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Gender and Role Differences in Couples Communication during Cancer Survivorship

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Abstract

Background—Individuals with cancer and their partners often experience communication difficulties. However, questions still remain regarding the influence of gender and role in cancer survivor-partner communication within couples.

Objective—The current study intended to examine the communication patterns in breast, colorectal, and prostate cancer survivor-partner couples during cancer survivorship and whether gender and role differences in couples communication exist.

Methods—The dominant-less dominant methods of sequential mixed design was utilized. Ten couples who were recruited from the University Hospital registry in Cleveland, Ohio participated in both mail surveys and individual interviews. Family and cancer-related communication was assessed in the quantitative phase.

Results—Both male survivors and partners demonstrated better family communication scores compared to their female counterparts, whereas there were no gender differences in the cancer-related communication scores. In the qualitative phase, 3 major themes were identified: 1) selective sharing of cancer-related issues, 2) initiation of cancer-related communication, and 3) emotional reaction in communication. The patterns associated with these themes differed between the male survivor-female partner and female survivor-male partner couples.

Conclusions—This study provides new knowledge about family and cancer-related communication. Our findings highlight the importance of understanding different perspectives in the quality of communication by gender and role.

Implications for Practice—Exploring couples' communication patterns by gender and role stimulates the research and the development of effective consumer-centered communication

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interventions. The findings provide assessment tools to inform dyadic communication patterns for clinical and scientific purposes.

Introduction

The diagnosis and treatment of cancer and survivorship care often lead to major changes in the lives of both patients and families. Many individuals with cancer suffer from physical (e.g., side effects), psychological (e.g., uncertainty, depression), or other personal problems associated with life-threatening illnesses.^{1,2} Coping with such concerns may require that the cancer survivors and family members adjust their roles within the family.³⁻⁶ Specifically, an individual's interpersonal contexts, including communication with his or her partner, may play a critical role in coping with cancer in the survivorship period, ultimately affecting their quality of life.⁷⁻¹¹

Communication issues have been increasingly discussed as an important component of overall health and survivorship outcomes. Previous studies have suggested that individuals with cancer and their partners often experience communication difficulties and that there is substantial gender variation in this pattern.^{7,12-15} Although relatively few studies have investigated the gender differences in cancer survivor-partner communication, differences in the manner in which men and women talk and disclose themselves in general have been widely reported.¹⁶⁻²⁰

Several theoretical perspectives have posited that gender roles and characteristics (e.g., masculinity and femininity) may generate gender-related communication differences.²¹⁻²³ According to social role theory, men and women behave differently based on their gender role expectations and cultural norms.²⁴ For example, women have been traditionally encouraged to be interpersonally oriented, to pay attention to others' emotions^{25,26} and to be more willing to self-disclose and express emotions in their communication.^{17,27-29} In contrast, men are typically encouraged to be independent, focus on problem solving and be more task-oriented in interactions, for example, by providing non-affective and instrumental advice.^{25,26} Thus, men are less likely than women to express their feelings and are less sensitive to emotion.³⁰

Similar findings have been observed in several studies that have examined communication patterns in cancer survivor-partner couples. For example, women were likely than men to have a significant tendency toward greater emotional expressivity and more willingness to discuss cancer-related concerns.^{7,12,31} In a qualitative study,¹² women with breast cancer expressed a desire to discuss their feelings; however, they had difficulties in expressing their emotions due to husbands' unwillingness to discuss cancer-related issues. A study of prostate cancer survivors and wives reported that those couples had a similar tendency to suppress cancer-related communication and that their mutual avoidance led to uncertainty regarding each other's thoughts.⁷ Nevertheless, gender variations were observed: the wives tended to share their emotions and concerns, whereas the prostate cancer survivors had a substantial degree of discomfort in disclosing their physical changes to their wives.^{7,32}

While the influence of gender in cancer survivor-partner couples' communication is recognized, questions remain regarding the effects of roles within couples (i.e., the patient role vs. the partner role). Because most of studies of couples coping with cancer tend to limit to studies in which all patients or partners are of the same gender (breast or prostate cancer couples),^{10,33} the interaction of gender and patient/partner role has not been carefully studied. Along with gender differences, whether one of the couples was the individual with cancer or the partner could also be a salient indicator in the ways that individuals communicate with partners. Although women are more likely than men to disclose their thought and emotion, their communication patterns may vary widely depending upon the role of being the patient vs. the partner. For example, a study found that women who are partners of prostate cancer survivors show avoidance communication, suggesting that communication differences may be caused by gender as well as their role.⁷ Thus, the interaction effect of the role of patient versus partner and gender in explaining differences in communication within couples coping with cancer needs to be explored to further understand their communication patterns and ultimately develop couple-based interventions designed to enhance couples communication.

