill optimistic self-beliefs in a mildly depressed patient and can encourage the patient to cope with discomfort and relapses. In contrast, instrumental support might be best when patients are in need of goods or services.

Close network members of patients make a difference in how patients adjust to their disease, depending on their social interaction (Bodenmann, 1997, 2001; Coyne & Fiske, 1992; Coyne & Smith, 1991). Marital satisfaction is related to cancer patients' well-being and received support (Hagedoorn et al., 2000; Kuijer et al., 2000). Helgeson (1993) found that patients' perceived availability of information support was a good predictor of recovery. Negative marital interaction predicted poor adjustment, and spousal disclosure predicted patients' life satisfaction.

In our previous research, patients undergoing coronary artery bypass graft surgery were surveyed before the operation and one week afterward (Schröder, Schwarzer, & Konertz, 1998). Presurgical social integration and social support were examined along with ways of coping. It was found that these social resources predicted recovery. Having a partner was associated with more activities in the days following surgery, such as reading, washing oneself, ambulating, and exercising. Moreover, coping mediated presurgery resources and postsurgery readjustment. In the same study, spouses reported their own perceived support (Schröder, Schwarzer, & Endler, 1997). Characteristics of spouses were related to those of patients. Recovery from surgery and readjustment to normal life after half a year could be partly predicted by spouses' social support.

The diagnosis and treatment of cancer is a special challenge to the dyad of patients and their partners. Fear of prolonged suffering, painful treatment, removal of body parts (e.g., breast, colon), and fear of death are not limited to the time around surgery. Often an acute situation turns into a chronic state when treatment fails or the side effects of surgery and therapy lead to severe impairment. Even successful curative surgery leaves both the patient and the family with uncertainty. They live with a constant threat of recurring cancer at the same or different tumor sites. In these times of need, the partner plays an important role in the patient's adjustment to the illness (Primono, Yates, & Woods, 1990; Rowland, 1990). Several studies have aimed at the detection of mechanisms through which spousal or family support facilitates adaptation and recovery. Social support may unfold its beneficial potential through the influence on the patient's coping process. Recent studies provide empirical evidence for this pathway. Manne, Pape, Taylor, and Dougherty (1999) found that spousal support was associated with positive mood

through optimistic coping by the patient, but spousal criticism was linked to negative mood through avoidance coping.

Effects of partner support may differ for men or women patients because substantial gender differences have been documented in the literature on social support. Women tend to have larger and tighter networks that enable them to seek support from many sources, whereas men often rely solely on their spouses as the support provider (Glynn, Christenfeld, & Gerin, 1999; Greenglass, 1982; Hobfoll, 1986, 1998; Klauer & Winkeler, 2002; Knoll & Schwarzer, 2002). Men usually confide in their spouses as their only intimate partners; women cultivate a tighter network of family members and friends to whom they find it easy to turn in times of need. This higher social integration and support in women may buffer the stressful experience of surgery even if their husbands appear to be unsupportive. Thus, although men and women both benefit from social support in times of crisis, they may do so to a different degree, and their sources may be different. Therefore, it is of interest to identify particular sources. In the present study, only intimate partners were considered. The question is raised whether men and women benefit in the same way from their partners.

RESEARCH QUESTIONS

The general aim is to investigate whether received support as well as patients' coping can be predicted by partner support that was provided at an earlier point in time. Is there a relationship at all, and, if so, is this association equally close in both kinds of dyads (male patient—female partner and vice versa)? The first research question aims at the *prediction of received support*. Do patients receive support that is in line with the self-reports of support provided by their partners? The second question addresses the *prediction of coping* by the patient. Do patients display higher coping scores when partners say they have supported them? To address these two issues, a time lag must be created between provision and receipt because the extension of support needs time to have an effect on the patient. The third question is whether these relationships are different for two subgroups of partner–patient dyads, that is, are such associations the same for *male patient—female partner* as for *female patient—male partner* dyads? Thus, a distinction is made between gender and role (patient/spouse). Dyads with male patients are compared to dyads with female patients. Moreover, it has to be examined in which of the two kinds of dyads the levels of received support are higher. For example, female patients could receive more and better support because of their tighter and more extensive social networks, and they might cope better, even if their husband is not supportive. In contrast, male patients could receive more support and

cope better because of their sole reliance on their intimate partners, because women are expected to be better support providers than men. This distinction between gender and role is supposed to clarify the role of gender in support transactions and to shed some light on the complex issue of resource transfer in times of crisis.

