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EMPIRICAL CONTRIBUTIONS

Patterns of Coping With Cancer

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We identified five patterns of coping in a sample of 603 cancer patients: "seeking or using social support," "focusing on the positive," "distancing," "cognitive escape–avoidance," and "behavioral escape–avoidance." Relationships of these coping patterns to sociodemographic characteristics, medical factors, stress appraisals, psychotherapeutic experience, and emotional distress were tested using correlational and regression techniques. Type of cancer, time since diagnosis, and whether a person was currently in treatment had few or no relationships to coping. The specific cancer-related problem (e.g., pain, fear of future) was also not associated with how individuals coped. Perceptions of its stressfulness, however, were related to significantly more coping through social support and more of both forms of escape–avoidance. Coping through social support, focusing on the positive, and distancing was associated with less emotional distress, whereas using cognitive and behavioral escape–avoidance was associated with more emotional distress. Implications of the results for understanding coping processes and intervention with cancer patients are discussed.

Key words: coping, cancer, adjustment to illness, stress

For many years, there has been interest in how people cope with cancer. Important descriptive studies were completed in the 1950s (e.g., Bard & Sutherland, 1955; Quint, 1965; Shands, Finesinger, Cobb, & Abrams, 1951) emphasizing unconscious defenses such as denial and maladaptive coping patterns (see Meyerowitz, Heinrich, & Schag, 1983, for a review). Weisman (1979) and Weisman and Worden (1976–1977) later conducted systematic research on coping with cancer using a variety of assessment methods and revealed relationships between patterns of coping and emotional distress. Weisman (1979) defined coping as "what one does about a perceived problem in order to bring about relief, reward, quiescence, or equilibrium" (p. 27). Lazarus and Folkman (1984) defined coping similarly—as cognitive and behavioral efforts to manage demands appraised as taxing or exceeding resources.

Coping efforts may be distinguished from their effects on the stressful situation, on emotional well-being, and on subsequent health and adjustment. Such efforts have been shown to be a function of both person and situation factors (Fleishman, 1984; Folkman, Lazarus, Gruen, & DeLongis, 1986; Holahan & Moos, 1987; Parkes, 1986). However, little is known about what predisposes individuals with cancer to cope in specific ways. Why does one cancer patient construe his or her situation in a positive light, whereas another does not? What predisposes a person to use avoidant coping strategies, such as fantasizing or social withdrawal, in response to cancer? Which individuals are most likely to respond by seeking and using available support? Such information would be valuable in cancer rehabilitation and in developing a further understanding of the determinants of coping in general.

The goal of this research was to examine factors identified in the stress and coping literature that might predispose a person to cope with cancer in various ways. Past research has indicated that an individual will cope differently as a function of the particular stressful situation involved (Folkman & Lazarus, 1980; McCrae, 1984; Pearlin & Schooler, 1978). Cancer includes a wide range of situations with which to cope—such as painful or frightening symptoms, ambiguity about the prognosis, and changes in social relationships. An adaptive strategy for coping with physical discomfort might be problem focused (e.g., seeking the advice of one's physician or taking medication), whereas the best strategies for dealing with ambiguity about the future might be emotion regulating (e.g., distraction or avoidance).

Situational factors—site of cancer, stage of the disease, time since diagnosis, and whether the person is currently in treatment—are additional possible influences on coping behavior in cancer patients. People with more acute and severe medical conditions are likely to apply more of the many different coping strategies than those with less acute and less severe disease states. However, stress and coping theories emphasize subjective appraisals of the stressful situation (Hobfoll, 1989; Lazarus & Folkman, 1984; McGrath, 1970). Given the demonstrated importance of stress appraisals (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Folkman, Lazarus,

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Gruen, & DeLongis, 1986), the cancer patient's perception of the degree of current stress should influence how he or she is coping at least as much as medical condition. Thus, both were expected to be significant determinants of coping.