Effective communication between couples is an important component of the adaptive coping for dealing with their concerns;³⁴ however, how couples communicate during cancer survivorship depending on which spouse was in the "sick role" is not well explored in the literature. Even less is known about how the interaction between gender and the role of patient vs. partner influences communication between couples. The purpose of this study was to explore how breast, colorectal, and prostate cancer survivor-partner couples communicate during cancer survivorship and whether gender and role differences in communication exist within couples.

Methods

Study Design

The current study utilizes the sequential mixed methods design,³⁵ which is part of the dominant-less dominant method. In this study, the qualitative design is dominant, and the quantitative design is less dominant, such that the current study mainly employs an exploratory, descriptive, and qualitative design to further explore and explain the quantitative findings regarding communication within cancer survivor-partner couples. First, the quantitative method was employed to examine the gender differences in family and cancer-related communication for both survivors and partners. The qualitative method was then used to further explore family and cancer-related communication patterns, considering the interaction between gender and the role of patient vs. partner (i.e., male survivor-female partner vs. female survivor-male partner).

Sample and Data Collection Procedures

Purposive sampling was conducted using a hospital cancer registry in Cleveland, OH. Eligible participants included individuals who (1) had been diagnosed with breast, colorectal, or prostate cancer that is the most common in men and/or women, and has higher 5-year survival rates³⁶ (stage I-III); (2) were 1 to 5 years post-diagnosis and were currently

cancer-free; (3) were not diagnosed with another disabling medical (including another cancer type) or psychiatric condition; (4) were 18 years of age or older; and (5) self-identified as white or African-American. In Cleveland, OH, more than 90% of the population are whites (37.3%) and African-Americans (53.3%),³⁷ thus their inclusions in the current study reflect the geographic features and reduce ethnic bias. Survivors in a more advanced stage of cancer (i.e., stage IV), and those with physical or psychological symptoms due to primary and/or secondary cancer were excluded because their medical characteristics (e.g., disease progression and prognosis) were significantly different from their study counterparts, and they were likely to present with distinct distress issues.³⁸ According to seasons of survival,³⁹ extended survivorship phase includes remission or cessation of rigorous treatment, or is often considered to be the 5-year period of observation after a cancer diagnosis. Given that survivors during the extended survivorship have adjustment concerns such as uncertainty about the future, depression, or loss of social support,⁴⁰ the current study focuses on survivors between 1 and 5 years post-diagnosis. The eligible partners included those individuals who met the following criteria: (a) they had been living with a cancer survivor at the time of his/her diagnosis of breast, colorectal, or prostate cancer; (b) they had not been diagnosed with any type of cancer; (c) they were aged 18 years or older; and (d) they were English speakers.

The current study included only couples who participated in both the quantitative survey and qualitative interviews as part of a mixed-methods project regarding family communication and resilience among breast, colorectal, and prostate cancer survivor couples. The quantitative method details, such as the sampling and recruitment procedures for the 91 cancer survivor-partner dyads, will be reported elsewhere. To recruit the study participants, initial telephone interviews were conducted by an ethnically matched research assistant (RA) to assess eligibility 2 weeks after the invitation letters were mailed. During the screening process, the cancer survivors' preferences regarding individual interviews, partner participation, and contact with his/her partner were addressed. The eligible participants were then mailed a questionnaire and consent form and were asked to return these items in an enclosed prepaid envelope within 3 weeks of receipt. Based on the preference of the survivors, we directly called the partner or the survivor to discuss the participation of the partner in the study. If the partner agreed to participate, a brief telephone screening with the partner was conducted for eligibility screening. The survey administration procedures for partners were identical to those used for the survivors.

After completing data collection for the quantitative survey, systematic random sampling was employed to select a specific number of couples from those who agreed to participate in the individual interviews during the screening process. These couples were then invited for the individual interviews. Each individual of a couple was interviewed separately to protect an individual's privacy. Theme saturation was reached with 20 individuals (10 couples). First, the 1 hour formal face-to-face interviews of survivors and partners were conducted by trained, ethnically matched RAs individually at a time and place convenient for participants. The respondents were informed that their participation was voluntary and confidential, and consent was obtained at the beginning of each interview. The interviews were audio recorded. A \$50 gift certificate was given to each survivor and partner as compensation for

completing both the survey and individual interviews. The study was approved by the Institutional Review Board.