METHOD

RESEARCH DESIGN AND PROCEDURE

The sample was recruited for a longitudinal study on coping with cancer surgery. In collaboration with four hospitals and tumor treatment centers in Berlin, patients were approached at the surgical wards shortly before surgery. Patients with malign tumors of the gastrointestinal tract were selected as eligible for the study. Structured questionnaires were administered to those patients at the hospital one to three days before surgery and 5 to 7 days after surgery. Follow-up questionnaires at Waves 3 and 4, 1 month and 6 months after surgery, respectively, were mailed to the participants.

If the patient agreed to participate in the study, a questionnaire and a stamped, addressed envelope were provided. Partners were approached through the patient. If the patient agreed, a partner questionnaire and a stamped and addressed envelope were supplied. Partners received the questionnaire twice, at Time 1 (before surgery) and at Time 3 (1 month later).

MEASURES

Social Support. The Berlin Social Support Scales (BSSS; Schwarzer & Schulz, 2000) were used to assess the various dimensions of social support. In order to compare self-assessments of support provided by the partner with patients' reports of received support, content-parallel scales were developed. *Received support* was measured with the following instruction to the patients: "Think about the person who is closest to you, such as your spouse, partner, child, friend, and so on. How did this person react to you during the last week?" (But only the spouse/partner subsample was used in this analysis.) This instruction was followed by six items assessing emotional support (e.g., "This person comforted me when I was feeling bad," Cronbach's alpha = .85), two items assessing informational support (e.g., "This person suggested activities that might distract me," $r = .58$), and three items assessing instrumental support (e.g., "This person took care of many things for me," Cronbach's alpha = .75). *Pro-*

vided support was measured with a similar instruction to the partners: "Now think about the patient. How did you interact with him during the past week?" Items of provided and received support were specified to be parallel. According to the wording of the received support scales, partners were asked to assess their support provision as to emotional support (e.g., "I comforted him when he was feeling bad," Cronbach's alpha = .67), informational support (e.g., "I suggested activities that might distract him," $r = .56$), and instrumental support (e.g., "I took care of many things for him," Cronbach's alpha = .60). The responses ranged from *strongly disagree* (1) to *strongly agree* (4).

Coping. Coping was assessed by four scales: Accommodation, Downward Comparison, Fighting Spirit, and Search for Meaning. At a time interval of six months postsurgery, it was assumed that the use of such coping strategies would be associated with successful adaptation and improvement of well-being (see Helgeson, 1993), although the effectiveness of coping was not the subject of the present analysis. Items were developed on the basis of the Brief COPE (Carver, 1997), the Coping with Surgical Stress Scale (COSS; Krohne, de Bruin, El Giamal, & Schmukle, 2000), and the Mental Adjustment to Cancer Scale (MAC; Greer & Watson, 1987; Watson et al., 1988). The responses ranged from *strongly disagree* (1) to *strongly agree* (4).

1. *Accommodation.* Two items were chosen to assess patients' efforts in accepting the illness with a positive rather than resigning accentuation ("I have learned to live with my illness," and "I have adjusted to the limitations caused by the disease," $r = .59$).
2. *Downward Comparison.* In a similar manner, two items evaluated whether patients compare favorably with others who do worse ("I said to myself that things could be worse," and "I thought that others are worse off than myself," $r = .62$).
3. *Fighting Spirit.* The patient's attitude to battle the illness and to withstand resignation is the idea behind the coping scale labeled Fighting Spirit ("I tried to make the best of it," and "I tried to fight the disease," $r = .42$).
4. *Search for Meaning.* Seven items were developed, such as, "I focused on things in my life that really count" (Taubert & Förster, 2000; Cronbach's alpha = .86). The cross-sectional intercorrelations at Wave 4 among the four coping constructs ranged from $r = .33$ to $r = .51$. Thus, there is sufficient discriminant validity to treat them as distinct variables. The item examples given here are back translations from German.

PARTICIPANTS

The present analysis focuses on the time-lagged effects of partner support on patient characteristics. Because the longest time interval was between Wave 3 and Wave 4 (5 months), those participants were included for whom data at both times were available. Therefore, the analysis was based on the subsample of patients who had participated in Wave 4 of the data collection, and whose reference person had completed the partner questionnaire at Time 3, 5 months earlier. This reference person had to be an intimate partner (e.g., husband, wife, or equivalent), whereas children, friends, and other persons were excluded. The term *spouse* used here stands for an intimate partner. There were 277 patients at Time 3, 197 patients at Time 4, and 222 partners at Time 3, with 161 partners referring to their reference person as "spouse" or "intimate partner." Of these 161 caregivers, 108 data records were available for their hospitalized spouses who had participated in both Waves 3 and 4 of data collection. Thus, the final sample for the present analysis consisted of 108 patients and their spouses.

