

Frequency and difficulty in caregiving among spouses of individuals with cancer: Effects of adult attachment and gender

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Abstract

How caregivers relate to care recipients can affect how well care is provided and how much burden is experienced in providing it. We conceptualized the relationship of spousal caregivers via adult attachment theory and examined how attachment qualities of caregivers related to level of caregiving involvement and difficulties in caregiving. Gender differences in the associations were also explored. From participants in the ACS Quality of Life Survey for Caregivers, 400 spousal caregivers provided valid data for the study variables. Findings indicated that frequency of various types of care was a joint function of attachment orientation and gender. In contrast, the difficulty that caregivers experienced in providing care related directly to attachment, without moderation by gender. Our findings suggest that ineffective caregivers of cancer patients, who can be identified by their attachment orientation and/or gender, may benefit from educational programs to improve their caregiving skills and to encourage them to utilize resources from other family members or community.

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Introduction

An estimated 1.4 million persons in the US were diagnosed with cancer in 2006 [1]. As family members often assume the role of primary caregivers of cancer patients once they are discharged from the hospital [2], a similar number of family members are likely to provide care or support for those patients. Providing care to a family member with cancer is often difficult and stressful, partly because cancer is seen as having high mortality [3]. Cancer caregivers commonly report dysphoric mood [4–6] and sometimes clinical levels of depression [7,8]. Challenges associated with providing care to cancer patients may weigh even more heavily on spouses, because they typically are the patients' primary attachment figures as well as their caregivers [9,10].

The nature of the relationship between care recipients and caregivers can affect how well care is provided. One way to conceptualize relationships uses the framework of adult attachment theory [11–13]. Attachment theory initially was developed as a model of infant–caregiver bonds [14]. According to this theory, humans have an attachment system that operates to maintain a sense of security, which is activated by the experience of threat. Individual differences in attachment patterns arise because attachment

figures vary in how responsive they are in times of need.

There are three primary patterns of infant attachment [15,16]. Secure attachment, which follows from responsive caregiving, is reflected in a sense of closeness to others and easy reliance upon them. The attachment object is viewed as a source of support for exploration and a safe haven from threats. An avoidant pattern is believed to develop when a caregiver consistently is emotionally distant and unresponsive. This pattern is reflected in independence and distance from others, and discomfort with closeness. The third pattern, termed anxious-ambivalent, can arise if the responses of the attachment figure are unpredictable. This pattern is seen in an obsessive desire for closeness to the attachment figure, hypervigilance for cues of abandonment, and emotional upset both at separation and reunion with the attachment figure. Individual differences in attachment are reflected as well in differing strategies of support-seeking behavior and emotional regulation in response to distress [12,17].

Work on adult attachment began by adopting these same three categories [16]. Some have since taken a slightly different approach to adult attachment patterns, which is grounded in a different aspect of attachment theory. Specifically, Bowlby [14] thought that two kinds of mental models go

along with variations in attachment. These are models of self (good versus bad) and other (good versus bad). Following from this line of thought, some have adopted a two-dimensional approach (avoidance and anxiety; [18]), and some split the two dimensions into four categories [19]. In general, these four categories map easily onto the three-group model. The main difference is that avoidance from the latter model splits into two subgroups: one with anxiety and one without (for data concerning empirical overlap, see [20]).

Attachment and Caregiving

Bowlby [21] argued that attachment security is also a foundation for caregiving, because a sense of security (comfort with closeness and interdependence) allows individuals to attend more responsively to the partner's needs. In other words, in adult romantic relationships, caregiving involves being an attachment object to the partner. It means offering comfort and reassurance, providing help, and representing a secure base [14].