Quantitative Phase

Measures

Family communication: The Family Adaptability and Cohesion Evaluation Scales (FACES IV)–Family Communication Scale was employed to assess general communication skills utilized in the couple of family system (referred to as *family communication*).⁴¹ Example items are “family members are satisfied with how they communicate with each other” and “family members are very good listeners.” This measurement rates 10 items on a 5-point Likert scale. The total score was computed by averaging all items, with higher scores indicating better family communication. In the original study, the internal consistency was .90 (test–retest .86), and evidence has been offered for the content, predictive, concurrent, and discriminant validity of the measure.^{42,43} This measure showed good reliability in this sample, with a Cronbach's alpha of .90 for both the survivors and partners.

Cancer-related communication: Cancer-related communication was assessed using the Cancer Communication Assessment Tool for Patients and Families (CCAT-PF), which was developed to assess congruence in patient-family caregiver communication.⁴⁴ This measure comprises 2 parts; the CCAT-P is an 18 item instrument completed by the patient, and the CCAT-F, completed by the family, is an 18-item instrument that is exactly analogous to the CCAT-P. Together, they comprise the CCAT-PF. The respondents rated the items on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). The CCAT-PF score ranges from 0 to 90, with higher scores indicating greater conflict. To further understand cancer-related communication within families, the family communication subscale (5 items) of the CCAT-PF was assessed (e.g., “my family does not really listen when I talk about my cancer,” “I avoid talking about cancer to my family because I don't want to upset them,” etc). Five items in the family communication subscale were summed, ranging from 5 to 25. Higher scores indicate better communication regarding cancer. In the original study, ample evidence exist for its concurrent, convergent, discriminant, and construct validity for cancer patient-caregiver pairs.⁴⁴ In this sample, the reliability coefficients were .73 for survivors and .65 for partners.

Data analysis—Exploratory data analyses were conducted to describe the demographic and medical characteristics of the participants. The Kruskal–Wallis one-way analysis of variance was conducted to compare the outcomes by gender of the survivors and partners. Itemized and total scores were both analyzed to further detail the gender differences in family and cancer-related communication. Additionally, the Wilcoxon signed-rank test was conducted to examine the differences in outcomes according to the matched couples. Data were analyzed using SPSS 20.0. All hypotheses were tested with a $p < .05$ criterion of significance for a 2-sided test.

Qualitative Phase

The development of individual interview questions—An individual interview guide was developed to uncover the themes and patterns that were relevant to family and cancer-

related communication within the families. Each protocol for the survivors and partners was tailored considering the unique characteristics of their patient and caregiver roles. Overall, the initial segment of the interview consisted of closed-ended questions about the demographics and medical histories of the survivors, followed by a brief segment assessing the survivors' family and social environments. The next and longest segment of the interviews consisted of open-ended subjective questions about each individual's family and cancer-related communication experience after the cancer diagnosis. We began with the general question, "How has having had cancer affected you and your partner/family members?" We probed for specific issues regarding family and cancer-related communication between couples, considering the interaction between genders and the role of patient vs. partner. For example, interview questions regarding the satisfaction of communication with a partner, changes in communication after a cancer diagnosis and treatment, topics causing communication conflicts, communication barriers, and efforts to solve communication problems were included.

Data analysis—Transcriptions were checked for accuracy and then analyzed using conventional thematic analysis, from which themes emerged from the data.⁴⁵ To add methodological rigor and to reduce researcher bias, an independent analysis was performed by each investigator, and a consensus was reached. During the preliminary qualitative analysis, open coding for the individuals was managed using Atlas-ti 6.2.⁴⁶ The initial codes were grouped together under primary codes, and they were sorted into themes based on the topics. After completing the initial coding, a conceptual cluster matrix was produced to compare the codes between the male survivor-female partner and female survivor-male partner couples. Hierarchical relationships and linkages between the codes were also examined and organized. Then, the saliency of particular codes was evaluated, and patterns in the configuration of codes across individuals and dyads were identified. The information displayed in the matrix was then checked to ensure the accuracy of the data presented in the matrix. In this matrix, concordant and discordant communication patterns between male survivor-female partner and female survivor-male partner couples were presented. Additionally, consistent communication patterns of each dyad were identified. All investigators contributed to the data interpretation, and any differences in the interpretations were discussed by the co-investigators to obtain a consensus.