Patients were, on average, 63 years old ($SD = 10.2$), thus slightly older than their partners ($M = 61$ years, $SD = 10.6$). Most frequent tumor sites were rectum (26.9%), colon (24.1%), stomach (13%), liver and gall bladder (9.3%), and pancreas (8.3%). The subsample of 108 dyads comprises 70 male and 38 female patients and their spouses.

DATA ANALYSES

The present data set includes time-lagged data from two sources: patient data half a year after surgery, and partner data one month after surgery. This is a dyadic design, but the data are not necessarily dyadic, because different variables were assessed in both groups (Raudenbush, Brennan, & Barnett, 1995). According to Kenny (1996), actor effects, partner effects, and reciprocity effects can be distinguished. The present data allow for the examination of partner effects that are defined by the possible influence of partners' variable X on patients' variable Y. Analyses were performed either as Pearson correlations or as a set of structural equation models run by the AMOS 4 program (Arbuckle & Wothke, 1999). Other analyses, based on patients only, included repeated measures analysis of variance across all points in time.

RESULTS

PARTNER SUPPORT AT TIME 3 PREDICTS PATIENT SUPPORT AND PATIENT COPING AT TIME 4

It was examined whether received support is associated with partner support that was provided at an earlier point in time. Do patients receive support that is in line with the self-reports of support provided by their partners? For this purpose, it was explored to what degree the three indicators of provided support (partner, Time 3) were related to the corresponding three indicators of received support (patient, Time 4). Table 1 shows the correlations. As expected, provided *emotional* support correlated with received *emotional* support ($r = .41$), provided *informational* support correlated with received *informational* support ($r = .31$), and provided *instrumental* support correlated with received *instrumental* support ($r = .41$). These coefficients constitute correlations across time and across different persons. Partners' reports of support provision corresponded moderately with patients' reports of support receipt.

It was further examined whether patients' coping was associated with partner support that had been provided at an earlier point in time. Do patients cope more (e.g., higher coping scores) when their partners provided support 5 months earlier? For this purpose, it was explored to what degree the three indicators of provided support (partner, Time 3) were related to the four coping constructs (patient, Time 4). Table 1 shows the correlations between Accommodation, Downward Comparison, Fighting Spirit, and Search For Meaning and the three kinds of provided partner support. The strongest associations were with Downward Comparison ($r = .30$, $r = .28$, and $r = .29$), followed by Fighting Spirit ($r = .23$, $r = .22$, and $r = .31$).

The first two research questions, namely, the prediction of (a) received support and (b) coping by spousal support, were addressed by use of a structural equation model that was designed to describe the above relationships in a multivariate fashion. The three variables of provided support (partner, Time 3) served as indicators of an exogenous construct labeled *support provision* that was linked to the corresponding endogenous factor of *support receipt* on the side of the patients, five months later. In addition, the four coping constructs were also specified as being influenced by previous partner support. These endogenous coping constructs were regarded as being intercorrelated. The model was analyzed with AMOS 4, based on 108 complete couple data sets, using the unweighted least squares (ULS) estimation procedure. This resulted in a satisfactory fit between model and data (goodness-of-fit index GFI = .98, RMR = .02). For a technical comparison, an alternative approach ($n = 161$) where missing data were imputed was also chosen by using the full

TABLE 1. Lagged Correlations Between Provided Partner Support (Time 3) and Patient Characteristics (Time 4) for $N = 108$ Couples

	Correlations		
	Provided Emotional Support	Provided Informational Support	Provided Instrumental Support
Received emotional support	.41**	.19*	.24*
Received informational support	.13	.31**	.07
Received instrumental support	.14	.10	.40**
Accommodation	.23*	.14	.25**
Downward comparison	.30**	.28**	.29**
Fighting spirit	.23*	.22*	.31**
Search for meaning	.12	.17	.22*

Note. * $p < .05$. ** $p < .01$.

information maximum likelihood (FIML) procedure. Compared to listwise deletion, the FIML approach is sometimes seen as a superior way of dealing with missingness (see Schafer & Graham, 2002). It resulted in $\chi^2 = 56.3$, $df = 28$, $GFI = .99$, $RMSEA = .048$. Figure 1 displays the model with the path coefficients after ULS estimation based on listwise deletion ($N = 108$). Partners' support provision was able to account for a substantial proportion of the variation in patients' coping and support constructs (41% of received support, 15% of accommodation, 18% of downward comparison, 21% of fighting spirit, and 18% of search for meaning).

