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Concerns About Breast Cancer and Relations to Psychosocial Well-Being in a Multiethnic Sample of Early-Stage Patients

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Much work on psychosocial sequelae of breast cancer has been guided by the assumption that body image and partner reaction issues are focal. In a tri-ethnic sample of 223 women treated for early-stage breast cancer within the prior year, the authors assessed a wider range of concerns and relations to well-being. Strongest concerns were recurrence, pain, death, harm from adjuvant treatment, and bills. Body-image concerns were moderate; concern about rejection was minimal. Younger women had stronger sexual and partner-related concerns than older women. Hispanic women had many stronger concerns and more disruption than other women. Life and pain concerns and sexuality concerns contributed uniquely to predicting emotional and psychosexual disruption; life and pain concerns and rejection concerns contributed to predicting social disruption. In sum, adaptation to breast cancer is a process bearing on several aspects of the patient's life space.

Key words: breast cancer, quality of life, psychosocial sequelae, psychological well-being, ethnicity

The experience of breast cancer is unquestionably the source of substantial distress. However, among early-stage patients with no prior history of psychiatric disturbance, severe psychiatric symptoms are less common than was once believed and far less common than among patients with more advanced cancers (Bloom et al., 1987; Gordon et al., 1980; Lanksy et al., 1985; Penman et al., 1987; for reviews see Glanz & Lerman, 1992; Irvine, Brown, Crooks, Roberts, & Browne, 1991; Moyer & Salovey, 1996). The experience of early-stage breast cancer is now widely viewed as a crisis, which is weathered during the period of about a year postsurgery by the majority of patients.

Women's psychological responses to early-stage breast cancer are influenced by many factors, including surgical procedure. Mastectomy patients typically report poorer psychosexual adjustment (assessed as sense of attractive-ness, femininity, and sexual desirability) than lumpectomy patients, though the groups do not differ in mood disturbance (e.g., Bartelink, van Dam, & van Dongen, 1985; de Haes & Welsaart, 1985; Fallowfield, Baum, & Maguire, 1986; Kemeny, Welsch, & Schain, 1988; Morris & Royle, 1988; Pozo et al., 1992; Sanger & Reznikoff, 1981; Schain et al., 1983; Steinberg, Juliano, & Wise, 1983; Taylor, Lichtman, Wood, Bluming, Dosik, & Leibowitz, 1985; Welsch et al., 1989). This pattern of findings illustrates both the diversity among psychological sequelae of breast cancer and the fact that the sequelae do not necessarily have the same determinants.

This work also reflects an orienting assumption that seems implicit in much research on psychosocial responses to breast cancer. Specifically, it often seems to be assumed that the major concern of the early-stage breast-cancer patient is the impact of the disease and its treatment on her body image (Carver et al., 1998; Mastrovito, 1974; Meyerowitz, 1980; Polivy, 1977; Schain, 1988; Sinhaheimer & Holland, 1987; Sutherland, 1967; Wolberg, Tanner, Romsaas, Trump, & Malec, 1987). Thus, prime targets for study have been questions such as the extent to which the breast-cancer patient continues to feel attractive, feminine, and sexually desirable after treatment.

The focus on body image reflects an evolution in the thinking of researchers on psychological sequelae of breast cancer. In earlier years, a psychoanalytic approach dominated thinking about the psychological impact of breast cancer (though it should also be kept in mind that the
surgical treatment itself was far more severe than it is now—cf. Holland & Rowland, 1987). The assumption at that time was that a woman with breast cancer confronted a challenge to her identity as a feminine being (Polivy, 1977). Today, discussions of the impact of body image focus more on perceptions of physical disfigurement per se and a consequent loss of confidence about relations with significant others.

The assumption that women with breast cancer have special concerns about body image is certainly a reasonable one. However, there is surprisingly little systematic evidence about how such concerns rank among the many concerns possible. Is body image the key concern among early-stage breast-cancer patients? If not, what concerns are focal? Several sources of indirect evidence exist. Studies have assessed problems cancer patients experience at various phases of their treatment (e.g., Freidenbergs, Gordon, Hibbard, & Diller, 1980; Ganz, Polinsky, Schag, & Heinrich, 1989; Meyerowitz, Sparks, & Spears, 1979; Mor, Malin, & Allen, 1994). However, these studies tend to focus on current impact of the treatment on practical domains of life—for example, dissatisfaction with medical services, problems doing housework, financial problems, and disruption of daily routine and family activities. They provide little information on concerns outside those realms.

One study that does provide such information was conducted some time ago by Gotay (1984). She interviewed early-stage gynecological patients (within 2 weeks after diagnosis) and later-stage gynecological and (mostly) breast-cancer patients. Participants were asked to specify their concerns and to describe what they were doing about the concerns. Gotay found that the greatest concern expressed was the possibility of progression or recurrence of the cancer. Among the early-stage gynecological patients, the ability to bear children in the future was the second most common, followed by concerns about effects of the illness on their jobs. Among more advanced patients, fear of progression was matched by concerns about restrictions on activities and about side effects of treatments. In both groups, concern about being able to handle the emotional distress was also commonly mentioned.