Results

Ten couples (20 individuals) were included in this study. Half of the participants ($n=5$) were diagnosed with a predominantly female cancer (i.e., breast cancer), and approximately half of the participants ($n=4$) were diagnosed with an exclusively male cancer (i.e., prostate cancer); one male was diagnosed with colorectal cancer. In total, 5 male and 5 female cancer survivors and their partners were included in the final analysis. The mean age of both survivors and their partners was 58.6 and 54.4 years, respectively (Table 1). Six African-American and 4 white cancer survivor-partner dyads were included. The participants were predominantly employed, relatively educated, and affluent. The average number of years since the cancer diagnosis was 3.6 years ($SD=1.1$), and 60% of the participants had been diagnosed with stage II cancer.

Quantitative Findings: Family and Cancer-related Communication Items

As shown in Table 2, there were no significant differences in the family and cancer-related communication total scores between the male and female cancer survivors. However, family communication total scores were marginally significantly different, indicating that male survivors were more likely than female survivors to perceive better communication within the family ($Z=-1.70, p=.06$). Specifically, of the 10 items in the family communication scale, the items ‘family members are very good listeners’ and ‘when family members ask questions of each other, they get honest answers’ showed significant differences between the male and female survivors, indicating that male survivors tend to have more perceived support through family communication. For those items, the male survivors showed better family communication scores than the female survivors. No cancer-related communication items showed significant gender differences among the survivors.

For partners, the family communication total score varied significantly between the male and female partners ($Z=-2.61, p<.01$). This result indicates that the male partners demonstrate better family communication than the female partners. Specifically, 5 of the 10 items showed significant gender differences. However, the cancer-related communication total scores did not vary between the male and female partners. In terms of discordances in communication between the survivors and partners, no significant differences were found; nevertheless, the male survivor-female partner couples appeared to have a greater discrepancy in communication compared to the female survivor-male partner couples.

Additionally, family communication and cancer-related communication scores were examined to compare the outcomes by matched couples. Neither family communication ($Z=-0.37, p=.72$) nor cancer-related communication scores ($Z=-0.54, p=.59$) showed significant differences between the male survivor-female partner couples. For the female survivor-male partner couples, there were no differences in family ($Z=-0.37, p=.72$) and cancer-related communication ($Z=-1.10, p=.27$).

Qualitative Findings: Themes Regarding Family and Cancer-related Communication

Tables 3 and 4 outline the themes and patterns that emerged from the individual interviews with 10 survivors and 10 partners. Three major themes were identified in family and cancer-related communication: 1) selective sharing in cancer-related issues, 2) initiation of cancer-related communication, and 3) emotional reaction in communication. The patterns associated with these themes differed between the male survivor-female partner and the female survivor-male partner couples.

Selective sharing in cancer-related issues—A pattern of ‘problem solving communication in sharing general cancer-related issues’ in ‘selective sharing in cancer-related issues’ was common for both the male survivor-female partner (60%) and the female survivor-male partner couples (30%), indicating that cancer survivors attempted to share cancer-related general information, such as treatment options, doctor appointments, or treatment schedules, with their partners. Specifically, 3 couples showed concordance in the problem solving communication pattern. Here, we defined a term ‘*problem solving communication*’ based on the degree of sharing such that the ‘problem-solving’ is

conceptualized as the degree to which partners are able to communicate their own feelings and opinions in a constructive manner, and ‘self-disclosure’ and ‘construct’ are included. For example,

“I brought her [wife] along for a couple of discussions because I mean one of the big issues with prostate cancer is incontinence and erectile dysfunction, and I thought that she should be in on those options, cause you have a better chance in the erectile department with certain treatments and it's more at risk than others, and I thought she had an interest in that too...” (Male survivor, 69 years old)

“Most of the times he [husband] will, especially regarding the prostate cancer. He's willing to talk about it and he tells anybody that is newly diagnosed...but because he knows going through it, it's kind of like ‘wow, this is what I've been thorough and I don't want somebody else...’ It's just hard...” (Female partner, 54 years old)

Meanwhile, the theme ‘poor problem solving communication in sharing negative cancer-related issues’ emerged only for the male survivor-female partner couples. Here, poor problem solving communication includes denial, avoidance, refusal, and holding back cancer-related discussion. Some survivors (60%) did not share negative cancer-related issues, such as the severe symptoms and experiences of cancer-spreading. For example,

“I know even when I found the spot, I didn't really want to discuss it with her [wife] then because I thought that it would not be beneficial for me to let her know that there was something that's going on. I probably would keep it more of a secret until I had to tell her...” (male cancer survivor, 61 years old)

“How did you know you had a hernia? He goes ‘well it was bothering me for a long time, but I didn't want to upset you’...” (Female partner, 54 years old)

Initiation of cancer-related communication—In terms of the theme ‘initiation of cancer-related communication,’ a common pattern between the male survivor-female partner couples and female survivor-male partner couples was not found, indicating that communication patterns may vary based on the interaction between gender and role. For the male survivor-female partners, 2 unique patterns emerged: 1) the survivors' (husbands) non-initiation of cancer-related communication and 2) the partners' (wives) non-initiation of cancer-related communication. Meanwhile, a pattern of ‘partner-(husband) initiated cancer-related communication’ was observed for most female survivor-male partner couples (80%).