Sex was not significantly related to any of the constructs except support receipt. For the receipt of social support by the patients, the variation of provided partner support was most important (.64), but sex also mattered (.25). If partners were female, then male patients received more support than vice versa.

Because the study of social support always requires a close look at gender differences, the sample was further split into men and women. Support provided by men might be qualitatively different from support provided by women. According to gender-role stereotypes, women are seen as more nurturing and supportive than men. Their caregiving might be taken for granted, whereas men's caregiving might be less expected. To reexamine the above findings separately for gender, the same correlation procedures as above (Table 1) were performed. Of 108 couples, dyads with female caregivers ($n = 70$) were analyzed first. Within this subgroup, the three indicators of provided support (partner, Time 3)

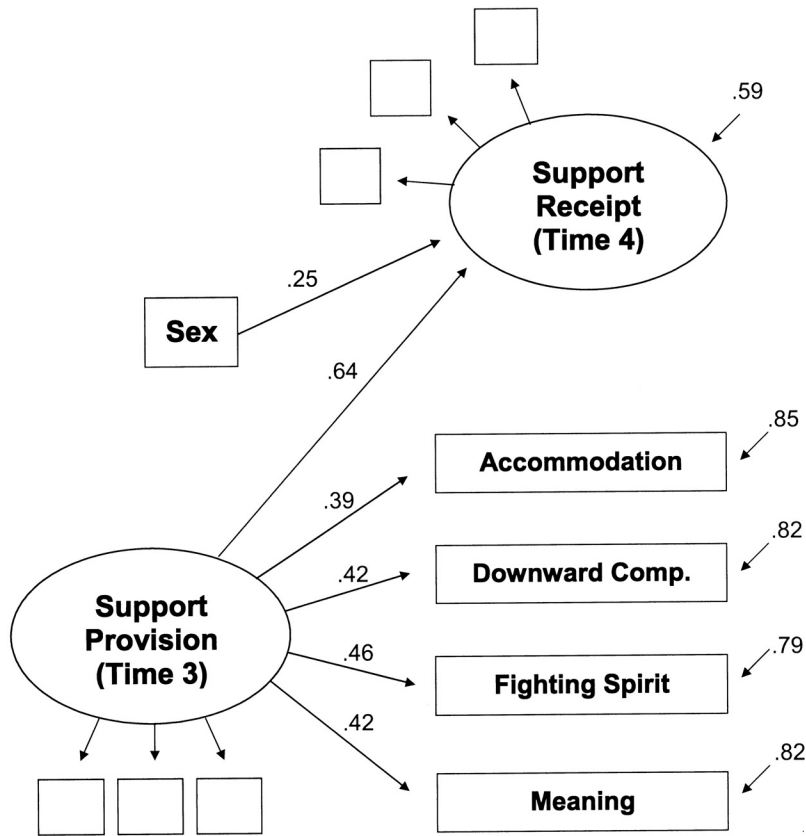


FIGURE 1. Provided partner support has a delayed effect on patients' received support and patients' coping ($N = 108$ couples).

were related to the corresponding three indicators of received support as well as to the four coping constructs (patient, Time 4). However, none of the coefficients reached the common significance level ($p < .05$), thus not replicating the former findings for the total sample.

Next, the subsample of 38 male providers with their 38 female patients was selected (male caregiver dyads). Here, most coefficients were significant. Table 2 contains the coefficients for this subgroup of dyads.