These findings are valuable, but they have important limitations. First, the breast-cancer patients in this sample were Stage III and IV patients, in whom concern about progression, physical debilitation, and side effects of treatment would be expected to be especially high. The early-stage patients were gynecological patients, whose concerns may differ from those of breast-cancer patients. Second, the assessment of these early-stage gynecological patients took place very shortly after diagnosis, when the shock of having been diagnosed with cancer was at its peak. It is unclear whether the concerns of these patients may have shifted across the months after diagnosis, as they adapted to the knowledge of their diagnosis, treatment, and favorable prognosis. Third, ethnic minority groups were not well represented in this study, or for that matter in other research relevant to the concerns of breast-cancer patients.

The study reported here was undertaken, in part, to provide further information about what concerns are strongest in the minds of early-stage breast-cancer patients during the first year posttreatment. To do this, we surveyed a tri-ethnic sample of patients, all of whom had had surgery within the prior year. They rated the extent to which they were concerned about each of a series of issues that were presented to them, permitting us to compare the degree of concern across domains. We report here the overall profile of concerns and differences between ethnic subgroups.

Knowing what concerns are salient is important, but it is also important to know which concerns relate most to distress. That is, a given concern may be salient but fail to have an impact on feelings of well-being. A relatively low-level concern may have a strong link to well-being. Accordingly, we also report associations between the concerns reported and several indicators of subjective well-being.

Method

Participants

Participants were 223 women with early-stage breast cancer, recruited through several Miami-area hospitals and practices. In most cases, recruitment began with a letter from the woman's physician to her, which introduced the study and asked her to consider participating in it (in some cases the study was introduced during an office visit). Letters were sent to all early-stage breast-cancer patients these physicians had treated within the past year. The letter was accompanied by a more concrete description of what would be involved in participating. Those interested returned the bottom of that page by mail to indicate when and where they might be reached by phone. Female graduate students called them, explained the study in more detail, and (for all who wished to participate) mailed the women informed consent forms and questionnaire packets. Each participant was paid $40 upon return of the packet. The final participation rate of women initially contacted by letter was approximately 80%.

The patients under study were diagnosed with either Stage 0 ($n = 10$), Stage I ($n = 128$), or Stage II ($n = 85$) breast cancer. Approximately a third of the women (74) reported a positive family history for breast cancer. Nodal involvement ranged from 0 to 21 ($M = 0.86, SD = 2.67$). Most were English speakers, though a few of the participants completed the questionnaires in Spanish ($n = 13$); preliminary analyses revealed that outcome variables did not differ by language of administration). No participant had a positive psychiatric history, prior cancer, or major concurrent disease.

Most of the women were married or in an equivalent relationship (157); 29 were separated or divorced, 24 were widowed, and 13 were single. The majority of the women were non-Hispanic White (151), 48 were Hispanic, and 24 were African Americans. The women had completed an average of 14.39 years of education ($SD = 2.80$). Ninety-eight were currently employed full time, 20 were employed part time, and 105 were not currently working outside the home. Because the data collection had been funded by a project with a focus on the special concerns of younger breast-cancer patients, the sample was heavily weighted with younger patients, ranging in age from 27 to 87 ($M = 53.75, SD = 12.62$).

Seventy-eight of the women had modified radical mastectomies, 9 had bilateral mastectomies, and 136 had lumpectomies (tumor excision). Fifty of the women had undergone reconstruction. Three coding options were used for each adjuvant treatment assessed: “no,” “yes but not in the past 4 weeks,” and “yes in the past 4 weeks.” On these items, 137 reported radiation therapy (46 in the
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past 4 weeks), 84 reported chemotherapy (29 in the past 4 weeks),
and 83 were receiving tamoxifen.

An attempt was made to recruit women who varied in the
amount of time that had passed since their surgery, to ascertain
whether the passage of time (and involvement in, vs. completion
of, adjuvant therapy) would have an influence on the profile of
concerns women reported. For this purpose, we established selec-
tion windows at 3, 6, and 12 months postsurgery. Time since
surgery varied as much as a month in either direction from the
target date except for the 3-month window, for which the lower
bound was only 2 weeks prior to the 3-month mark. Women in the
3-month window numbered 69, 72 were in the 6-month window, and
82 were in the 12-month window.

Psychosocial Measures

Profile of concerns. The measure of participants’ concerns was
the Profile of Concerns about Breast Cancer (PCBC), created for
this study. It consists of 28 items, each naming a specific potential
concern stemming from the diagnosis or medical treatment. The
items were written by members of the research team, partly on the
basis of the existing psychooncology literature and partly on the
basis of years of first-hand experience with breast-cancer patients.
An attempt was made to cover a diverse range of potential
concerns. The items are listed in Table 1.

The introduction to the PCBC said that many sorts of things go
through people’s minds when they confront any illness, including
breast cancer. The respondent was to indicate how concerned she
was about each of this list of issues. She was asked not to respond
according to how she had felt at the moment she found out she had
breast cancer but according to how she has felt for the last few days,
including today. Response options ranged from 1 (not at all
concerned) to 5 (extremely concerned). Another option indicated
the concern was not applicable (e.g., a concern about not seeing
children grow up would not apply to someone whose children were
already grown).

Women were also given the opportunity to enter specific
concerns not named in the list and to rate those concerns along with
the ones that had been provided. Of the 223 women in the sample,
45 (20%) added at least one concern. The concerns that the women
added were of real importance to them: The majority were rated as
“extremely concerned.” Although many of the concerns added by
participants could be viewed as more focused restatements of
concerns already on the list, some were new. Concerns expressed
with some frequency in this way were concerns about hair loss,
difficulty of obtaining health insurance in the future, the possibility
of an error in diagnosis, and financial issues such as loss of a
business because of time spent away from work.

Emotional adjustment. Emotional distress was assessed by
three measures. The first was the abbreviated version of the Profile
of Mood States (POMS; McNair, Lorr, & Droppelman, 1981) used
in our earlier research (Carver et al., 1993). The POMS assesses
several emotions. It consists of a series of adjectives, each a mood
descriptor. Respondents in this study indicated the extent to which
they had had the feeling described for the past week including
today, using response choices that ranged from 1 (not at all) to 5
(extremely). An index of the responses made to items reflecting
anxiety, anger, and depression (α = .90) was one measure of
emotional adjustment.

A second measure of emotional adjustment was the Center for

Table 1
Items of Profile of Concerns About Breast Cancer in Order Administered and Overall Sample Means
( Response Options Range From 1 [not at all] to 5 [extremely])

<table>
<thead>
<tr>
<th>Item</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. that you won’t be able to get a better job (or be promoted) if they know you had cancer.</td>
<td>1.98</td>
<td>1.43</td>
</tr>
<tr>
<td>2. that you won’t be given the raises you deserve because of your illness.</td>
<td>1.65</td>
<td>1.21</td>
</tr>
<tr>
<td>3. that the bills from the treatment will be overwhelming.</td>
<td>2.38</td>
<td>1.43</td>
</tr>
<tr>
<td>4. that you won’t be able to have children.</td>
<td>1.79</td>
<td>1.42</td>
</tr>
<tr>
<td>5. that you won’t see your children grow up.</td>
<td>2.52</td>
<td>1.51</td>
</tr>
<tr>
<td>6. that your partner (or a potential new partner) will reject you because of the tumor or your treatment.</td>
<td>1.57</td>
<td>1.13</td>
</tr>
<tr>
<td>7. that your children will become less affectionate or less loving with you.</td>
<td>1.14</td>
<td>0.59</td>
</tr>
<tr>
<td>8. that your family will become angry with you.</td>
<td>1.12</td>
<td>0.51</td>
</tr>
<tr>
<td>9. that you will argue more with your partner.</td>
<td>1.39</td>
<td>0.88</td>
</tr>
<tr>
<td>10. that the treatment will make you feel less feminine, less like a woman.</td>
<td>1.71</td>
<td>1.21</td>
</tr>
<tr>
<td>11. that the treatment will make you less desirable sexually.</td>
<td>1.86</td>
<td>1.30</td>
</tr>
<tr>
<td>12. that the various treatments will make you less likely to have sexual feelings.</td>
<td>1.92</td>
<td>1.27</td>
</tr>
<tr>
<td>13. that people won’t think you look as good as you did.</td>
<td>1.62</td>
<td>1.06</td>
</tr>
<tr>
<td>14. that your friends will avoid you.</td>
<td>1.21</td>
<td>0.68</td>
</tr>
<tr>
<td>15. that people at work won’t want to interact with you.</td>
<td>1.26</td>
<td>0.78</td>
</tr>
<tr>
<td>16. that your friends will act as though your disease is contagious.</td>
<td>1.12</td>
<td>0.59</td>
</tr>
<tr>
<td>17. that chemotherapy or radiation therapy will make you sick.</td>
<td>2.79</td>
<td>1.46</td>
</tr>
<tr>
<td>18. that chemotherapy or radiation therapy will damage your body in some way.</td>
<td>2.87</td>
<td>1.40</td>
</tr>
<tr>
<td>19. that you’ll undergo an early menopause.</td>
<td>2.08</td>
<td>1.43</td>
</tr>
<tr>
<td>20. that you may die soon.</td>
<td>2.22</td>
<td>1.24</td>
</tr>
<tr>
<td>21. that you won’t be able to go places you want to go and do things you want to do.</td>
<td>1.94</td>
<td>1.28</td>
</tr>
<tr>
<td>22. that you will always feel physically damaged from this disease.</td>
<td>2.02</td>
<td>1.24</td>
</tr>
<tr>
<td>23. that your life with your partner will be cut short.</td>
<td>2.11</td>
<td>1.22</td>
</tr>
<tr>
<td>24. that the cancer may come back.</td>
<td>3.14</td>
<td>1.35</td>
</tr>
<tr>
<td>25. that you will lose your sense of independence/self-sufficiency.</td>
<td>2.31</td>
<td>1.39</td>
</tr>
<tr>
<td>26. that others perceive you as less strong, fit, and healthy than before you were diagnosed with breast cancer.</td>
<td>1.82</td>
<td>1.18</td>
</tr>
<tr>
<td>27. that physical pain might come from your illness or its treatment.</td>
<td>2.32</td>
<td>1.31</td>
</tr>
<tr>
<td>28. that you might become dependent on or addicted to drugs or medications.</td>
<td>1.53</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Note. N differs from item to item, as some items were not applicable to all participants. M = most-endorsed items; L = least-endorsed items.
Epidemiologic Studies Depression scale (CES-D; Radloff, 1977). The CES-D measures a range of cognitive, affective, motivational, and somatic symptoms (for data on validity, see Myers & Weissman, 1980; Schulberg et al., 1985). Instructions to the respondent are to indicate the extent to which she has had a variety of experiences (framed as "I" sentences), in this case within the past week. Options for responding range from 0 (rarely or none of the time) to 3 (most or all of the time).

Our third measure of emotional adjustment was the extent to which the woman reported feeling a positive quality of life in her day-to-day experiences. Because our focus was on patients who have few physical symptoms, we did not assess cancer-specific aspects of quality of life but aspects of general quality of life. We selected 11 items from Andrews and Willey (1976) that address a reasonable range of the life activities. Respondents considered each item's content and indicated how they felt about that domain of life, on a scale ranging from 1 (terrible) to 7 (delighted). This brief measure (which has high internal reliability, \( \alpha = .89 \)) was used in our earlier breast-cancer research (Carver et al., 1994).

Preliminary analysis indicated that the three measures just described were fairly strongly correlated with one another (interscale rs ranged from .62 to .75, standardized \( \alpha \) after reversing the coding for quality of life = .87). For this reason, the three measures were merged into an index of emotional distress, by standardizing responses to each of the measures and averaging the z scores.

Psychosexual adjustment. Psychosexual well-being was assessed by two measures. The first was the Sexual Relations subscale from the Psychosocial Adjustment to Illness Scale (PAIS), a self-report measure of how illness is influencing well-being (Derogatis, 1975). The Sexual Relations items assess changes in sexual interests, activities, and abilities. Each item has its own response options. This scale was scored such that high values imply greater adverse impact on sexual relations.

Another measure of psychosexual well-being consisted of a series of individual items culled from previous studies of the impact of mastectomy versus lumpectomy (Carver et al., 1998). The items on which we focus here are self-ratings of physical attractiveness ("How physically attractive do you feel you are"?), sexual desirability ("How sexually desirable do you feel you are"?), and femininity ("How feminine, or how much like a woman, do you feel you are"?). All were self-rated on scales ranging from 1 (not at all) to 5 (extremely). Responses to these 3 items were highly intercorrelated (rs ranged from .64 to .79, \( \alpha = .87 \)). For this reason, the items were merged into an index of femininity by standardizing responses to each item and averaging the z scores. This is the only outcome variable for which a high value is a sign of positive well-being. Because the PAIS Sexual Relations scale and this index were only moderately related to each other (r = .48), they were examined separately.

Disruption of social and recreational activities. An important aspect of psychosocial adjustment to an illness is remaining engaged in life's normal activities after medical treatment. If the illness or its treatment disrupts social activities, either for psychological reasons or because of physical symptoms from adjuvant treatment, the patient may become more isolated from her social network, which can lead to further adverse effects on well-being (Bloom & Spiegel, 1984). To assess illness-related disruptions, we used two subscales of the Sickness Impact Profile (SIP: Bergner, Bobbitt, Carter, & Gilson, 1981). These were subscales measuring adverse impact of the illness or its treatment on Social Activities and Recreational Pastimes. As scores on these scales were strongly correlated (r = .70), we combined them into an index of disruption, by computing z scores and averaging them.

Association among facets of well-being. The various outcome measures used here had different focuses, but they obviously were not independent of one another. The associations ranged in strength from a correlation of .58 between distress and disruption of social activities and -.43 between social disruption and the sense of femininity. Although the indexes were analyzed separately, these associations should also be kept in mind in interpreting the results.

Results

Preliminary Analyses for Control Variables

The outcome variables in this study were the concerns patients expressed about breast cancer, emotional distress, sexual disruption, the sense of femininity, and disruption of social activities. Of interest to us as potential predictors of these outcomes were age, ethnic group, and time since surgery. Before examining the role of these variables, however, we conducted preliminary analyses to assess the need to include other variables as controls. Variables tested in this way were surgical procedure, stage of disease, chemotherapy status, radiation status, reconstruction status, employment status, education level, and family history of breast cancer.

None of these variables related significantly to any measure of well-being, but two variables related significantly to concerns. Surgical procedure related to concern about overwhelming bills (p < .01), that the treatment would result in lowered sexual desirability (p < .01), and that adjuvant therapy would produce sickness as a side effect (p < .02). In each case, lumpectomy patients reported less concern than mastectomy patients (single and double mastectomy patients did not differ).

Chemotherapy status related significantly to a relatively large number of concerns: possibly not being able to have children (p < .02); that the treatment would make you feel less feminine (p < .001), less sexually desirable (p < .001), and less likely to have sexual feelings (p < .002); that people wouldn't think they look as good as they had (p < .002) and that friends would avoid them (p < .03); that the therapy would make them sick (p < .02) and damage their body (p < .03); that they would always feel physically damaged (p < .04); that they might undergo early menopause (p < .04); that they wouldn't be able to go places and do things as they wished (p < .04); that their life with their partner would be cut short (p < .01); and that they might die soon (p < .03). In all cases, patients receiving chemotherapy reported more concern than those without chemotherapy (on most of these items those whose chemotherapy was in the past did not differ from those with current chemotherapy).

Given these associations, when analyzing predictors of the concerns as outcomes, surgical procedure and chemotherapy status were included as controls. Time since surgery was included in all analyses but proved not to relate to any outcome variable and is not discussed further.

Overall Profile of Greater and Lesser Concerns

Table 1 (earlier) included means for the full sample on each item of the PCBC. Recall that women were permitted to indicate that a given item was not applicable (particularly
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common for items dealing with work, partners, and children), which means that the sample size varies across the items. The nine items for which responses indicated the greatest degree of concern are marked with the letter M; the nine items for which responses indicated the lowest degree of concern are marked with the letter L.

The single largest concern reported was the possible recurrence of the cancer. This concern was significantly higher than the next highest item (by paired t test), bearing on potential damage from the adjuvant therapies ($p < .001$). Concern about damage from adjuvant therapy, in turn, was higher than concern about not seeing children grow up ($p < .02$), which was significantly higher than concern about bills ($p < .02$). As a group, then, the highest-rated concerns blend existential and practical issues: premature death, pain, and overwhelming bills. To the extent that relationships are mentioned in these high-level concerns, it is in the form of concern about not being able to live out the relationships, rather than concern about adverse reactions from significant others.

Adverse reactions from others, in fact, were among the least intense of the concerns reported. With the exception of an item dealing with dependency on drugs and medications, the least endorsed items all deal with rejection, avoidance, or friction from family, partners, and friends. Items falling in the middle range of endorsement included several dealing with sexuality and femininity and others dealing with self-perceptions and other-perceptions of strength and self-sufficiency.

Data Reduction Among Concerns

To explore the possibility that the PCBC items reflect a more limited number of latent variables, we conducted a factor analysis, limited to items for which at least 200 of the 233 participants provided responses. A "not applicable" response was fairly common for items regarding work (many women did not work), partner reactions (some had no partners), children (some had no children), and adjuvant therapy (some did not undergo adjuvant therapy). Because of the lower response rates on these items, they were omitted from this analysis and considered separately.

The factor analysis, with an oblique rotation to permit correlations among factors, yielded 3 factors, accounting for 67% of the variance. Factor 1 (Life and Pain Issues) combined existential and practical issues—loss of self-sufficiency, pain, recurrence, dependency on medication, premature death, the loss of ability to go places and do things, the sense of always feeling damaged from the disease, and overwhelming bills (Items 3, 20, 21, 22, 24, 25, 26, 27, and 28). Factor 2 (Rejection Issues) loaded 3 items bearing on possible adverse reactions from family and friends (items 8, 14, and 16). Factor 3 (a Sexuality Issues factor) was made up of 4 items dealing with perceptions of being less feminine, less attractive, and less sexual (Items 10, 11, 12, and 13). Factor 1 correlated .43 with Factor 2 and .56 with Factor 3; the latter two correlated .44.

Factor scores for each participant were generated from this analysis, and the factor scores were used in subsequent analyses. The items not entered into the factor analysis were also examined for possible data reduction. The items pertaining to work (1 and 2) were highly correlated ($r = .82$) and were averaged, as were the items pertaining to adjuvant treatment (17 and 18, $r = .75$). The items pertaining to partners (6, 9, & 23) correlated an average of .53 ($\alpha = .75$) and were also averaged. The items pertaining to children were answered by sufficiently divergent subsamples that it was impractical to merge them, but we continued to examine Item 5, the most frequently answered ($n = 112$).

Age and Ethnicity Differences in Concerns and Subjective Well-Being

The data then were examined for age differences and differences among ethnic groups. Age effects were tested by partial correlations, controlling for chemotherapy status and procedure. Age was inversely related to partner concerns ($r = -.22$, $p < .005$), concerns about impact of adjuvant treatment ($r = -.27$, $p < .001$), concerns about not seeing children grow up ($r = -.41$, $p < .005$), and the Sexuality Issues factor ($r = -.17$, $p < .04$). Age was not related to work concerns or the factors for Life and Pain Issues or Rejection Issues. Age also was inversely associated with emotional distress ($r = -.15$, $p < .05$) but not to the other indexes of subjective well-being.

The three ethnic groups were compared by analysis of covariance, controlling for chemotherapy status, surgical procedure, and age. Results on ethnicity are summarized in Table 2 (omitting mention of control variables). Ethic differences emerged on all concerns tested except for Rejection Issues and concerns about adverse effects of adjuvant treatment. With regard to concerns about Life and Pain Issues and Sexuality Issues, the Hispanic mean was significantly higher than that of non-Hispanic Whites, which was higher than that of African Americans. With regard to work concerns, the mean among Hispanic women was higher than those of the other two groups, which did not differ from each other. With regard to partner concerns, the non-Hispanic White mean was roughly midway between those of the Hispanics and African Americans and did not differ from either of them. With regard to concern about not seeing children grow up, the African American mean was lowest but differed significantly only from the mean for Hispanics.

Similar analyses of the indices of subjective well-being also yielded ethnicity effects (Table 2). Hispanic women reported more distress, social disruption, and sexual disruption than the other two groups, which did not differ from each other. With respect to the sense of femininity, African Americans reported more positive values than the other groups, which did not differ from each other.

Relating Concerns to Psychosocial Well-Being

Next, we considered the relation between concerns and subjective well-being. All three PCBC factors were significantly correlated with all outcome variables at the bivariate level. However, recall that the concern factors were moder-
Table 2
Summary of Analyses of Covariance Comparing African Americans, Non-Hispanic Whites, and Hispanics on Life and Pain Concerns, Rejection Concerns, and Sexual Concerns (All as Factor Scores); Work Concerns, Partner Concerns, Not Seeing Children Grow Up Concern, and Adverse Impact of Adjuvant Therapy Concerns (as Mean Item Responses); Emotional Distress (as z Scores); Disruption of Social Activities (as z Scores); Disruption of Sexual Relations (as Scale Totals); and Self-Perceived Femininity (as z Scores)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>African American</th>
<th>Non-Hispanic White</th>
<th>Hispanic</th>
<th>F</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life and Pain Issues factor</td>
<td>-0.58&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.10&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.77&lt;sup&gt;b&lt;/sup&gt;</td>
<td>15.10***</td>
<td>2.160</td>
</tr>
<tr>
<td>Rejection Issues factor</td>
<td>-0.25</td>
<td>0.03</td>
<td>0.15</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Sexuality Issues factor</td>
<td>-0.52&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.04&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.39&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.22**</td>
<td>2.160</td>
</tr>
<tr>
<td>Work concerns</td>
<td>1.58&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.62&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.43&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.83*</td>
<td>2.123</td>
</tr>
<tr>
<td>Partner concerns</td>
<td>1.37&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.65&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.03&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.18*</td>
<td>2.150</td>
</tr>
<tr>
<td>Not see child grow concern</td>
<td>1.86&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.62&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.97&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.30*</td>
<td>2.106</td>
</tr>
<tr>
<td>Adjuvant impact concerns</td>
<td>2.96</td>
<td>2.79</td>
<td>3.37&lt;sup&gt;b&lt;/sup&gt;</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Subjective well-being</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional distress</td>
<td>-0.38&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.05&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.44&lt;sup&gt;b&lt;/sup&gt;</td>
<td>8.09***</td>
<td>2.217</td>
</tr>
<tr>
<td>Social disruption</td>
<td>-0.13&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.15&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.54&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10.82***</td>
<td>2.216</td>
</tr>
<tr>
<td>Sexual disruption</td>
<td>1.54&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.66&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.16&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.47**</td>
<td>2.213</td>
</tr>
<tr>
<td>Femininity</td>
<td>0.51&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.02&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.25&lt;sup&gt;b&lt;/sup&gt;</td>
<td>5.93**</td>
<td>2.217</td>
</tr>
</tbody>
</table>

Note. Each line represents a separate analysis; on each line, groups sharing a subscript do not differ by Duncan Multiple Range test. All analyses incorporate controls for chemotherapy status, surgical procedure, and age; means are adjusted.

*<sup>p</sup> < .05. **<sup>p</sup> < .01. ***<sup>p</sup> < .001.

Table 3
Summary of Multiple Regression Analyses Predicting Emotional Distress, Disruption of Social Activities, Disruption of Sexual Relations, and Self-Perceived Femininity From Three Factors From the Profile of Concerns About Breast Cancer: (1) Life and Pain Issues, (2) Rejection Issues, and (3) Sexuality Issues

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>N</th>
<th>Beta for Life and Pain Issues</th>
<th>Beta for Rejection Issues</th>
<th>Beta for Sexuality Issues</th>
<th>Overall adjusted R²</th>
<th>Equation F value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional distress</td>
<td>166</td>
<td>.41***</td>
<td>.06</td>
<td>.29***</td>
<td>.39</td>
<td>21.83</td>
</tr>
<tr>
<td>Social disruption</td>
<td>165</td>
<td>.30***</td>
<td>.16*</td>
<td>.15</td>
<td>.24</td>
<td>11.57</td>
</tr>
<tr>
<td>Sexual disruption</td>
<td>162</td>
<td>.27**</td>
<td>.11</td>
<td>.22*</td>
<td>.22</td>
<td>9.97</td>
</tr>
<tr>
<td>Femininity</td>
<td>166</td>
<td>-.19*</td>
<td>-.08</td>
<td>-.36**</td>
<td>.26</td>
<td>12.71</td>
</tr>
</tbody>
</table>

Note. All analyses incorporate controls for surgical procedure and chemotherapy status.

*<sup>p</sup> < .05. **<sup>p</sup> < .01. ***<sup>p</sup> < .001.

atey correlated with one another. For this reason, the factor scores were entered simultaneously into multiple regression analyses, predicting each measure of subjective well-being. Surgical procedure and chemotherapy status again were included as control variables in these analyses. The results are summarized in Table 3.

These analyses accounted for considerable variance in each measure of well-being. The analysis for emotional distress yielded unique contributions from the PCBC's Life and Pain Issues factor and Sexuality Issues factor, but the Rejection Issues factor did not play a unique predictive role. The same pattern emerged for sexual disruption and perceptions of femininity as outcomes. In contrast, when predicting social disruption as an outcome, the Life and Pain Issues factor and the Rejection Issues factor made unique contributions, and the Sexuality Issues factor fell short of significance.

Follow-up analyses explored whether concerns omitted from the factor analysis would add to prediction among subsets of participants who provided information about those concerns. Concerns pertaining to the partner related strongly to the Sexuality Issues factor (r = .69). When entered as a predictor of distress, it preempted the role of the Sexuality Issues factor. When entered as predictors of sexual disruption the two variables had more overlap, such that neither made a unique contribution. Concerns pertaining to adjuvant treatment related strongly to both the Life and Pain Issues factor (r = .65) and the Sexuality Issues factor (r = .64) and added no unique variance for any outcome.
Concern about not seeing children grow also related both to the Life and Pain Issues factor ($r = .68$) and the Sexuality Issues factor ($r = .57$) and also failed to increase prediction.

Supplemental analyses also were conducted to test the generality of the relations shown in Table 3 across age and ethnicity, by creating dummy codes for ethnicity and appropriate interaction terms. These analyses indicated that the associations generalized across ethnicities and across age (no significant interaction emerged between age or ethnicity and any PCBC factor for any outcome).

Finally, we conducted an analysis to determine whether the concerns reported in the PCBC could predict emotional well-being above and beyond contributions made by indicators of social and sexual well-being. To test this, we conducted a regression analysis entering social disruption, sexual disruption, and the femininity index as predictors of distress, followed by the PCBC factors. The final equation accounted for 57% of the variance in distress, with three significant unique effects. Distress was inversely related to perceived femininity ($\beta = -.26$, $p < .001$) and positively related both to social disruption ($\beta = .34$, $p < .001$) and to the Life and Pain Issues factor of the PCBC ($\beta = .26$, $p < .001$).

Discussion

We created a profile of concerns reported by early-stage breast-cancer patients and related that profile of concerns to several measures of psychological, social, and sexual well-being. A number of limitations on the study should be acknowledged, including its cross-sectional and descriptive nature. We are unable, for example, to assert that the concerns have a causal influence on subjective well-being. What we have here is a snapshot of the experiences of women who are in treatment for early-stage breast cancer—the concerns that occupy their minds and the associations between those concerns and facets of their well-being. Within that framework, however, the findings make several points.

Overall Profile

First, it is clear that some concerns stand out in these women’s minds more than others. The strongest concerns expressed were those that related directly to cancer as a health and life threat. The single focal concern was the possibility of recurrence, a finding that replicated Gotay’s (1984) finding among patients treated for more advanced cancers. The other high-rated concerns combined overtones of the existential and the practical: sickness and potential damage from undergoing adjuvant therapies, premature death, pain, and overwhelming bills.

To the extent that personal relationships appeared at all among the high-level concerns, they did so as concerns about not being able to live out important relationships—not seeing children grow up and having life with a partner cut short. Concerns about adverse reactions from significant others, in contrast, were among the least intense reported. All but one of the least-endorsed items dealt with rejection, avoidance, or friction from family, partners, and friends.

Items pertaining to body-image issues (femininity, sexuality, attractiveness) fell in the middle range. They were not as salient as existential concerns about recurrence, survival, and pain, but they pressed on these women’s minds more than did concerns about adverse reactions from significant others.

Several forces might be invoked to account for this pattern. For instance, cancer in general and breast cancer in particular have been discussed openly in the past two decades. This probably has desensitized many people to some of its adverse implications. Further, treatment for breast cancer is less disfiguring than it was, and reconstructive procedures are more advanced. This might serve to dampen body-image-related concerns. Apart from such changes in treatment and social context, it may simply be the case that existential issues naturally come to the fore when people confront threats to their life and physical well-being.

An implication of this pattern is to remind researchers that the experience of breast cancer is not solely about threats to body image. Although such threats are certainly a part of the experience, there is much more going on in the patient that may be more salient to her. Such issues should be considered in planning assessments. Clinically, the pattern serves as a reminder that what may be easiest to discuss with a patient (e.g., how physical changes can influence a relationship) may not be what the patient is most worried about. The pattern also suggests an important criterion for an intervention in this group: that it provide patients an avenue for confronting issues of mortality. A part of this confrontation may be accepting what cannot be changed (the reality of the cancer diagnosis and the treatment) and directing energies to concerns that are strong yet controllable (e.g., increasing health-enhancing behavior, planning for children’s future, developing a plan for dealing with medical bills—cf. Scheier & Carver, in press). Addressing existential issues directly may be more valuable than focusing closely on issues of body image and potential social rejection. The latter issues do matter—just not enough to be the primary focus of an intervention for the majority of patients.

Impact of Adjuvant Therapy and Age

A second important aspect of the findings is the impact of adjuvant chemotherapy on the concerns reported. If we had looked only at the measures of subjective well-being, we would have concluded that the women of this sample were not bothered by the experience of adjuvant therapy, because its presence did not significantly relate to subjective well-being per se. In contrast, however, chemotherapy did relate to the rated intensity of several concerns (see also Meyerowitz et al., 1979).

Having had chemotherapy—whether recently or not—related to social, sexual, and existential concerns. It related to concerns about an early menopause and not being able to have children, that people wouldn’t think the women look as good as they did, and that friends would avoid them. It related to concerns about sickness and damage as side effects of treatment, about abridgement of the ability to go
places and do things, and about dying. Having had chemotherapy also related to concerns that the treatment would have an adverse impact on the sense of femininity and sexual desirability—indeed, on the capacity for sexual feelings. These concerns occupied the minds of the women who underwent chemotherapy in this sample more than those who did not, despite the fact that the more general measures of subjective well-being did not relate to chemotherapy status.

A third aspect of the findings worth brief comment is age differences. Older patients reported less partner-related concerns and concerns about sexual issues than did younger patients, along with lower levels of emotional distress (about which previous evidence has been mixed—Given, Given, & Stommel, 1994; Mor, Allen, & Malin, 1994; Vinokur, Thrett, Vinokur-Kaplan, & Satariano, 1990). These differences in levels of concern did not extend the existential qualities assessed in the Life and Pain factor or to concerns about the reactions of friends.

**Ethnic Differences**

Another finding of interest is the pattern of ethnic differences. Hispanic women reported higher levels of concern than did the other groups on all indexes other than the Rejection Issues factor (which includes items dealing with friends and family without reference to partners). They expressed higher concerns about existential issues, sexuality issues, work issues, and partner issues. These elevated concerns among Hispanic women were paralleled by elevations in measures of emotional distress and both sexual and social disruption.

A second notable ethnic difference was that some concerns reported by African American women were notably lower than those reported by the other two groups. The relatively smaller number of African American participants than other groups means that these effects should be interpreted with caution. However, African American women reported significantly less concern than did the other women about Life and Pain Issues and Sexuality Issues. They also reported higher perceptions of their own sense of femininity than the other groups.

What accounts for these ethnic differences? Might the pattern of lower concerns among African Americans reflect a stronger religious commitment (Jackson & Sellers, 1996; Levin, 1991; Mattis, 1997) or a greater sense of fatalism (Ho, 1987, p. 183)? We cannot address these possibilities with great confidence. On a measure of coping in the data set but not involved in this article, African Americans reported the highest absolute level of religious-oriented coping. They did not, however, differ significantly from Hispanic women in that regard (though both differed substantially from non-Hispanic Whites), which tends to contradict an interpretation of the concerns data based on religiosity. On the other hand, the religious affiliations of these two groups are quite different. Whether religious investment and religious activity might function differently for African Americans and Hispanics is a matter that will have to be examined in future research.

Another issue that should be raised at least briefly is the possibility that these ethnic differences in reports of concerns and well-being reflect cultural differences in communication style and impression management rather than actual concerns and well-being. Perhaps Hispanic women reported stronger concerns and greater distress than other women because such responses are culturally appropriate—or because acknowledgment of feelings is culturally appropriate. Perhaps African American women reported lower concerns and less distress because it is culturally appropriate for them to present a strong image to others (cf. Pinderhughes, 1979). Most of the women returned the measures by mail rather than having in-person interviews; this should have diminished any impact of ethnic differences between researchers and participants. Although we believe that the responses made by our participants represent their true subjective experiences, we cannot entirely discount the possibility that such influences contributed either to the experiences themselves or to the reports of them.

**Relations of Concerns to Distress and Disruption**

A final issue addressed by the findings is the relation between the concerns and our indexes of psychosocial and sexual well-being. We tested the three PCBC factors in multiple regression analyses as predictors of the indexes of subjective well-being. Each factor related significantly to each index of well-being at the bivariate level, but the regression analyses yielded slightly different patterns. In each case, the Life and Pain Issues factor made a unique contribution to prediction. Indeed, concern about Life and Pain Issues proved to contribute to prediction of emotional distress above and beyond the contribution made by the other aspects of subjective well-being that were assessed.

The Sexuality Issues factor also made unique contributions to prediction in three of the four aspects of well-being (emotional distress, sexual disruption, and perceptions of femininity). The latter two are the most straightforward. The failure of this factor to contribute was in the analysis of social disruption, where its contribution only approached significance. The analysis of social disruption also saw the emergence of unique prediction from the Rejection Issues factor, the only case in which it did so. The emergence of this factor here is not surprising. The Rejection Issues factor revolves around concern about adverse reactions among family and friends. It seems natural that such concerns would be associated with restriction of social and recreational activities.

The pattern of findings from these analyses makes clear that psychological, social, and sexual well-being relate to concerns that weigh heavily on people’s minds but also relate to concerns that are less salient. Despite the fact that the Rejection and Sexuality factors were based on items that were not endorsed strongly overall, these qualities played unique roles in predicting various aspects of well-being, including emotional distress. Despite their low incidence, they should not be ignored.

Finally, it is noteworthy that the relations among concerns and the indexes of well-being generalized across age and
References