Individual differences in adult attachment also influence patterns of caregiving behavior and management of a partner's distress [11,22–25]. Among persons in romantic relationships (dating or married couples), secure attachment has been tied to sensitive and cooperative caregiving in response to situational stresses [22–24, 26]. Avoidance has been related to less involvement in caregiving [22] and to poorer caregiving when there is need for instrumental support. When there was little need for support, on the other hand, avoidance has not related to caregiving deficits [23; 25]. Persons with anxious attachment have been found to be compulsive and controlling in their caregiving, driven and dominating rather than responsive and cooperative. In some studies, anxious attachment related to providing both emotional and instrumental support when needed (e.g., [23]). In other studies, however, anxious attachment related to ineffective caregiving when couples discussed a problem that was identified as stressful to one member of the couple [27].

In general, practical and instrumental care, which require minimal emotional involvement and thus also minimal risk of conflict or disappointment, seem to be provided regardless of the caregivers' attachment quality. In contrast, affective and discretionary care seems to be affected by the nature of the caregivers' attachment quality.

Caregiving for medical patients

Providing care to medically ill persons involves varied tasks, to meet the patients' many needs. These include treatment monitoring, treatment-related symptom management, emotional and

financial support, and assistance with personal and instrumental care [4]. Family caregivers, particularly spouses, often assume this new and complex role with little advance notice. In this situation, the caregiver's existing orientation to the relationship can be expected to play an important role in the degree to which the caregivers take up various care tasks, and the extent to which they experience difficulties in providing various types of care. Consistent with this reasoning, one study of adult daughters caring for frail elderly parents found that securely attached daughters provided the most emotional care, and anxiously attached daughters provided the least emotional care [28]. Another study found attachment security in adult children of patients with dementia related to lower levels of caregiving stress, whereas attachment anxiety was associated with global psychological distress but not with caregiving-specific stress [29]. In another study, attachment insecurity, as opposed to attachment security, was a unique and significant predictor of depression [30–32] or caregiving stress, above and beyond the demographic characteristics of the caregivers and the functional status of the care-recipients with dementia [33].

Caregiving and gender differences

Because caregiving behavior may be constrained by gender-role expectations [34], gender may also play a role in the attachment-caregiving dynamics. In many cultures, women are expected to be the family caregivers. Therefore, they perceive providing care as doing simply what they are supposed to do. With this expectation, and often being sole caregivers of sick husbands, female caregivers have reported more burden and less self-esteem from providing this care than male caregivers report [35,36]. Many studies have found that women are more likely to be involved in caregiving for sicker dependents with poor mental or physical functioning status, and are more likely to provide personal care and perform household tasks that require a more constant and burdensome commitment than the tasks of providing informational or tangible support that are more likely to be performed by male caregivers (see [37,38] for reviews). Studies have also found female caregivers to be more responsive and impulsive than male caregivers [22,24,26]. However, the extent to which relations of attachment styles to involvement in various types of care for medical patients are comparable in both genders remains unknown.

Present research

In summary, there is growing interest in the link from the adult attachment qualities of caregivers to the caregiving activities engaged in. In the study

reported here, we investigated these issues in a large sample of adult spouses of cancer survivors. We assessed the attachment qualities of the caregivers with respect to the survivors. We also assessed several aspects of the care provided, and how difficult it was for the caregiver to provide them. We hypothesized that attachment security would relate to frequent involvement in various types of care, yet low levels of difficulties with caregiving. Attachment avoidance, in contrast, should be associated with less frequent involvement in caregiving and greater difficulties in caregiving. Attachment anxiety should relate to frequent involvement in care but greater difficulties with caregiving. We also explored gender differences in relations from attachment to care tasks (frequency and difficulty).

Method

Participants

The American Cancer Society's Quality of Life Survey for Caregivers was designed to assess the impact of cancer on the quality of life of family members and close friends who care for cancer survivors. Data reported here are from the second cohort of baseline data collection. Participants were nominated by cancer survivors who completed the Study of Cancer Survivors, a survey of cancer survivors identified by state cancer registries who were asked to nominate individuals in a family like relationship who constantly provided help to them. Eligibility criteria for participating in the caregiver study were being 18 years or older, able to speak/read English or Spanish, and residing in the US.