Correlation coefficients in Table 2 are substantially higher than those in Table 1. In the diagonal, the corresponding coefficients were $r = .52$, $r = .47$, and $r = .61$. The close relationships between partner variables and

TABLE 2. Lagged Correlations Between Provided Male Partner Support (Time 3) and Female Patient Characteristics (Time 4) for $N = 38$ Couples

	Correlations		
	Provided Emotional Support	Provided Informational Support	Provided Instrumental Support
Received emotional support	.52**	.35*	.36*
Received informational support	.32	.47**	.16
Received instrumental support	.27	.27	.61**
Accommodation	.47**	.31	.53**
Downward comparison	.49**	.37*	.39*
Fighting spirit	.42**	.27	.46**
Search for meaning	.25	.14	.52**

Note. * $p < .05$. ** $p < .01$.

patient variables described above are obviously due to men as caregivers. Only in dyads with female patients could the variation in received support and coping be traced back to previous variation in supportive behaviors of their male partners. The observed long-term effects of support appear to be limited to this subsample of male providers and female patients. A replication of the structural model (Figure 1) for the present subsample is not appropriate due to the small sample size of the male caregiver dyads.

CHANGES IN RECEIVED SUPPORT OVER TIME

The above correlational findings raise the question of whether social support levels also differ in terms of gender. Do women receive different amounts of support than men, and are there changes across the stress episode? Mean levels of *received emotional support* were examined at all four waves of data collection for men and women separately. A repeated-measures analysis of variance with four points in time and with patient sex as a between-factor was computed. There were main effects for Sex, $F(1, 71) = 10.02, p < .01$, and Time, $F(1, 71) = 4.88, p < .03$, and for the interaction of Time \times Sex, $F(1, 71) = 6.12, p < .02$. Not all patients were selected, but only the subsample of those who belonged to the 108 couples and who, in addition, had also participated in four waves of data collection. Thus, the sample for this analysis was reduced to 53 male and

20 female patients, due to missing values. Figure 2 displays the longitudinal pattern of means for received emotional support.

Men reported receiving more emotional support than women, and this remained stable across the entire stress episode of more than half a year. In contrast, women reported not only less received support, but also a decline, reaching its lowest level at the last measurement point in time, six months after surgery. The same analyses were also performed for the other support variables as well as for the coping constructs, but results were less clear. In sum, being a female tumor patient and having a male caregiver is associated with less support receipt than the opposite pattern. But, on the other hand, the variation in received support in women is best accounted for by the variation of provided male spousal support.

DISCUSSION

Long-term effects of spousal support on patients' received support and coping were investigated in the context of tumor surgery at four measurement points in time. It turned out that cancer patients' received social support could be predicted by provided support, as reported by their spouses five months earlier.

Patients cope with tumor diagnosis and with the aftermath of tumor surgery in various ways. They may accommodate to the situation, make downward comparisons, show fighting spirit, or search for meaning. Cancer patients' coping could be predicted by provided support, as reported by their spouses five months earlier. These four coping strategies are about equally positively related to provided partner support. This points to one of the support functions: Social support has been described as being "coping assistance" (Cutrona & Russell, 1990). Individuals who can rely on their social networks have an advantage in their adaptation to critical life changes. This benefit seems to be unspecific. It is not reflected by a particular coping strategy, but seems to be expressed by overall coping, as indicated by the four distinct coping strategies in the present analysis. Patients appear to do better in general if supported by their partners, or worse if unsupported. However, the range of coping strategies chosen here is not very broad. Because the array of possible ways of coping is almost endless, it is suggested to follow up this line of research with a broader array of coping acts, strategies, and styles.

The relationships were different for two subgroups of partner-patient dyads. They appeared not to be of the same nature for male patient-female partner dyads as for female patient-male partner dyads. Gender differences are crucial in the study of social support. In the present study, the beneficial effect of partner support on patients' coping could

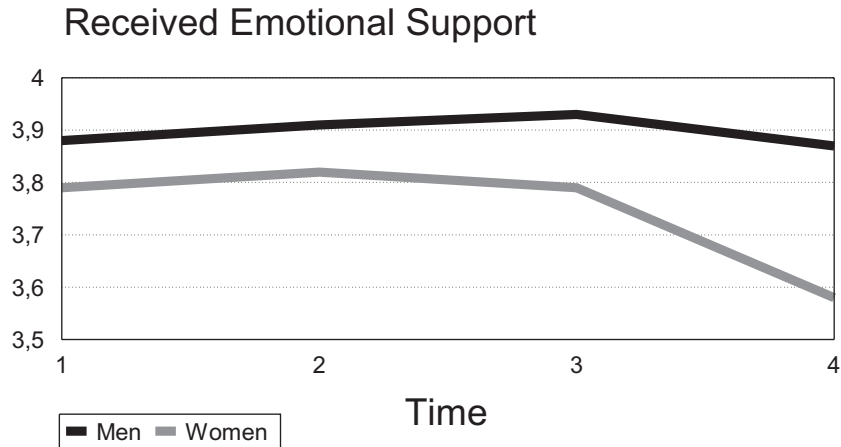


FIGURE 2. Received emotional support over half a year by men and women.

be demonstrated for the subsample of female patients only. Their levels of coping and received support were substantially related to the degree of provided support, as reported earlier by their husbands. Women patients receive on average less spousal support than men, but if men act supportively, this can make a difference. It could be that some men were better supporters than expected, so some women may have benefited from a surprisingly high amount of support. The opposite direction is also plausible. Some women may have been disappointed by the low level of support they received from their spouses, which, in turn, may have affected coping and reports of received support. Women might be more sensitive to many kinds of social interactions than men. As Hobfoll (1998) argues, men and women are assumed to have different socialization experiences with support. Whereas men are supposed to be more independent and self-reliant, women are expected to seek support and to take advantage of it. Moreover, women seem to be particularly sensitive to relationship quality as a prerequisite of social support (Hagedoorn et al., 2000; Kuijer et al., 2000; Uno, Uchino, & Smith, 2002). To benefit from support, the partner must be a positive source of social interaction. Unfortunately, this study did not include a measure of relationship quality or marital conflict. This turned out to be a major limitation because there are no data available that could explain the lack of

covariation between provided and received support in the male patient—female partner dyads.

The finding that women report less received support than men during an illness is common in this area of research (Glynn et al., 1999). It could be that women do not benefit from support as much as men do, that men do not provide support as effectively as women do, or that men do not provide effective support in particular to women. On the other hand, women might benefit much more from women (same-sex support; Uno et al., 2002). The current data do not allow us to examine the effectiveness of support within female–female dyads or male–male dyads, which is another major limitation of this study.

Instead of viewing support as a unidirectional process, involving recipients on the one hand and providers on the other, it seems to be appropriate to interpret the situation as one of *dyadic coping*. Dyadic coping can be seen as an interpersonal process involving both partners with the intention to reduce distress. Tumor surgery is stressful for both sides of the dyad, and support is given mutually. The psychological effects of support are then seen not only as a result of particular acts of help (such as advice, tangible help, or comforting), but also as being dependent on the overall quality of the marital relationship.

The empirical relationships among the present couples are in line with this notion of dyadic coping (Bodenmann, 2001; Coyne & Smith, 1991; Hagedoorn et al., 2000). A number of studies have investigated dyadic coping in the context of cancer (Baider, Perry, Holland, Sison, & Kaplan DeNour, 1995; Barbarin, Hughes, & Chesler, 1985; Hannum, Giese-Davis, Harding, & Hatfield, 1991). Baider et al. (1995) examined couples coping with one partner's malignant melanoma. Spouse support was operating differently in husbands and wives. Whereas husbands relied mainly on the interactions with their spouse, wives mobilized their extramarital support network as well. Wright and Aquilino (1998) argued that reciprocity in emotional support between the caregiver and the spouse is important for marital adjustment and for perceiving the situation as burdensome. Health and well-being are not merely results of actual support provision, but are the consequence of participation in a meaningful social context. Receiving support gives meaning to individuals' lives by virtue of motivating them to give in return, to feel obligated, and to be attached to their ties. Not having data on reciprocity between patients and spouses as well as not having more data on couple characteristics and provider resourcefulness (Schröder et al., 1997) turned out to be a limitation of the present study.

Nevertheless, this research contributes to the study of dyadic coping by disentangling some gender-specific sources of variation in received support and coping. It has been found that male patients' receive more

spousal support than female patients, and that received support as well as patients' coping half a year after tumor surgery can be predicted by provided spousal support one month after surgery. There continues to be a lack of explanation for the finding that the variation in female patients' received support and coping could be well accounted for by male provider support, whereas this was not the case for the opposite dyads. Further studies have to be aware of range restriction and should use psychometric scales that allow for a wider distribution of scores. Nevertheless, the question remains whether male support provision can be improved by psychological interventions. This has been reported recently by Mahler and Kulik (2002), who had treated husbands of hospitalized wives with videotaped information designed to assist patients in their recovery after surgery. Optimistically slanted, mastery-oriented videotapes were successful in increasing patients recovery, probably due to improved spousal support, as compared to patients whose husbands received only the standard discharge preparation. Spousal support during such a demanding life situation is obviously an alterable variable. More details about partner resources and dyadic coping are required to design the most effective ways of helping people overcome such a crisis.

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