Two male cancer survivors and 3 female partners stated that the survivors tended to avoid talking about cancer-related issues first. Of these individuals, 2 couples agreed that the survivors did not talk about cancer. Although 1 cancer survivor did not talk about such issues, his partner did mention it.

“I don't bring it up because first of all it is not something dwelling on my mind, and secondly I don't want to burden her down. If she thinks more about it than I would, then me talking about it to her would probably give under stress on her when hey, I am not checking...” (Male survivor, 80 years old)

“He's very talkative about things that interest him. But things like this [cancer] are not things that he just shares openly about...” (Female partner, 69 years old)

The male cancer survivors' partners were also likely to not initiate discussions about cancer-related issues. The wives tended to believe that they could not solve their husbands' burdens and stress by themselves. For example,

“I just take it in stride. Just pray, all I can do and just leave it in the Master's hands. He'll take care of us.” (Female partner, 78 years old)

“My husband is a worrier, so I can't imagine if I planted a seed like that he would be like ‘Oh my gosh’ you know every ache and pain...” (Female partner, 54 years old)

Additionally, the patterns of initiating cancer-related communication for the female survivor-male partner couples differed from those of the male survivor-female partner couples. This result indicates that male partners of breast cancer survivors are likely to initiate communication about cancer-related issues. The husbands felt the need to solve problems by bringing up cancer-related issues or asking their wives questions. Essentially, the husbands were not reluctant to ask their wives if they had health problems. These findings appear to be consistent with the quantitative findings, which indicated, on average, lower family communication scores for female survivors. For example,

“If it comes up, we'll just sit and we'll talk about it and he'll just ask me little questions, if it hurt or whatever, like if he hit me like in a sore spot, ‘Dude, you're hurting me or whatever,’ ‘Oh I am sorry,’ but it's just not, we only talk about it if it just up and come up...” (Female survivor, 33 years old)

“So you know just talk about things like that that this isn't... this doesn't mean the end, because in her mind that's what she felt, that that was it, you know three, five years whatever, and that's not the case. So it would just take some extended conversation.” (Male partner, 40 years old)

Emotional reaction in communication—For the theme of ‘emotional reaction in communication,’ the 2 groups showed different patterns. For the male survivor-female partner couples, 2 patterns emerged: 1) the failure to share emotional reactions to cancer-related issues and 2) assuming the partner's (husband or wife) cancer-related concerns or worries. For the female survivor-male partner couples, a major pattern was noted: the ‘partner stopped communicating his emotional reactions.’

Two of 5 male cancer survivors (40%) stated that their wives did not express their feelings, even though the survivors felt that their wives hid their emotions. For example,

“I don't think she is any differently, but I do believe that she kind of hides it a little bit to comfort me and console me and not to make me worry, but outwardly, no... I can feel that there are times that she might be reluctant to talk about it as to again soothe, you know help me out or make me feel more comfortable...” (Male survivor, 61 years old)

However, 80% of the female partners stated that their husbands were reluctant to express their emotional reactions. One wife stated that her husband never expressed his feelings or emotions to her, and he did not even tell her that he had been diagnosed with cancer.

“...he is a very private type person, so he and I, he doesn't like for everyone else to be knowing exactly what, so he is a little private as far as even with the family...he never feels that his problem is a burden to me...” (Female partner, 58 years old)

“He doesn't express them, if he has fears. I'm sure he tries to be strong for me and not let me know. If he is concerned, he doesn't appear to be... when we were in the appointment, that was when I found out that it was cancer and not precancerous... I said ‘you told me it was precancerous’.” (Female partner, 69 years old)

Two of the 5 male survivor-female partner couples stated that both the survivors and partners were reluctant to express their worries/concerns because they wanted to protect each other.

“The stressing about the money, it was looming over us, but I worried about that. I didn't want him to be concerned about it. I mean I think he was in such a fog, even if it was, I don't think he would have known. I said ‘this is what we're going to do.’ So I kind of took the ball and ran with it, so it wasn't a stressor for us. We just knew we had to do this, this and this...” (Female partner, 54 years old).

The pattern ‘assuming partner's (husband or wife) concerns or worries related to cancer’ appears to be associated with a pattern of not sharing emotional reactions. Indeed, neither the survivors nor the partners shared their emotional reactions, such as fear, anxiety, or depression, except for 1 couple; thus, most couples assumed their partner's feelings, opinions, conditions, or thoughts rather than evaluating and addressing their partner's actual emotions. For example,

“I believe that she doesn't say this, but I'm sure she feels this, that she almost basically lost me because of the aggressiveness of my cancer and the not knowing the right way to get my cancer treated... I think that she probably feels the same way: ‘could we deal with it again? Will it be cured?’” (Male survivor, 59 years old)

“You know I don't know because we don't talk about our fears that way or our worries, and he is generally more, he's not included to...” (Female partner, 67 years old)

Nevertheless, the partners of the male cancer survivors wanted more emotional reactions and more general information from their husbands.

“That means to me that for me I need to find out as much as I can, learning to be more patient, always being more patient, and to make sure that with my husband, that he never feels that his problem is a burden to me...” (Female partner, 58 years old)

For the female survivor-male partner couples, 60% of the cancer survivors felt that their husbands displayed patterns of communication withdrawal (i.e., evading the discussion of issues, pulling away from communication, retreating into a shell, shutting down physically or emotionally) when the survivors expressed their emotional reactions or talked about their

own issues. The finding that female cancer survivors showed relatively low scores in family communication items appears to be consistent with this pattern. For example,

“Like sometimes I don't think he [husband] understands me...” (breast cancer survivor, 55 years old)

“I think that he [husband] often doesn't hear, and because he's male sometimes he doesn't understand things in the way that you say them. You know men are from Mars and women are from Venus I think has a great deal to do with the way we speak...I still don't think my husband likes to talk about things that make him uncomfortable or emotions a lot. It's just ‘It's cut and dry.’” (Female survivor, 70 years old)

For one couple, although the survivor complained about her husband's pattern of communication withdrawal, her husband did not realize it at all.

“I cannot think of an instance of taking about cancer where it's some kind of thing that that would cut off communications...” (Male partner, 70 years old)

Another male partner who presented a different perspective in terms of his emotional reactions with his wife believed that emotional expression was not meaningful in cancer survivorship.

“Her thinking the worst. Her thinking the worst or thinking it's coming back. So what happens is she'll feel something, an ache, a pain, something in her body, and she'll make that the breast cancer spreading and I'll say, you know ‘I know there's no magic bullet...’”. (Male partner, 40 years old)

Discussion

The current study explored how cancer survivor-partner couples communicate during cancer survivorship and whether gender and role interact to influence communication within couples. The dominant method of the sequential mixed design, individual interviews with survivors and their partners, revealed diverse family and cancer-related communication themes, which were compared between the male survivor-female partner and the female survivor-male partner couples. Additionally, quantitative methods, the less dominant method, supplemented our qualitative findings; the quantitative findings were compared with the qualitative findings to fully explore any hidden meanings in the couples' communications. To our knowledge, this study is the first to attempt to examine family and cancer-related communication by considering the interaction between gender and the role of patient vs. partner. Given that little is known about couple dynamics in family communication in cancer survivorship research, the use of dominant-less dominant methods with a sequential mixed design is appropriate in that the qualitative phase can elaborate on the general findings about communication for cancer survivor-partner couples.

In the quantitative phase, men reported better family communication scores than did women, regardless of whether they were the individuals with cancer or the partners. There was no empirical support for the notion of persons with cancer having better communication skills than the partners, or vice versa, after gender was considered. Given that the current study is

based on self-reported data, our findings may imply that men are more likely than women to satisfy their couple communication. It is well recognized that women are more expressive, and more concerned with developing intimacy in communication, whereas men are more dominant, more centered on approaching the matter at hand, and preoccupied with acquiring status and independence.⁴⁷ These differences indicate that the level of satisfaction in terms of family communication may differ by gender. Nevertheless, the finding that cancer-related communication scores did not differ by gender suggests that couples may have similar communication patterns regarding cancer-related issues, which is consistent with the finding that discrepancies in cancer-related communication were not different between the couples.

Based on the quantitative findings, we further explored family and cancer-related communication and identified the similarities and differences in the themes between male survivor-female partner and female survivor-male partners. Unlike the quantitative phase findings, discordances in family and cancer-related communication between survivors and partners existed, and gender impacted their discordances. Thus, the qualitative phase provided additional knowledge and insight regarding family and cancer-related communication. Specifically, the current study conducted individual interviews rather than couple interviews because partners may be reluctant to communicate specific and sensitive issues in front of each other. Thus, the themes were first driven through an individual approach, followed by an examination of concordance and discordances between the couples. This method was effective for exploring the couples' communication dynamics and in identifying diverse themes.

In the qualitative phase, a subtheme of 'problem solving communication in sharing general cancer-related issues' was common for all participants. Given that cancer-related issues, such as doctor appointments or treatment options, are major concerns for both survivors and partners, this finding seems quite plausible. For the male survivor-female partners, however, the male survivors tended not to talk about their negative symptoms, such as side effects or recurrence. This situation may be indicative of interaction effects between gender and role. In reference to gender, it is recognized that most men consider that the main purpose of communication is to help them assert their independence and to negotiate or maintain their status.⁴⁸ For male survivors, however, such communication patterns may be influenced by the cancer diagnosis and treatment. For example, male survivors may feel as though they do not have the power to assert and maintain their status and do not want to show their weak condition to their wives. Given that negative symptoms can significantly influence the physical status and survival rates of survivors, efforts to improve communication skills regarding negative issues may help reduce the risk of cancer recurrence or the development of other diseases.

'Initiation of cancer-related communication' was another major theme. For male survivor-female partner couples specifically, both the survivors and partners tended to not talk about cancer-related issues, a finding that was consistent with other studies.⁷ In general, initiating conversation about cancer after diagnosis and treatment may cause a burden to both survivors and their partners. The male survivors may feel that initiating a conversation regarding cancer will not solve their issues because they tend to have a problem-solving focus.^{25,26} Meanwhile, the female partners may feel that the best method of coping with the

current situation is to wait until their husbands initiate a discussion. This explanation was hypothetically demonstrated in J. Gray's book⁴⁹ in which men and women have different communication patterns.

In contrast, a different pattern was noted for the female survivor-male partner couples, suggesting that an interaction between gender and role (patient vs. partner) may exist. Healthy male partners may be actively engaged in communication about cancer because they may feel that they should solve their wives' problems or concerns regarding cancer. This finding appears to be consistent with a study that reported that spouses tend to adopt a "protective guardian" role during their wives' recovery phases.⁵⁰

Finally, we found that couples do not respond well to emotional reactions. For male survivor-female partner couples, a non-sharing communication pattern caused another theme of 'assuming their partner's concerns or worries related to cancer.' Assuming the concerns of a partner without communication can increase the risk for couple and family instability because of misunderstandings and a lack of awareness. Meanwhile, for the female survivor-male partner couples, the partner's withdrawal of communication was observed, which was consistent with previous studies.^{9,51} In fact, during the quantitative phase, most male survivors and partners showed better communication scores. Based on the qualitative findings, however, the female survivors did not agree that their male partners communicated well. This result implies that men and women, on average, have different perspectives or standards in terms of the quality of communication, resulting in discrepancies in satisfaction with communication between men and women. For example, men may prefer task-oriented conversations, whereas women may prefer emotion-centric communication. Nevertheless, we should not overlook that such communication patterns may be changed if either the man or the woman is in the "sick role."

Limitations

The current study had several limitations. First, the self-reported data obtained during the quantitative phase were subject to recall bias and social desirability. Second, the findings may not be generalizable to all male and female cancer survivors and partners. Specifically, all female survivors included in this study were diagnosed with breast cancer, and most of the male survivors were diagnosed with prostate cancer. This narrow scope of cancer type existed due to recruitment challenges. The cancer type may influence the findings; therefore, the results should be interpreted with caution. Finally, the sample size was small for the quantitative phase; thus, a dyadic analysis of communication could not be conducted because of a lack of sufficient power.

In conclusion, the current study provided valuable information regarding family and cancer-related communication patterns considering the interaction between gender and the role of patient vs. partner. This study had two strengths: it allowed for an in-depth exploration of topics for couples and a link between the quantitative and qualitative findings. The findings from this study showed concordant/discordant communication patterns according to the interaction between gender and role. Furthermore, this study highlighted the importance of understanding different perspectives in the quality of communication by gender, depending on which spouse was in the "sick role." Knowledge of sick/healthy differences and gender

role differences in communication is important to develop effective consumer-centered communication intervention programs that will ultimately improve the quality of life for cancer survivors and their partners.