A total of 896 close family members completed the survey (67.9% response rate), of whom 586 were spouses of the survivors. Of spousal caregivers, 400 provided valid data for the variables used in these analyses. Spousal participants with incomplete data did not differ in most respects from those who provided complete information ($ps > 0.27$), except that spouses who had missing data provided emotional care less frequently, $t(573) = 3.21, p < 0.001$, and their care recipients had better mental functioning, $t(563) = -2.02, p < 0.04$. Participating caregivers were primarily middle-aged ($m = 55.7$ years old, $SD = 10.9$), female (51.9%), Caucasian (91.5%), relatively educated (77.7% had high school degree or higher), and affluent (71.9% had household income \geq \$40,000).

The care recipients (i.e. the cancer survivors) of participating caregivers were also primarily middle-aged ($m = 55.5$ years old, $SD = 11.0$), male (52.1%), Caucasian (94.0%), and relatively educated (75.7% had high school degree or higher). The level of mental functioning of the cancer

survivors was comparable to the mean of the US general population ($m = 50$), whereas their physical functioning was comparable to the 25th percentile of the population [39]. Cancer sites of survivors were prostate (25%), breast (23%), colorectal (13%), non-Hodgkin's lymphoma (11%), lung (9%), ovarian (5%), and other (<5% each of bladder, kidney, skin, and uterine). The cancer had been diagnosed an average of 2.1 years ($SD = 0.6$ year) before the caregivers completed the survey.

Procedure

A packet containing an introductory letter, survey, self-addressed stamped envelope, frequently asked-questions brochure, and a 60-min phone card as an incentive was mailed to the nominated caregiver. Returning the completed survey served as informed consent to participate. Telephone follow-up calls were made 3 weeks after the initial mailing if the caregivers had not returned the survey. A second packet including the same materials except the phone card was mailed 5 weeks after the initial mailing. A second follow-up call was made 8 weeks after the initial mailing if the caregivers had not returned the survey. This study was conducted in compliance with the regulation of Emory University Institutional Review Board.

Measures

Adult attachment

As is typically done in research on adult attachment, the qualities of attachment that caregivers felt with respect to their spouse were measured dimensionally rather than categorically. We used a modified version of the Measure of Attachment Quality, or MAQ [20]. Each MAQ item is a statement, to which respondents indicated the degree of their agreement in general, using a 4-point Likert-style format (1 = not at all, 4 = extremely). Some scales (e.g. [18]) condense the attachment qualities into two dimensions, one representing degree of insecurity, reflected primarily in avoidance, the other representing degree of anxiety. The MAQ, however, has separate scales for security, avoidance, and two aspects of anxious ambivalence, desire for merger and worry over abandonment, which formed separate factors during scale development [20].

In order to validate the factor structure of the MAQ with this sample of cancer caregivers, we conducted factor analysis of the data from our sample, using an oblique rotation to permit correlations among factors. Three factors had eigenvalues greater than 1 (a commonly used criterion; [40,41]), which explained 59.7% of the variance. All loadings of each item for the

corresponding primary factory were ≥ 0.34 , with the exception of two items. One item ('I find it easy to be close to others') was an *a priori* item of avoidance (reverse-coded) but loaded instead both on the anxiety factor (0.68) and the security factor (-0.65). Because of this ambiguity of assignment, this item was excluded in subsequent analyses. The other item ('I am very comfortable being close to others') was also *a priori* from the avoidance scale (where it was reverse coded) but loaded with the security items. Because the content of this item was appropriate to indicate security, this item was retained in the security scale. Thus, the first factor includes four security items; the second factor includes three avoidance items; the third factor includes six items of the two aspects of the ambivalent attachment style (i.e. worry about abandonment and desire for merger). Items of the three sub-scales (Table 1) had adequate internal consistency (α s = 0.83, 0.83, and 0.66, respectively). Each scale was scored by averaging item responses (after appropriate reversals), thus placing the score on the same metric as the item response options. Security was inversely and fairly substantially correlated with avoidance, $r = -0.54$; correlations of anxiety with security and avoidance were -0.36 and 0.31 , respectively.

Care tasks: frequencies and difficulties

The frequency with which a caregiver performed certain care tasks was measured using a 17-item scale developed for this study [1]. We assessed the provision of traditional aspects of social support [42–44]—emotional (4 items: e.g. 'boost his/her spirits when he/she felt low'), instrumental (4 items: e.g., 'tell him/her about hotlines or services for him/her'), and tangible (5 items: e.g., 'provide financial help to him/her')—and also the providing of assistance to meet the cancer survivor's medical needs (4 items: e.g. 'help administer medications').¹ Participants rated frequency for each item

using a 4-point Likert-style format (1 = monthly, 2 = weekly, 3 = 2–3 days a week; and 4 = daily). We also assessed the difficulty the caregiver experienced in providing each aspect of care (i.e. referring to each of the 17 items of care tasks). They rated the difficulty they had providing each type of care using a 5-point Likert-style format (1 = not at all, 5 = very much). Each of the four frequency scales and four difficulty scales had acceptable internal consistency ($0.48 < \alpha$ s < 0.62 for frequencies; $0.58 < \alpha$ s < 0.77 for difficulties). Frequencies of providing various types of care correlated moderately strongly with each other (r s from 0.32 to 0.44); reports of difficulty of providing various types of care correlated slightly more strongly (r s from 0.41 to 0.57).

Analysis plan

Associations between attachment and caregiving frequency and difficulty were examined by zero-order correlations, followed by a series of multivariate general linear modeling analyses in which relevant covariates and predictors were entered in a specific order. These analyses also permitted testing for interactions between attachment and gender in predicting each of the caregiving frequency and difficulty. In the first step of the analyses, care recipients' levels of mental and physical functioning, which were measured using the MOS SF-36 [39], were entered as covariates. In the second step, the main effects of the three attachment scores and a dummy code of gender were added. Interaction terms between attachment and gender were added in the third step (products of the centered variables).

Results

Descriptive statistics for study variables and covariates are in Table 2. Zero-order correlations

Table 1. MAQ-Caregivers items and factor loadings

	Security	Avoidance	Anxiety
It feels relaxing and good to be close to him/her	0.85		
I am very comfortable being close to him/her	0.83		
When I'm close to him/her, it gives me a sense of comfort about life in general	0.80		
Being close to him/her gives me a source of strength for other activities	0.77		
He/She wants me to be more close than I feel comfortable being		0.81	
I get uncomfortable when he/she wants to be very close		0.76	
I prefer not to be too close to him/her		0.62	
I have trouble getting this person to be as close as I want him/her to be			0.80
I find he/she is reluctant to get as close as I would like			0.79
I often worry that he/she doesn't really love me			0.77
My desire to become one with this person scares him/her away			0.72
I often worry he/she will not want to stay with me			0.69
I don't worry about him/her abandoning me (R)			0.46

He/she refers to the cancer survivor.

(R) indicates reverse coding.

were computed as initial examinations of the associations of attachment qualities, gender, and characteristics of the care recipient with frequency of caregiving and difficulty in caregiving. As shown in Table 3, variations in attachment were almost unrelated to reports of frequency in caregiving. The only significant link was between greater avoidance and less frequent tangible support. Apart from attachment, wives reported being more often involved in tangible and medical care than husbands, and lower levels of physical functioning related to giving more medical care.

In contrast to the picture for frequency, there were numerous associations of attachment qualities with reports of difficulty in providing care. Attachment security related negatively to difficulty in providing care for all types of tasks: emotional, instrumental, tangible, and medical care tasks. Attachment avoidance related positively to difficulty in providing care for three of four types of tasks: emotional, instrumental, and tangible care tasks. Attachment anxiety also correlated positively with difficulty in providing care for all types

of tasks. Apart from attachment, lower levels of mental functioning among the care recipients also related to reports of greater difficulty in providing emotional, instrumental, and tangible care.

Multivariate analyses: frequency of care

Next we performed hierarchical multivariate analysis on the frequency ratings (Table 4). Results through step two were generally similar to the correlations in Table 3. With respect to frequency of tangible care, there were significant effects from avoidance (unstandardized $B = -0.12$, $SE = 0.06$, $p < 0.05$) and gender ($B = 0.19$, $SE = 0.06$, $p < 0.001$). With respect to frequency of medical care, there were significant effects from recipients' physical status ($B = -0.01$, $SE = 0.004$, $p < 0.01$) and gender ($B = 0.18$, $SE = 0.09$, $p < 0.05$).

In step three, several interactions emerged. One interaction was between attachment security and gender on the frequency of emotional care. Among wives, greater security of attachment related to providing more frequent emotional care, whereas

Table 2. Descriptive Statistics for Study Variables and Covariates ($N = 400$)

	Mean (SD) or percentage	Possible range of continuous variables
<i>Study variables</i>		
<i>Attachment styles:</i>		
Security	3.70 (0.47)	1-4
Avoidance	1.35 (0.56)	1-4
Anxiety	1.43 (0.56)	1-4
Gender: Female	52.0%	—
<i>Care tasks</i>		
Frequency_Emotional	3.46 (0.58)	1-4
Frequency_Instrumental	2.28 (0.80)	1-4
Frequency_Tangible	3.57 (0.90)	1-4
Frequency_Medical	2.57 (0.90)	1-4
Difficulty_Emotional	1.50 (0.58)	1-5
Difficulty_Instrumental	1.47 (0.66)	1-5
Difficulty_Tangible	1.38 (0.57)	1-5
Difficulty_Medical	1.43 (0.62)	1-5
<i>Covariates</i>		
Care recipient mental functioning	50.72 (10.34)	0-100
Care recipient physical functioning	44.92 (11.14)	0-100

Table 3. Correlations of predictor variables with reported frequency and difficulty of caregiving tasks

Care tasks	Attachment quality			Female	Care Recipient Mental status	Care Recipient Physical status
	Security	Avoidance	Anxiety			
Frequency emotional	0.06	-0.10	0.02	0.01	0.04	-0.03
Frequency instrumental	0.04	-0.02	-0.03	0.08	0.01	0.01
Frequency tangible	0.07	-0.13*	-0.02	0.18***	0.08	0.02
Frequency medical	0.06	-0.03	-0.05	0.11*	-0.06	-0.15**
Difficulty emotional	-0.13**	0.19***	0.16***	-0.04	-0.16***	-0.04
Difficulty instrumental	-0.19***	0.16***	0.11*	-0.01	-0.15**	0.04
Difficulty tangible	-0.19***	0.14**	0.16**	-0.04	-0.11*	-0.08
Difficulty medical	-0.11*	0.03	0.11*	-0.04	-0.08	-0.06

$N = 400$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Correlation coefficients with female are Spearman's rho; Other correlation coefficients are Pearson's r; female = 1 for females, 0 for males.

Table 4. Multivariate statistics from hierarchical general linear modeling for predicting caregiving

	Frequency of Caregiving				Difficulty of Caregiving			
	Emotional	Instrumental	Tangible	Medical	Emotional	Instrumental	Tangible	Medical
Step 1: Covariates								
CR MCS	0.57	0.06	2.53	0.17	10.56***	8.75**	4.38*	2.71
CR PCS	0.47	0.03	1.60	9.09**	0.55	0.73	2.78	1.45
Step 2: Main effects								
Security (Sc)	0.10	0.43	0.01	0.45	0.06	5.41*	5.10*	3.02
Avoidance (Av)	2.78	0.09	3.78*	0.00	5.11*	1.19	0.17	1.26
Anxiety (Ax)	1.22	0.27	0.32	0.39	3.33	0.13	2.94	2.28
Female (F)	0.00	3.14	11.15***	3.89*	0.36	0.08	0.81	0.00
Step 3: Interaction effects								
Sc X F	5.82*	2.16	0.08	2.93	1.87	0.06	3.13	1.76
Av X F	10.29***	0.04	1.20	3.62	2.19	0.17	0.00	0.17
Ax X F	1.93	1.02	3.91*	5.98*	1.95	0.34	1.13	0.02

$N = 400$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Numbers are F values.

CR MCS = Care Recipient's Mental Functioning Composite Score; CR PCS = Care Recipient's Physical Functioning Composite Score; Security, Avoidance, and Anxiety are Attachment Styles; Female = 1 for females, 0 for males.

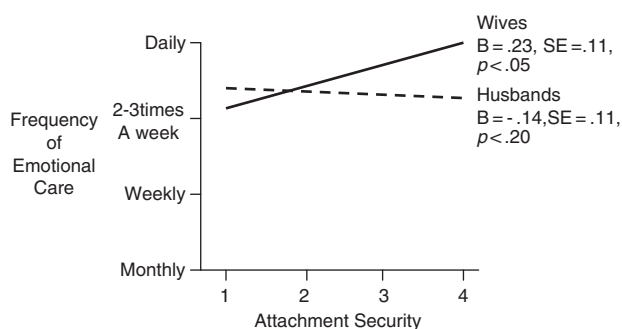


Figure 1. Attachment security by gender effect on frequency of emotional care

there was no significant relation among husbands (Figure 1). The interaction between attachment avoidance and gender on frequency in emotional care was also significant. Among husbands, greater avoidance related to less frequent emotional care, whereas there was no significant relation among wives (Figure 2).

There were also interactions between attachment anxiety and gender on frequencies of tangible and medical care. *Post hoc* analyses revealed that more anxiously attached wives provided more frequent tangible care, whereas there was not a significant relation among husbands (Figure 3). More anxiously attached husbands provided less frequent medical care, whereas there was not a significant relation among wives (Figure 4).

Multivariate analyses: difficulty of care

We repeated the multivariate analysis with the difficulty ratings as outcome variables (Table 4).

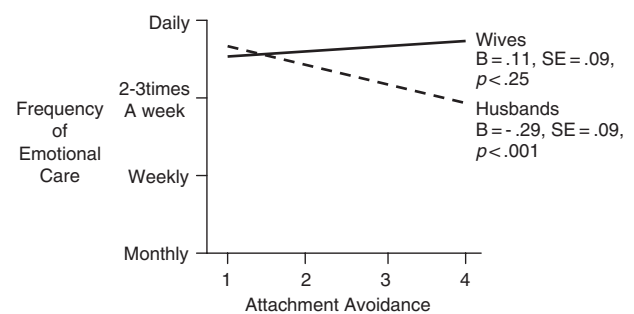


Figure 2. Attachment avoidance by gender effect on frequency of emotional care

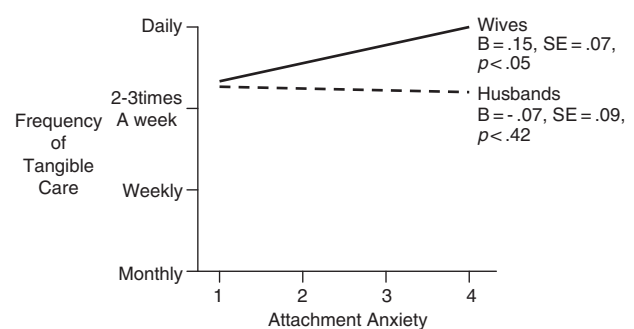


Figure 3. Attachment anxiety by gender effect on frequency of tangible care

Simultaneous entry of all attachment qualities in step two caused the loss of several attachment effects that were significant in the zero-order correlations. For difficulty providing emotional care, the effects of recipient's mental status and caregiver avoidance remained significant, with poorer mental status being associated with greater difficulty ($B = -0.01$, $SE = 0.003$, $p < 0.01$) and

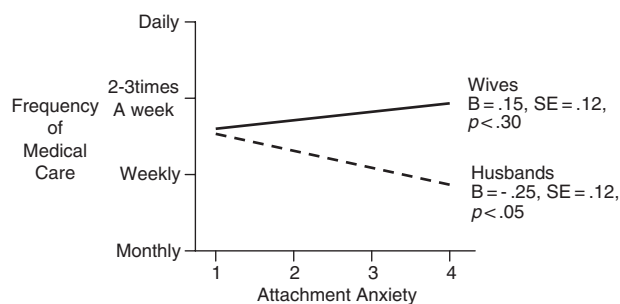


Figure 4. Attachment anxiety by gender effect on frequency of medical care

higher avoidance with greater difficulty ($B = 0.14$, $SE = 0.06$, $p < 0.05$). An effect for attachment anxiety approached but did not reach significance ($p = 0.09$).

For difficulty providing instrumental support, only the effects of recipient's mental status and caregiver attachment security were significant, with poorer mental status being associated with greater difficulty ($B = -0.01$, $SE = 0.003$, $p < 0.05$) and greater security being associated with less difficulty ($B = -0.20$, $SE = 0.09$, $p < 0.05$). A similar pattern emerged for difficulty providing tangible support, with poorer mental status being associated with greater difficulty ($B = -0.01$, $SE = 0.003$, $p < 0.01$) and greater security being associated with less difficulty ($B = -0.16$, $SE = 0.07$, $p < 0.05$). For difficulty providing medical care, no association approached significance. There were no significant gender interactions on reports of difficulty in any aspect of caregiving.

Discussion

This study examined how the orientations of spousal caregivers to their spouses with cancer affected caregiving experiences, using the framework of attachment theory. The findings indicated that how often caregivers engaged in various types of care was a joint function of attachment orientation and gender. In contrast, the extent to which caregivers experienced difficulty in providing care depended mainly on attachment orientation. These results support and extend the findings of previous studies indicating that attachment pattern is a significant and important predictor of caregiving behavior in adult intimate relationships [22].

Frequency of care

With respect to providing medical care to the spouse with cancer, there was some suggestion that level of support was tied in part to the caregivers' gender role. Specifically, among wives only, secure attachment related to more frequent emotional

care, and anxious attachment related to more frequent tangible care. Among husbands only, avoidant attachment related to less frequent emotional care, and anxious attachment related to less frequent medical care. To put it differently, it was only among husbands that the insecure attachment qualities interfered with caregiving, and the secure quality did not foster more caregiving. These results are consistent with existing findings (e.g., [26] and in accordance with societal expectations that females more than males engage in caring and nurturing behavior.

Wives' more frequent involvement in emotional care as a function of attachment security may be due to their greater level of comfort in their partners' dependence. It may also stem from paying attention to their partner's needs for emotional closeness. Wives' more frequent involvement in tangible care as a function of attachment anxiety may be due in part to their tendency to adopt compulsively driven yet practical styles of caregiving [22,24,45]. In contrast, husbands' less frequent involvement in emotional care as a function of avoidance may be due to their tendency of independence, distance from others, or discomfort with closeness when their spouses need emotional support. Husbands' less frequent involvement in providing care for their wives' medical needs as a function of attachment anxiety may be due to their tendency toward emotional upset or fear of being abandoned as they face medical threats associated with their wife's cancer.

Difficulty of care

In contrast to the interactive effects on frequency of care, attachment qualities had main effects on the difficulty caregivers reported in providing certain types of care. Securely attached caregivers reported less difficulty in providing care to their spouse with cancer, consistent with findings in other studies [28, 29]. Securely attached caregivers appear to be comfortable providing practical care because of their security, which enables them to get close to their spouse with cancer and provide pragmatic support.

In contrast, caregivers with higher levels of avoidant attachment reported difficulty in providing emotional care. This is also consistent with existing findings [23]. Providing emotional support, unlike giving practical assistance, involves the psychological risk of engaging more fully and openly with the care-recipient in an emotional rather than practical way. This is an experience that is uncomfortable to people high in attachment avoidance. In order to avoid potential discomfort, people higher in avoidance may engage in a deactivating emotional regulation strategy [45]. Such a strategy involves denial of attachment needs of the self as well as the partner, and

avoidance of emotional involvement, intimacy, and dependence [46].

It is interesting that attachment anxiety did not predict difficulty of caregiving in the multivariate analyses. In the literature, attachment anxiety is not consistently related to certain caregiving behaviors (e.g. [26,29]). Perhaps anxiously attached caregivers are preoccupied with their own insecurity about the relationship, which may hinder providing consistent and sensitive care. Attachment anxiety is manifested in hyperactivating strategies, increased vigilance to threat-related cues [12,23]. The hypervigilance toward attachment figures, which in the case of our study is the spouse with cancer, may enable these people to respond to the spouse's needs with little difficulty. However, whether their perception of the spouse's needs is accurate and whether the caregiving is satisfying their own rather than their partner's needs are questions for future studies.

Limitations and future directions

Several limitations of our study should be noted. First, the findings are based on a cross-sectional analysis, which clearly precludes definitive causal interpretations. Second, we assessed caregivers' attachment style to their spouse with cancer, but we did not assess the spouse's attachment style. It is desirable to include both partners to better understand attachment dynamics at both the personal and the interpersonal levels. The latter includes the accuracy of the caregiver's judgment of the patient's needs and satisfaction with providing as well as receiving care [47]. Third, some other variables that are important in a caregiving context were not examined in this study. These include duration of caregiving and the amount or intensity of care provided. Objective indicators of caregiving would help to better understand the effects of relationship quality. Fourth, although we included the 10 most common cancers, we did not have enough power to examine the effect of different cancers. Fifth, it would be fruitful to examine situational variables, to understand the circumstances under which caregivers with various attachment patterns provide more care and feel less burdened. Sixth, generalizability of the findings is limited to caregivers who are Caucasian, relatively educated, and relatively affluent. Future studies are needed with ethnic minorities and individuals of lower socioeconomic status. Finally, future studies should also examine the potential behavioral and psychological mechanisms underlying these effects [48–50].

Despite these limitations, our findings make significant contributions to caregiving literature theoretically and empirically. We demonstrated that attachment theory is a powerful framework to understand caregiving behavior and difficulty.

Furthermore, our study provided evidence how researchers and clinicians would be able to identify caregivers who are more likely to experience inadequacy in providing the best possible care for their spouses with cancer, based on caregivers' attachment style and gender. Our findings suggest that certain kinds of services might be more effective in mitigating the difficulty associated with cancer care for different caregivers. For example, caregivers with higher levels of avoidant attachment would experience problems in providing emotional care. In other words, a female cancer survivor whose husband feels discomfort with closeness and tends to distance from others would be less likely to receive emotional comfort from the husband when it is needed and if provided, with the cost of heightened psychological burden for the husband. This group of husband caregivers might benefit from educational interventions designed to assist them in providing their wives with effective emotional support. Empathic listening and effective communication would be key components of such interventions, from which both husband caregivers and their wives would benefit.

Conclusion

Despite the fast-growing population of cancer caregivers, significant gaps remain in our understanding of the factors that contribute to individual differences in the experience of cancer care. Our study suggests that gender role plays a significant role in caregivers' provision of certain types of care to their spouse with cancer. The caregivers' orientation to the relationship with the spouse plays a significant role in the extent to which caregivers perceive the caregiving role as burdensome. Our findings indicate that persons more likely to be ineffective caregivers of cancer patients can be identified by their attachment orientation. Such persons would benefit from educational programs to improve their caregiving skills and to encourage them to utilize resources from other family members or community. Because optimal caregiving is essential not only for personal well-being but also for the development and maintenance of satisfying relationships, further investigation is warranted to better understand the role of attachment between caregivers and care recipients as an influence on cancer caregiving experiences.

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Note

- a. The full scale is available to readers on request from the first author.

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