Another set of variables that has been found to predispose individuals to cope in particular ways is sociodemographic characteristics. Higher socioeconomic status (SES) has been linked fairly consistently to particular methods of coping, although not with cancer samples (Billings & Moos, 1981; Holahan & Moos, 1987; Menaghan, 1983; Pearlin & Schooler, 1978). For example, Billings and Moos (1981) found that better educated respondents relied more on problem-focused coping and less on avoidance coping for dealing with daily problems. To what extent does this finding extend to coping with cancer? We also examined age, sex, religion, and religiosity for relationships to coping. Links between these variables and coping might offer practical implications as to which cancer patients should receive which coping interventions.

Socioenvironmental factors, such as the presence of a social network, have also been found to be related to coping (Billings & Moos, 1981; Dunkel-Schetter, Folkman, & Lazarus, 1987). For example, Cronkite and Moos (1984) found that women without family support were more likely to engage in avoidance coping. In our study, we considered whether structural aspects of the cancer patient's social network—such as marital status, number of children, and whether the person lived alone—were associated with coping. Based on past research, we expected that the absence of social relationships would be associated with more avoidance coping.

A final aim was to examine relationships between patterns of coping and emotional distress. We expected that highly distressed cancer patients would cope differently than less distressed cancer patients based on two pertinent earlier investigations (Felton, Revenson, & Hinrichsen, 1984; Weisman & Worden, 1976–1977). In both studies, positive reinterpretation was associated with less distress, and escape–avoidance was associated with more distress. However, one of the studies (Weisman & Worden, 1976–1977) found that attempts to forget the cancer were associated with high distress, whereas the other study (Felton et al., 1984) found that similar attempts, labeled *threat minimization*, were unrelated to distress. There were many differences in the samples, designs, and measures of these investigations, which may account for the discrepancy. Also, neither study controlled for severity of disease or for interindividual differences in stress appraisals in testing for relationships between distress and coping. The present study afforded opportunities (a) to clarify the relationship between coping with cancer by distraction and level of emotional distress and (b) to replicate the relationships between coping through positive reinterpretation or avoidance and emotional distress.

A major roadblock in studying coping in general and in studying cancer specifically has been the lack of consensus on the particular dimensions of coping behavior and on how to measure these dimensions (Moos & Billings, 1982; Singer, 1984; Taylor, 1984). Thus, a preliminary step to testing for correlates of coping was to identify reliable patterns or dimensions of coping with cancer. An ongoing study of cancer patients afforded an excellent opportunity to delineate patterns of coping with cancer and to investigate their correlates within the tradition of stress and coping research. In keeping with this approach, an adapted version of the most commonly used self-report coping instrument, the Ways of Coping Inventory (WOC), was used (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). In addition to gathering information on correlates of coping, we also present descriptive information on coping styles (Carver, Scheier, & Weintraub, 1989) and on flexibility of coping (Pearlin & Schooler, 1978).

METHOD

Procedure

The present research was conducted as part of an investigation on self-help groups and cancer (Taylor, Falke, Mazel, & Hilsberg, 1988; Taylor, Falke, Shoptaw, & Lichtman, 1986) in which a large sample of cancer patients was obtained—heterogeneous with respect to type and severity of cancer and to other characteristics such as age and SES. Cancer patients were recruited from two referral sources. Fifteen Los Angeles area oncologists whose names were obtained through the University of Southern California Cancer Center were contacted and asked to provide names and addresses of patients in their practices. In addition, leaders of 21 Southern California cancer support groups were contacted and asked to supply mailing lists of members' names and addresses. Prospective participants were mailed a letter from the research team and a letter from the physician or support group leader. These letters introduced the investigators in the study, indicated that a questionnaire would arrive within a few days, and assured respondents of the confidentiality of their answers. A return postcard permitted individuals to decline to participate. A 31-page questionnaire was later mailed to anyone who had not returned the postcard declining to participate. If the prospective respondent did not return the questionnaire within 2 weeks, a reminder postcard was sent followed by a replacement questionnaire shortly afterward. To preserve patients' confidentiality, the names obtained from physicians and self-help groups were given to a typist—blind to the topic of the study and to the sources of the names—for the purpose of typing envelopes. The researchers did not have access to the names.

One thousand sixty-eight potentially eligible individuals were contacted. Of these, 178 indicated that they were not interested (6% refusal rate), and 223 did not return the questionnaire. The research team subsequently randomly sampled nonrespondents and determined that a large percentage had died before the mailing or were ineligible to participate in the study (e.g., children or hematology patients inadvertently included on oncologists' lists). After the estimated number of ineligible participants determined by the telephone survey was subtracted, the response rate was estimated to be 80%.

Subjects

The sample consisted of 668 cancer patients. Seventy-eight percent were women, and 22% were men. They ranged in age from 21 to 88 years, with a median age of 58 years. The sample varied considerably in education and income, although 93% were White. Many sites and all stages of cancer were represented in the sample. The most common primary site of cancer was the breast (42%). Thirteen percent of the sample had gastrointestinal cancers, 11% had circulatory or lymph cancers, 9% had female reproductive cancers, 8% had respiratory cancer, 6% had musculoskeletal cancer, 5% had head and neck cancers, and 6% had other cancers (which included smaller percentages of male reproductive cancer, skin cancer, and eye cancer). Time since diagnosis ranged from newly diagnosed to first

diagnosed several years ago. Seventy-two percent of the subjects had been diagnosed with initial cancers in the previous 5 years, more than 50% had been diagnosed in the previous 3 years, and about 25% had been diagnosed in the previous 18 months.

Of the 668 subjects who completed the questionnaire, 35 indicated that they had no current cancer-related stress and were not engaging in any coping. An additional 30 respondents failed to answer three or more items on the coping inventory. Consequently, the present results are based on a subsample of 603 individuals with complete coping data.

Materials

The 31-page questionnaire included sociodemographic and personal background items and items on the patient's medical condition, health care providers, social networks and support, psychotherapeutic experiences (particularly experiences with self-help groups), and stress and adjustment. Only a subset of these items was relevant to the hypotheses and questions of the present article. In addition, the questionnaire included the WOC (Lazarus & Folkman, 1984), adapted by our research team for cancer patients, and the bipolar version of the Profile of Mood States (POMS–BI; Lorr & McNair, 1982). The 72 adjectives on the POMS–BI are each rated regarding mood at present and can be scored into six bipolar subscales (e.g., Composed–Anxious, Agreeable–Hostile, Elated–Depressed). For these analyses, the subscales were combined into one index of emotional state, with high scores corresponding to more positive emotional states and low scores corresponding to more negative emotional states. The Cronbach alpha coefficient for the overall index in this study was .92.

WOC–Cancer Version (WOC–CA)

The WOC–CA was adapted in several ways to suit the present research purposes. Because it was devised for repeated assessments, the original WOC asks subjects to select a stressful episode. When single assessments are made, as in this study, the procedure would provide an isolated and possibly unrepresentative instance of the individual's coping responses. Asking about how people coped with cancer "in general," however, seemed too nonspecific. Therefore, we delineated a small set of specific cancer-related stressors based on results from past studies (Dunkel-Schetter, 1982; Revenson & Felton, 1985): (a) fear and uncertainty about the future due to cancer; (b) limitations in physical ability, appearance, or life style due to cancer; (c) acute pain, symptoms, or discomfort from illness or treatment; and (d) problems with family or friends related to cancer. These problems were listed, and respondents were asked to pick whichever one had been most stressful for them or to designate one of their own. Subjects were also asked to indicate how stressful the problem had been for them in the past 6 months on a scale ranging from *not stressful* (1) to *extremely stressful* (5).

The 51 items making up the eight factors in the revised WOC (Folkman, Lazarus, Dunkel-Schetter et al., 1986) were next evaluated for their applicability to cancer. Six items were dropped because they appeared inappropriate for cancer patients. In addition, 4 of the 67 items on the earlier version of the WOC that did not load on Folkman, Lazarus, Dunkel-Schetter et al.'s (1986) eight factors were included in our instrument because they appeared to be relevant to cancer. Three of these concerned the future (i.e., waiting or preparing for it), and 1 concerned comparison of one's own situation to hypothetical outcomes. A few of the 49 items taken from the WOC were also reworded slightly to be clearer or briefer. In addition, 4 items were added to represent various coping behaviors commonly observed in cancer patients (Dunkel-Schetter, 1982) but not already captured. The preface to the coping items read as follows:

> When we experience stress in our lives, we usually try to manage it by trying out different ways of "coping." Sometimes our attempts are successful in helping us solve a problem or feel better, and other times they are not. The next set of items is on the ways of coping you may have used in trying to manage the most stressful part of your cancer. Please read each item below and indicate *how often you tried this* in the past six months in attempting to cope with the specific problem circled above.

The response options were *does not apply/never* (0), *rarely* (1), *sometimes* (2), *often* (3), and *very often* (4). A final open-ended item asked whether subjects applied any other particular coping techniques or strategies besides those mentioned.

Other Variables

Other variables used for these analyses were:

1. Sociodemographic variables—sex, age, employment status, education, income, religion, and religiosity (one item on reported strength of spiritual belief).
2. Medical background—site of cancer, time elapsed since initial diagnosis, whether cancer was currently in remission, whether currently receiving medical treatment (chemotherapy, radiation, or recovering from surgery), and extent of functional limitations on activity.
3. Appraisal of cancer—frequency of worries about cancer in general and, from the WOC–CA, (a) what problem associated with cancer has been most stressful and (b) how stressful it was.
4. Social network—marital status, children, and living alone or with others.
5. Psychotherapeutic experiences—whether the respondent had ever attended a cancer self-help group and how frequently, evaluation of the group experience, and whether the individual had ever had psychotherapy for any reason other than cancer.

RESULTS

Stressful Aspects of Cancer

The most frequent problem associated with cancer in this sample was fear or uncertainty about the future, endorsed by 41% of the sample. Limitations in physical ability were the most stressful for 24%, pain was most stressful for 12%, and problems in social relationships were most stressful for 3%. Another 9% had experienced more than one of the problems listed, and 5% wrote in their own stressor. The remaining 6% of the sample had not had any stress from cancer in the prior 6 months. The mean stressfulness rating of cancer problems was 3.04 or *somewhat stressful* (SD = 1.49).

Patterns of Coping and Their Prevalence

Factor analysis was conducted on data obtained from all subjects who specified at least one problem with which they were coping (N = 603). Oblique rotation was selected in order to permit correlation among factors (Folkman, Lazarus, Dunkel-Schetter et al., 1986). Based on a review of coping research, we specified four through eight factors to obtain a manageable number of coping dimensions. A five-factor solution appeared to be most coherent and most consistent with earlier research. Table 1 lists the items for each of the five factors, their factor loadings, and the alpha coefficients for each factor.[1]

We labeled the factors *Seek and Use Social Support, Focus on the Positive, Distancing, Cognitive Escape–Avoidance,* and *Behavioral Escape–Avoidance.* The interfactor correlation coefficients were all positive, ranging from .07 to .47. Seek and Use Social Support and Positive Focus were the most highly correlated factors, and Seek and Use Social Support and Distancing were the least correlated factors. Factor scores were computed based on the factor loadings in Table 1. These scores reflect both the number of strategies used (i.e., items endorsed) of a particular type as well as the intensity of their use.[2]

A second method of scoring coping—proportional scores—was used for descriptive purposes (Vitaliano, Russo, Carr, Maiuro, & Becker, 1985). We computed the proportion of each subject's total coping efforts of each of the five types. Subjects tended to use distancing techniques most frequently (on average, 26% of subjects' total coping effort). Seeking support, positive focus, and cognitive escape–avoidance were used about equally often; approximately 20% of coping effort was of each type (21%, 21%, and 20%, respectively). Behavioral escape–avoidance was used least (11%).

Subjects' primary coping methods were also examined as derived from the proportional coping scores. A primary coping method was operationalized as any method that was used at least 5% more often than all others. By this criterion, more than half the sample (55%) had no primary coping method. Of the remainder, 42% used distancing as their primary method of coping, 22% used positive focus, 19% used social support, and 17% used cognitive escape–avoidance. No one in the sample used behavioral escape–avoidance as a primary method of coping.

We examined further whether subjects were flexible in their use of coping methods (Pearlin & Schooler, 1978). Subjects were asked to indicate how many of the five coping methods made up at least 15% of their total coping effort. The median number of coping methods used was four. About 13% of the sample used all five methods of coping, 54% used four of the five, 27% used three, 4% used two, and 1% used only one. In short, the majority of the sample was highly flexible in methods of coping used.

[1]The factor analysis procedures were repeated on subsets of the sample to determine whether factor pattern results would vary as a function of several variables including recency of diagnosis, stage of cancer, which cancer-related problem subjects coped with, and self-help group participation or nonparticipation. The factors produced in these analyses were very similar to the ones reported for the sample as a whole, generally varying only in the order in which items loaded on the five factors.

[2]Separate scoring of intensity of coping efforts and number of behaviors of each type resulted in very highly correlated indices and similar patterns of results. That is, in this study, the effort exerted to cope in a particular way was highly associated with the number of behaviors of that type a person reported.

Relationship of Coping Indices to Other Variables

All variables (i.e., sociodemographics, medical, appraisals, social network, psychotherapeutic factors) were first tested for bivariate relationships to the five coping factors with analyses of variance and Pearson product–moment correlations. Next, multiple-regression equations were constructed to examine the unique contributions of certain variables to each of the five patterns of coping while controlling for other variables. Significant bivariate results that were not redundant with the results of regression analyses are noted in the Discussion section.[3]

Variables were selected for regression analyses by theoretical criteria and were based on bivariate correlations so as to maximize power and to avoid multicollinearity. The 12 variables selected as possible predictors of coping in regressions are grouped into four conceptual groups:

1. Personal/environmental variables—sex, age, education, religiosity, whether the person had ever attended a support group, and whether the person lived alone as a proxy for availability of social support.
2. Appraisal-of-cancer variables—whether the problem selected as most stressful in recent months was "fear and uncertainty about the future" or was "physical" in nature (combining physical limitations and pain) and the perceived stressfulness of this problem.
3. Medical-condition variables—type of cancer (recoded as breast vs. other sites), recency of diagnosis, and whether the person was currently in treatment.
4. Emotional distress—POMS–BI.

Correlation coefficients computed among all 12 variables used as predictors in regression analyses showed only three of the intercorrelations higher than .20 and none higher than .50.

Each of the five coping patterns was regressed on the 12 variables, which were entered as a set simultaneously using listwise deletion of cases with missing values. Standardized betas, adjusted R squares, overall Fs, and ps appear in Table 2.[4] Four of the five equations are highly significant, accounting for 24% to 29% of the variance in coping. The exception was coping through distancing oneself from the cancer-related problem, which was not well predicted by these variables, although the overall equation is significant at the .05 level. Significant regression coefficients are discussed.

Of the personal/environmental factors entered into the equations, younger age was associated with more support seeking, more focusing on the positive, and more behavioral escape–avoidance. Less education (i.e., less than a high school diploma) was related to more distancing and more cognitive escape–avoidance. Religiosity was associated with more cognitive escape–avoidance and more focusing on the positive. Participation in mutual support groups was related to more support use and more focusing on the positive but also with somewhat greater behavioral and cognitive escape–avoidance. Living alone was associated with more coping through support seeking and more behavioral escape–avoidance. Sex of subject was unrelated to coping.

[3]Full results of bivariate tests are not presented here due to space limitations but can be obtained from Christine Dunkel-Schetter.

[4]The standard error terms for all betas ranged from .40 to .60.

TABLE 1
Coping Factors Derived From WOC-CA

Scale	*Item Number*	*Item Description*	*Factor Loading*
Seek and Use Social Support[a]	4	Talked to someone to find out more	.80
	34	Talked to someone about how feeling	.80
	22	Talked to someone who could do something	.72
	20	Let my feelings out somehow	.68
	16	Tried to get professional help	.58
	49	Tried to find out as much as I could	.53
	13	Looked for sympathy or understanding	.52
	31	Asked a friend or relative for advice	.52
	6	Tried not to close off options	.42
	19	Made a plan of action and followed it	.40
	1	Concentrated on the next step	.39
Cognitive Escape-Avoidance[b]	7	Hoped a miracle would happen	.60
	44	Prayed	.59
	45	Prepared for the worst	.56
	42	Wished the situation would go away or be over	.54
	43	Had fantasies/wishes about how it might turn out	.49
	46	Went over in my mind what I would say or do	.42
	8	Went along with fate	.31
	51	Depended mostly on others to handle things	.31
	12	Slept more than usual	.25
Distancing[c]	40	Tried to keep my feelings from interfering	.69
	30	Didn't let it get to me; refused to think about it	.65
	33	Made light of it; refused to get too serious	.59
	9	Went on as if it were not happening	.58
	10	Tried to keep my feelings to myself	.58
	11	Looked for silver lining, looked on bright side	.51
	50	Treated the illness as a challenge	.48
	37	Knew what had to be done, so increased efforts	.46
	15	Tried to forget the whole thing	.46
	32	Kept others from knowing how bad things were	.46
	48	Reminded myself how much worse things could be	.43
	52	Lived one day at a time/took one step at a time	.25
Focus on the Positive[d]	26	Found new faith	.77
	27	Rediscovered what is important in life	.71
	17	Changed or grew as a person in a good way	.70
	41	Changed something about myself	.62
	21	Came out of the experience better than before	.57
	28	Changed something so things will turn out	.57
	14	Was inspired to be creative	.39
	47	Thought of how a person I admire would act	.35
Behavioral Escape-Avoidance[e]	29	Avoided being with people	.62
	23	Tried to make myself feel better by eating, drinking, smoking, or drug use	.57
	24	Took a big chance and did something risky	.55
	35	Took it out on other people	.45
	39	Came up with different solutions	.43
	18	Waited to see what would happen before acting	.34
	5	Criticized or lectured myself	.33
	3	Did something just to do something	.26
	25	Tried not to act too hastily	.26
Dropped due to low loadings	2	The only thing to do was wait	
	36	Drew on past experiences from similar situations	
	38	Refused to believe it would happen	

[a]Alpha = .86, mean item-total correlation = .55. [b]Alpha = .78, mean item-total correlation = .46. [c]Alpha = .80, mean item-total correlation = .45. [d]Alpha = .85, mean item-total correlation = .57. [e]Alpha = .74, mean item-total correlation = .41.

TABLE 2
Results of Regression Analyses on Predictors of Coping

Predictor of Coping	WOC-CA Scale: Seek and Use Social Support	Focus on the Positive	Distancing	Cognitive Escape-Avoidance	Behavioral Escape-Avoidance
Personal/environmental					
1. Sex[a]	−.07	−.06	.09	.01	−.04
2. Age	−.14**	−.18***	.02	−.01	−.19***
3. Education[b]	−.01	.01	−.13**	−.19***	−.02
4. Religiosity	.04	.35***	.09	.32***	−.01
5. Live alone[c]	.17***	.08	.02	.03	.20***
6. