

COPING AND DISTRESS AMONG WOMEN UNDER TREATMENT FOR EARLY STAGE BREAST CANCER: COMPARING AFRICAN AMERICANS, HISPANICS AND NON-HISPANIC WHITES

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SUMMARY

This study examined coping and distress in African American ($n=8$), Hispanic ($n=53$), and non-Hispanic White ($n=70$) women with early stage breast cancer. The participants were studied prospectively across a year beginning at the time of surgery. African American women reported the lowest levels of distress (particularly before surgery) and depression symptoms. Hispanic women reported the highest levels of self-distraction as a coping response, non-Hispanic Whites reported the highest use of humor. Hispanics reported the highest levels of venting, African Americans reported the lowest levels. African American and Hispanic women reported more religious coping than non-Hispanic Whites. The data also provided evidence of a maladaptive spiral of distress and avoidant coping over time. Although some ethnic differences were identified, findings also point to a great many similarities across groups. Copyright © 2002 John Wiley & Sons, Ltd.

INTRODUCTION

Without question, the experience of diagnosis and treatment of breast cancer causes distress. However, among patients with no prior history of psychiatric disturbance and whose cancer is at an early stage (and for whom prognosis thus is relatively good) severe psychiatric symptoms are less common than once believed and far less common than among patients with more advanced cancers (Bloom *et al.*, 1987; Gordon *et al.*, 1980; Lansky *et al.*, 1985; Penman *et al.*, 1987; for reviews see Glanz and Lerman, 1992; Irvine *et al.*, 1991; Moyer and Salovey, 1996). The experience of early stage breast cancer is now widely viewed as a crisis, which is weathered by most patients during the period of roughly a year post-surgery.

The manner in which women cope with this crisis, however, can play a significant role in their

emotional adjustment. Coping refers to behavioral and cognitive ways through which people attempt to deal with a situation they perceive as exceeding their resources (Lazarus and Folkman, 1984) or blocking their path towards desired goals (Carver, Scheier and Pozo, 1992). Studies of coping have generally found that engaged forms of coping, directed at addressing the problem and coming to terms with it, relate to lower distress (Carver *et al.*, 1993; Dunkel-Schetter *et al.*, 1992; Epping-Jordan *et al.*, 1999; Friedman *et al.*, 1988; Friedman *et al.*, 1990; Moyer and Salovey, 1996; Stanton and Snider, 1993). Avoidance coping, on the other hand, typically relates to higher distress (Carver *et al.*, 1993; Dunkel-Schetter *et al.*, 1992; Friedman *et al.*, 1988; Friedman *et al.*, 1990; Moyer and Salovey, 1996; Stanton and Snider, 1993).

LIMITATIONS ON EXISTING KNOWLEDGE

Although this information is valuable, it comes almost entirely from samples of non-Hispanic

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White women of middle or upper-middle socioeconomic status (SES). Little is known about the psychological experiences of ethnic minority women being treated for breast cancer.[†] Nor is much known about the experiences of women from any other SES. It is widely acknowledged that minority and lower-SES samples are often difficult to recruit, and that language and cultural differences can impede effective transmission of information. Nonetheless, it is clear that it is important to learn more about the experiences of patients from cultures other than the majority one.

One recent study examined psychosocial well being and concerns about breast cancer in a cross-sectional sample of Hispanic, non-Hispanic White, and Black women (Spencer *et al.*, 1999). This study found elevated concerns and emotional distress among Hispanic women. Black women reported fewer concerns than Hispanic or non-Hispanic White women, and reported less distress than Hispanic women. Although that study provided some evidence regarding ethnic differences in distress, more information clearly is needed.

Present research aims

The research reported here collected data about the experiences of Hispanic women, and to a lesser extent African American women, who were being treated for early stage breast cancer. Data collection had three focuses, all involving comparison of the minority groups against a sample of non-Hispanic White women who were undergoing roughly the same experiences. The first focus of the study was to profile the distress levels among the women across the first year post-surgery. The Spencer *et al.* (1999) finding suggests that Hispanic women may report high distress, and African American women low distress, compared to the non-Hispanic White group.

The second focus of the study was to assess the ways in which the women of these ethnicities cope across that period. There is a basis for expecting that these minority women are more likely to use

religious coping than non-Hispanic Whites (cf. Abraido-Lanza *et al.*, 1996; Koenig *et al.*, 1992; Lacayo, 1984; Taylor and Chatters, 1991). Beyond that hypothesis, however, our examination of coping was exploratory.

The third focus of the study was to examine relations between coping and distress. We had no *a priori* reason to expect coping to relate differently to distress from one ethnicity to another. We believed, however, that this possibility should not be dismissed without examination.

METHOD

Participants were 131 breast cancer patients, who were recruited as two samples. The samples were similar in some respects, different in others. Both were studied in the same design across the period of a year. They were combined here to gain statistical power.[‡]

The first sample (hereafter, the private patient sample) was 75 women from the University of Miami oncology clinic and a local private practice. Exclusion criteria included previous cancer, cancer beyond Stage II, prior psychiatric history, and major concurrent disease. Fluency in English was an inclusion criterion. All were diagnosed with either Stage I ($n = 55$) or Stage II ($n = 20$) breast cancer. Nodal involvement ranged from 0 to 9 ($M = 0.60$, $S.D. = 1.76$). The women ranged in age from 28 to 76 ($M = 53.72$, $S.D. = 11.14$). Ethnicity was as follows: African American ($N = 1$), Hispanic ($N = 4$), and non-Hispanic White ($N = 70$). Most of the women ($N = 53$) were married or otherwise partnered, 7 were divorced, 10 widowed, and 5 had never been married. The women had an average of 14.63 years of education ($S.D. = 2.56$); 47 were employed, 28 were retired or not currently working outside the home. Forty-four underwent mastectomies, and 31 had lumpectomies; subsequently 27 underwent radiation therapy, 14 had chemotherapy, and 31 Tamoxifen.

Participants from the second sample (hereafter, the clinic sample) were 56 women recruited through the Breast Health Center at Dade

[†]The terms 'culture', 'ethnicity', and 'race' are often used interchangeably, though they hold distinct connotations. In this paper we use the term 'ethnicity' to refer to a shared common nationality or ancestry, which suggests socially shared beliefs and practices that can be expected to influence individuals' values and, consequently, their life choices (Phinney, 1996; Betancourt and López, 1993; Landrine and Klonoff, 1992).

[‡]The private patients contributed data to analyses reported by Carver *et al.* (1998), and most of the clinic patients contributed data to analyses reported by Alferi *et al.* (1999) and Alferi *et al.* (2001). None of those reports, however, deals with the issues under discussion in this article.

County's public hospital serving the needs of uninsured, low-SES women. Criteria were the same as in the first sample, except that Spanish speakers were included. Women ranged in age from 35 to 78 years ($M = 56.29$, $S.D. = 10.27$); 49 were Hispanic and 7 were African American.[§] Most of the Hispanic women (95%, $N = 53$) completed the interviews in Spanish. Participants had Stage 0 ($n = 5$), Stage I ($n = 21$), or Stage II ($n = 30$) breast cancer. Nodal involvement ranged from 0 to 17 ($M = 0.63$, $S.D. = 2.34$). Twenty were married or otherwise partnered, 8 separated, 11 divorced, 12 widowed, and 5 had never been married. The women had an average of 9.04 years of education ($S.D. = 4.24$); 13 were employed, 43 were retired or not currently working outside the home. Thirty-one had mastectomies and 25 had lumpectomies; subsequently 28 underwent radiation therapy, 21 had chemotherapy, and 22 received Tamoxifen.

Procedures

Data for both samples came from a series of interviews with a female staff member, or by self-administration of questionnaires (no differences were attributable to face to face vs phone vs self-administration of measures). Interviews were preceded by a contact in the clinic to establish the interviewer's identity for the patient and a degree of rapport. Participants recruited from the Breast Health Center were interviewed by bilingual staff members and had the choice to be interviewed either in English or in Spanish (evidence of the equivalence of the English and Spanish versions of the scales used here is in Perczek *et al.*, 2000). A pre-surgery interview occurred within 2 days prior to surgery, a post-surgery interview occurred 7 to 10 days after the surgery, and follow-up interviews took place 3, 6, and 12 months later (each in a window of ± 2 weeks).

[§]Our initial intent was to collect a tri-ethnic sample from this facility. However, the clientele of the Breast Health Center proved to be almost exclusively minority women, primarily Hispanic. Thus we turned to the other sample for a comparison group. There is considerable heterogeneity in the final Hispanic subsample: 30 self-identified as being of Cuban origin, 6 Puerto Rican, 4 Nicaraguan, the rest 'other' Hispanic. On the other hand, to avoid adding clear heterogeneity into the African American group, we excluded data from three Black women who self-identified, respectively, as Haitian, Jamaican, and 'Black, other'.

Although the design for data collection was the same for the samples, the measures differed somewhat: The scales used in the clinic sample were abbreviated, due to concerns about response burden in this low SES population (the assessments included measures beyond those discussed here). The variables discussed here were item sets that were completed by women of both samples.

Measures

Coping. Coping responses were measured by a series of items from the Brief COPE (Carver, 1997; Carver *et al.*, 1989), a theoretically-based inventory that measures a range of coping reactions. For each item, respondents indicate the extent to which they experienced the response that the item describes, during the period of time named in the instructions. Response choices are on a scale ranging from 1 ('I haven't been doing this at all') to 4 ('I have been doing this a lot'). One item was chosen for each category (the highest loading and most clearly written of the scale from which it was drawn).[¶]

The coping items represent 11 different responses: acceptance, active coping, substance use, behavioral disengagement, denial, humor, planning, cognitive reframing, self-distraction, use of religion, and venting. Participants were to rate the extent to which each response was used in trying to deal with the full range of stresses associated with their diagnosis and treatment. The time frame provided was since diagnosis (at pre-surgery), since surgery (for post-surgery), and during the past month (for the 3-, 6-, and 12-month follow-ups).

Distress. Distress emotions were assessed by a series of mood-descriptive adjectives, reflecting anxiety ('tense', 'nervous', 'anxious'), anger ('angry', 'resentful'), and depression ('unhappy', 'worthless', 'hopeless'). Respondents indicated the extent to which they had each feeling 'during the past week including today', using response choices

[¶]The private patients completed additional items. In that sample, the items discussed here correlated highly with the full scales, confirming that they represented the scales adequately (average $r = 0.92$ across scales and time points, range of r 's = 0.78 to 0.99). Concern about use of single-item measures is also diminished by evidence that they are quite valid measures of constructs that are themselves straightforward (Burisch, 1984a, 1984b; Robins *et al.*, 2001).

of 1 ('not at all'), 2 ('a little'), 3 ('moderately'), 4 ('a pretty large amount'), and 5 ('a lot'). There were strong relations at each point among anxiety, anger, and depression subtotals; thus all 8 items were averaged to form an index of distress (average α across assessments for the two groups = 0.77). Averaging the items has the effect of placing the distress index onto the same metric as the item-response scale.

Depression symptoms. Also included was the Center for Epidemiological Studies Depression scale (CES-D; Radloff, 1977). The CES-D measures a range of cognitive, affective, motivational, and somatic symptoms (for validity see Myers and Weissman, 1980; Schulberg *et al.*, 1985). Instructions to the respondents are to indicate the extent to which they 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'). This measure was collected at pre-surgery, post-surgery, and 3-month follow-up only, to further reduce response burden. Correlations between the CES-D and the distress index described above were $r = 0.61$, $p < 0.001$ at pre-surgery, $r = 0.38$, $p < 0.001$ at post-surgery, and $r = 0.63$, $p < 0.001$ at 3 months post surgery.

RESULTS

Because we were interested in relationships over time, we limited the sample examined here to participants who completed at least 4 of the 5 assessments, including both pre-surgery and post-surgery. ^{||} For participants who missed one follow-up (a total of 25, relatively evenly divided among 3-month, 6-month, and 12-month follow-ups), data were imputed by averaging the sample mean

^{||}Using this criterion caused the exclusion of 22 additional participants beyond those described earlier (15 Hispanics, 5 African Americans, and 2 non-Hispanic Whites) who completed fewer than four assessments. Excluded participants did not differ from the sample of 131 discussed here on any relevant variable except ethnicity and initial level of distress. Those who completed fewer than four assessments were more likely to be minority women than non-Hispanic White, $\chi^2(2) = 17.25$, $p < 0.001$. They also tended to be less distressed initially ($M = 1.78$, S.D. = 0.66) than those who completed four or more assessments ($M = 2.13$, S.D. = 0.75), $t(151) = 2.02$, $p = 0.05$.

for the missing time point and the participant's average responses at the adjacent time points (cf. Kirk, 1982). Alternative strategies for data imputation yield results comparable to these.

Preliminary analyses to identify control variables

Preliminary analyses assessed the need for control variables in the main analyses. We first tested for relations between outcome measures (coping and distress) and demographic characteristics (age, marital status, education, employment status, family history of breast cancer) and treatment characteristics (stage of cancer, number of positive nodes, adjuvant therapies, type of surgery).

Women who received radiation had significantly higher distress at pre-surgery, at 3 months post-surgery, and at 6 months post-surgery, with similar tendencies at post-surgery and 12 months. For this reason, radiation was used as a control variable for all analyses predicting the distress index. CES-D scores related significantly to greater education and to number of positive nodes at two of the three measurements. Thus, these variables were used as controls for all analyses involving the CES-D. Years of education (which was our indicator of SES), employment status, and chemotherapy were significantly correlated with most COPE responses at most time points, and were used as control variables in all analyses involving coping. Because control variables were used in all analyses for a given outcome, estimated means (adjusting for controls used) are presented throughout.

We also compared ethnic groups on the potential control variables, finding that they differed on three of them: chemotherapy (which was most likely among Hispanics), education (which was highest among non-Hispanic Whites), and employment status (with Hispanics least likely to be employed). As indicated just above, these three variables had already been selected as controls for analyses of COPE responses. Because they failed to relate to distress, however, they were not included as controls in analyses involving distress as the outcome.

Distress across time and ethnicity

The first main analysis examined levels of distress across time and ethnicity. A 3×5 repeated

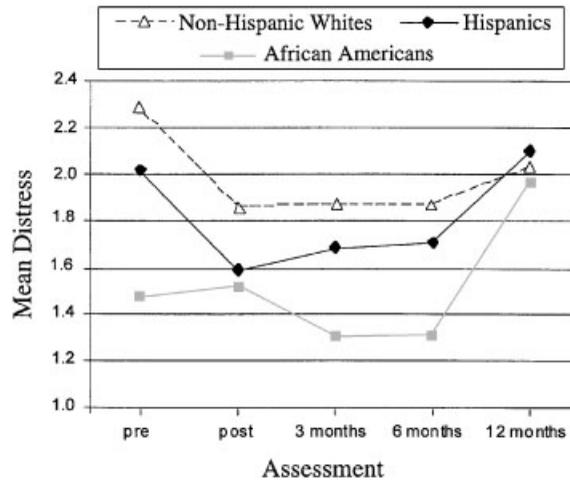


Figure 1. Emotional distress (adjusted for radiation status) at each assessment among Hispanic, African American, and non-Hispanic White breast cancer patients.

measures ANOVA yielded a main effect for repeated measurement, $F(4, 508)=2.49$, $p = 0.04$, a main effect for ethnicity, $F(2, 127)=3.19$, $p = 0.05$, and an interaction between repeated measurement and ethnicity, $F(8, 508)=2.60$, $p < 0.01$. Figure 1 displays distress means, adjusted for radiation, for each ethnic group. Follow-up comparisons indicated that African American women reported less distress overall than non-Hispanic Whites, $p < 0.02$. Hispanic women were intermediate between these groups and did not differ significantly from either of them. Comparing pairs of adjacent assessments (using the same design otherwise) determined there was a significant reduction in distress from pre-surgery to post-surgery, $p = 0.01$, but the tendency toward an interaction between ethnicity and repeated measures was not significant. Distress did not change between any other pair of assessments (either as a main effect or in interaction with ethnicity) until the final comparison: The main effect between 6 and 12 months was not significant, but the interaction between measurement and ethnicity was significant, $p < 0.01$. As can be seen in Figure 1, distress did not change much during this interval among non-Hispanic Whites, but it tended to increase among both Hispanic and African American women.

The CES-D was administered at all assessments through 3 months. Although scores tended to decline across this period, the tendency was not

significant ($p = 0.09$). There was a main effect of ethnicity, however, $F(2, 118)=4.51$, $p = 0.01$: Overall, African American women reported lower levels of depressive symptoms ($M = 3.98$, $S.D. = 3.20$) than Hispanics ($M = 12.72$, $S.D. = 9.63$), $p < 0.01$, and non-Hispanic Whites ($M = 10.68$, $S.D. = 8.00$), $p = 0.02$, with the latter two not differing.

Coping across time and ethnicity

A similar repeated measures ANOVA was conducted for each coping response.** Several responses decreased over the full time period (planning, denial, religious coping, and self-distraction, all p 's < 0.05). The others displayed no significant differences over time.

There were also significant main effects of ethnicity on some coping responses (Table 1). Non-Hispanic Whites reported more use of humor than did Hispanics, $p < 0.001$; African Americans fell between these groups, not differing from either of them. Non-Hispanic Whites used significantly less religious coping than either African

**Prior to conducting analyses of coping strategies, we conducted factor analyses to assess whether the coping items could be reduced to a limited number of factors. Factor structures differed across time points, however. For this reason, we treated the COPE items separately.

Table 1. Means and SDs of several coping responses averaged across 5 time points among non-Hispanic White, Hispanic, and African American Women

	Non-Hispanic White (<i>n</i> = 70)		Hispanic (<i>n</i> = 53)		African American (<i>n</i> = 8)		Overall <i>F</i> (2, 125)
	<i>M</i>	S.D.	<i>M</i>	S.D.	<i>M</i>	S.D.	
Humor	2.37 ^b	0.83	1.63 ^a	0.86	2.18 ^{a,b}	0.94	7.09***
Religious coping	2.64 ^b	1.01	3.54 ^a	0.61	3.29 ^a	0.88	9.74***
Self-distraction	2.32 ^b	0.86	2.82 ^a	0.82	2.11 ^b	0.79	3.97*
Venting	1.97 ^b	0.81	2.46 ^a	0.67	1.30 ^c	0.40	9.33***

* $p < 0.05$, *** $p < 0.001$.

Note: Within each row, means sharing a common superscript do not differ significantly.

Americans, $p = 0.05$, or Hispanic women, $p < 0.001$. Hispanic women used more self-distraction than non-Hispanic Whites, $p < 0.02$, or African Americans, $p = 0.03$. Hispanics also vented more than either non-Hispanic Whites, $p < 0.01$, or African Americans, $p < 0.001$, with non-Hispanic Whites also venting more than African Americans, $p = 0.02$.

In addition to these main effects, there was a significant interaction between ethnicity and repeated measures on religious coping, $F(8, 500) = 2.21$, $p = 0.03$. Religious coping was stable across time among African American and Hispanic women, but declined among non-Hispanic Whites from post-surgery to 3 months, $p < 0.05$, from 3 to 6 months, $p < 0.01$, and from 6 to 12 months, $p < 0.05$.

Coping and concurrent distress

Table 2 shows concurrent relations between coping and distress (adjusted for controls) in the full sample. Because concurrent associations do not permit inferences about directionality, we do not dwell on these correlations, but simply characterize the picture they present. Reports of denial related positively to distress at every measurement; self-distraction related positively to distress at all but pre-surgery; venting related positively to distress at all but the 3-month follow-up. Other associations varied more across repeated assessments.

Prospective relationships from coping to distress

Of greater interest was prospective prediction from coping to distress. Hierarchical regression

analyses tested each coping response at a given time point as a predictor of distress at the next time point, controlling for distress at the earlier time point. We began by entering previous distress and control variables, followed by dummy variables for ethnicity (one coding non-Hispanic Whites as -1 , Hispanics as 0 , African Americans as 1 ; a second coding non-Hispanic Whites as -1 , African Americans as 0 , and Hispanics as 1). Next we entered the coping response, and finally interactions between the coping response and the dummy variables (to test the possibility that prospective relations would differ across ethnic groups).

Significant prospective prediction of distress was found for two coping responses, though these effects occurred across only one time interval. Behavioral disengagement at 3 months predicted more distress at 6 months, $\beta = 0.30$, $p < 0.001$, and 3-month acceptance predicted less distress at 6 months, $\beta = -0.15$, $p = 0.03$. Further analysis, testing these predictors simultaneously, yielded a significant effect for behavioral disengagement, $\beta = 0.28$, $p < 0.001$, but not for acceptance.

Ethnicity interactions were also found for one coping response, in two cases. Behavioral disengagement at pre-surgery interacted with ethnicity to predict distress post-surgery, $p < 0.01$. Whereas presurgical disengagement tended to predict less post-surgical distress among Hispanic women $\beta = -0.25$, $p = 0.07$, it tended to predict more distress among non-Hispanic White women, $\beta = 0.17$, $p = 0.08$. A marginal interaction also emerged between ethnicity and behavioral disengagement at 3 months, predicting distress at 6 months, $p = 0.06$. Disengagement at 3 months related to greater distress at 6 months among both Hispanic women $\beta = 0.43$, $p = 0.01$, and non-Hispanic White women, $\beta = 0.22$, $p = 0.01$, with

Table 2. Significant concurrent associations between coping responses and distress, combined across ethnic groups, adjusted for education, employment status, and chemotherapy status

	Pre	Post	3 months	6 months	12 months
Denial	0.28	0.19	0.26	0.18	0.17
Self distraction	—	0.23	0.22	0.18	0.23
Venting	0.32	0.20	—	0.18	0.30
Active coping	—	—	0.18	0.18	0.19
Behavior disengagement	0.27	—	—	0.23	0.28
Positive reframing	—	-0.19	—	-0.17	—
Substance abuse	0.21	—	—	—	0.25
Acceptance	-0.23	—	—	—	—

Note: Due to the inclusion of control variables, standardized beta weights are presented here.

— signifies an association that did not reach significance.

the relationship being stronger for Hispanic women.

Prospective relationships from distress to coping

Finally, we examined distress as a prospective predictor of subsequent coping. Hierarchical regression analyses used distress at one time point to predict each coping response at the subsequent time point, controlling for that same coping response at the earlier time. We began by entering control variables and earlier coping, followed by dummy variables for ethnicity; next we entered distress, and finally interactions between distress and the dummy variables.

Significant prospective prediction of several coping responses emerged. More pre-surgical distress predicted less post-surgical religious coping, $\beta = -0.15$, $p < 0.01$, more self-distraction, $\beta = 0.27$, $p < 0.001$, and a tendency toward more substance use, $\beta = 0.17$, $p = 0.06$. Greater post-surgical distress predicted less acceptance at 3 months, $\beta = -0.22$, $p = 0.01$. Greater 3-month distress predicted more venting at 6-months, $\beta = 0.18$, $p = 0.02$. Distress at 6 months predicted more venting, $\beta = 0.28$, $p = 0.001$, and more planning, $\beta = 0.21$, $p = 0.02$, at the 12-month follow-up.

Interactions involving ethnicity were also found in these analyses for one coping response, at two time points. Distress at 3 months interacted with ethnicity to predict positive reframing at 6 months, $p = 0.02$; similarly, distress at 6 months interacted with ethnicity to predict positive reframing at 12 months, $p = 0.01$. In both cases, more distress predicted significantly less positive reframing

among Hispanics, β 's = -0.33 and -0.33 , p 's < 0.05 , and tendencies toward more positive reframing among non-Hispanic Whites, β 's = 0.11 and 0.20 .

DISCUSSION

This study followed 131 women from the time of diagnosis of early stage breast cancer for the next year. In general, the profile of distress resembles that from previous longitudinal studies (e.g. Carver *et al.*, 1993): distress was elevated at pre-surgery, fell to essentially normal levels by post-surgery, then stabilized. One difference from previous research was a tendency toward an upturn in distress at 12 months (though it did not attain significance overall). The profile of distress among Hispanic women closely resembled that of non-Hispanic Whites, except Hispanics tended to show an upturn at the 12-month point. Among African American women, the initial elevation was absent, and again there was a tendency toward an upturn at the 12-month point. The African American subsample is very small, however, and its pattern must be viewed cautiously.

The upturn in the distress profile at the 12-month point among minority women bears noting, but we must also stress that its statistical basis is weak and its interpretation is quite speculative. It may be that among these women the point when all adjuvant treatment has finished is as difficult as the period before treatment begins, because active coping is now done and the women's social support network has moved on to other concerns.

Whatever its basis, the pattern suggests the need for more information on emotional distress during the period after active treatment has finished.

Hispanic women did not differ in distress overall from non-Hispanic White women in this sample. This contrasts with elevated distress reported among Hispanic women by Spencer *et al.* (1999) in a more educated Hispanic sample. One possibility is that the relative lack of distress among Hispanics in the current sample reflects the difference in SES. Perhaps women of lower SES have less emotional response to the cancer diagnosis and the treatment—perhaps this diagnosis is experienced as one more difficulty in lives already filled with difficulties. Again, more information is needed.

The African American subsample reported less distress overall than non-Hispanic Whites, and they reported lower depressive symptoms than both Hispanics and non-Hispanic Whites. These findings replicate those reported by Spencer *et al.* (1999) for a different African American sample. Again, interpretation is wholly speculative. The only speculation we can offer is that this low level of reported distress may reflect a cultural stoicism within this group.

Coping

A few ethnic differences in coping responses also emerged. Hispanics and African Americans reported more religious coping than non-Hispanic Whites. Hispanics reported less use of humor than non-Hispanic Whites, and reported more self-distraction and more venting than either non-Hispanic Whites or African Americans. African Americans reported even less venting than non-Hispanic Whites. Because the analyses of coping included controls for education, we are relatively confident that these differences are grounded in ethnicity rather than SES.

Although ethnic differences emerged for a few coping responses, the extent of the differences should not be overstated. Indeed, what may be most notable about the coping findings was how few differences there were. Most coping responses were reported at comparable levels among women of the three groups.

Concurrent relations between coping and distress generally paralleled previous findings. Consistent with other reports (Carver *et al.*, 1993; Dunkel-Schetter *et al.*, 1992; Friedman *et al.*, 1988;

Friedman *et al.*, 1990; Moyer and Salovey, 1996; Stanton and Snider, 1993) distress related consistently to reports of avoidance coping such as denial, self-distraction, and venting. Links of “good” coping to lower distress were more sparse. Notable by its absence was any association between distress and acceptance, which had been found previously (Carver *et al.*, 1993).

Prospective tests

An important question is whether coping at one time would predict variations in distress at the next time. Two overall effects emerged from these prospective tests. These effects—acceptance at 3 months predicting lower distress at 6 months, and disengagement at 3 months predicting higher distress at 6 months—are conceptually consistent with previous findings (Carver *et al.*, 1993).

There were also two interactions between coping and ethnicity, but their form raises doubt about their meaning. Pre-surgical disengagement tended to predict more post-surgical distress among non-Hispanic Whites (consistent with prior findings) but less post-surgical distress among Hispanics (contradicting prior findings). However, 3-month disengagement predicted greater distress at 6 months among *both* groups (consistent with previous findings), doing so even more strongly among Hispanics than non-Hispanic Whites. The safest conclusion from these interactions taken together is probably that there is not a reliable ethnic difference in prospective relations from coping to distress.

When we turned to prediction in the opposite direction—from distress to subsequent coping—several interesting findings emerged. Pre-surgical distress predicted more self-distraction, less religious coping, and more substance use post-surgery. Later on, distress led to less acceptance, more venting, more self-distraction, and more active coping and planning. One ethnic difference also emerged in these analyses: Among Hispanic women, high distress at 3 and 6 months predicted less positive reframing later on; among non-Hispanics, in contrast, distress predicted more positive reframing later on. Inasmuch as this interaction appeared twice in the same form, it seems more credible than the one described in the preceding paragraph.

These prospective relations between coping and distress, taken as a group, reveal evidence of a

maladaptive spiral across time: Distress at post-surgery predicted more disengagement at 3 months, disengagement at 3 months predicted higher distress at 6 months, and distress at 6 months predicted higher levels of venting at 12 months. Carver *et al.* (1993) also examined reciprocal influences of coping and distress over time, and also found a spiral that in some respects resembles this one. They found that post-surgical distress predicted denial and disengagement at 3 months, which predicted greater distress at 6 months. Our replication of such a maladaptive spiral of reciprocal influences in this new sample is noteworthy, and suggests a potentially important focus for future prospective research.

Conclusion

This examination of emotional distress and coping responses yielded few differences between ethnic subgroups. Unsurprisingly, both minority groups reported religious coping at higher levels than non-Hispanic Whites. The tendency of African American women to report low levels of distress has now appeared in two samples, and thus seems reliable. The basis of this effect is unclear, however, and deserves more scrutiny.

Perhaps the most striking differences among the groups appeared in coping responses that explicitly reflect the handling of emotions. Hispanics reported venting and self-distraction, African Americans reported very low levels of venting (which fits with their reports of low levels of distress), and non-Hispanic Whites reported turning to humor. These patterns of coping are very different from one another. An interesting question is whether these very different ways of dealing with negative emotions have different long-term costs or benefits for the women involved.

ACKNOWLEDGEMENTS

Data collection was supported by grants PBR-56 and PBR-82 from the American Cancer Society and training grant J4236-DAMD1794 from the Department of Defense. Preparation of the manuscript was further facilitated by grants CA-64710 and CA-78995 from the National Cancer Institute. We are grateful to the staff at the Breast Health Center of Jackson Memorial Hospital, the staff at the Sylvester Comprehensive Cancer Center, and Dr Robert P. DerHagopian for making data

collection possible, and to the participants themselves for sharing their experiences with us.

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