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Table 1
Demographic and Medical Characteristics of Samples (10 dyads)

Variables	Survivors		Partners	
	<i>n</i>	%	<i>n</i>	%
Gender				
Male	5	50	5	50
Female	5	50	5	50
Household income				
< \$ 25,000	2	20	2	20
\$ 25,001- \$45,000	2	20	2	20
\$ 45,001 - \$75,000	2	20	2	20
> \$ 75,000	4	40	4	40
Employment ^a				
Unemployed	0	0	1	11.1
Employed	10	100	8	88.9
Ethnicity				
European-American	4	40	4	40
African-American	6	60	6	60
Education ^a				
< High school			1	11.1
High school graduate	2	20	2	22.2
> High school	8	80	6	66.7
Cancer type				
Breast	5	50.0	-	-
Colorectal	1	10.0	-	-
Prostate	4	40.0	-	-
Stage of diagnosis				
I	4	40	-	-
II	6	60	-	-
Types of Cancer Treatment (yes)				
Surgery	8	80	-	-
Radiotherapy	6	60	-	-
Chemotherapy	2	20	-	-
	Mean	SD	Mean	SD
Age	58.6	15.4	54.4	18.7
Years since diagnosis	3.6	1.1	-	-

Note.

^aNumbers do not add to total sample size because of the missing values.

Table 2
Differences in General and Cancer-related Communication by Gender

	Male (n=5)	Female (n=5)	Z
<i>Survivor</i>			
	<i>Mean (SD)</i>		
Family communication	4.3 (0.7)	3.5 (0.7)	-1.70 ^c
Item 2: family members are good listeners	4.4 (0.5)	3.2 (0.8)	-2.13 ^d
Item 7: honest answers	4.8 (0.4)	3.2 (0.4)	-2.68 ^e
Cancer-related communication	21.6 (4.4)	20.4 (3.2)	-0.32
<i>Partners</i>			
Family communication	4.5 (0.3)	3.4 (0.3)	-2.61 ^e
Item 4: can ask each other for what they want	4.4 (0.5)	3.4 (0.5)	-2.15 ^d
Item 5: calmly discuss problems	4.6 (0.5)	3.2 (0.4)	-2.55 ^d
Item 6: discuss their ideas and beliefs	4.8 (0.4)	3.4 (0.5)	-2.55 ^d
Item 8: try to understand each other's feelings	5.0 (0.0)	3.4 (0.9)	-2.83 ^e
Item 10: express their true feelings	4.4 (0.5)	3.4 (0.5)	-2.15 ^d
Cancer-related communication	23.0 (2.1)	20.2 (3.7)	-1.38
	Male survivor-female partner	Female survivor-male partner	Z
Survivor-Partner discordances (CCAT-PF)	17.2 (9.7)	14.8 (8.3)	-0.96

Note.

^aKruskal-Wallis one-way analysis of variance were conducted to compare outcomes by gender;

^bNumbers do not add to total sample size because of the missing values.

^cp < .1,

^dp < .05,

^ep < .01.

Table 3
Thematic Categories and Associated Patterns according to Gender

Themes	Male Survivor – Female Partners	Female Survivor – Male Partners
Selective sharing in cancer-related issues	Problem solving communication in sharing general cancer-related issues	Problem solving communication in sharing general cancer-related issues
	Poor problem solving communication in sharing negative cancer-related issues	
Initiation of cancer-related communication	Survivors' (husband) non-initiation of cancer-related communication	Partners' (husband) initiation of cancer-related communication
	Partners' (wife) non-initiation of cancer-related communication	
Emotional reaction in communication	Couples' non-sharing of emotional reactions to cancer-related issues	Partner stopped communicating his emotional reactions
	Assuming partner's (husband or wife) cancer-related concerns or worries	

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Table 4
Themes and Patterns of Cancer Survivor-Partner dyads by gender

	Selective sharing in cancer-related issues						Initiation of cancer-related communication						Emotional reaction in communication						
	Problem solving com			Poor problem solving com			Survivors' non-initiating			Partners' non-initiating			Couples' non-sharing			Assuming partners			
	S	P	com	S	P	com	S	P	com	S	P	com	S	P	com	S	P	com	
Male survivor/female partner																			
Dyad 1	O			O											O	O	O	O	O
Dyad 2	O	O						O	O										
Dyad 3	O	O								O								O	O
Dyad 4		O				O											O	O	O
Dyad 5						O				O	O					O	O		
Female survivor/Male partner	Problem solving com						Partners' initiating						Partner stopped communicating						
	S	P						S	P					S	P				
Dyad 6															O				
Dyad 7	O	O						O											
Dyad 8		O						O	O										
Dyad 9								O									O		
Dyad 10								O	O						O	O	O		

Note.

Symbol O = Either survivors or partners had been included in those themes;

Highlighted cell-colors = checked the concordant patterns between survivors and partners;

All these symbols were depending on participants' responses;

Abbreviations: com, communication; P, cancer survivor' partner; S, cancer survivor.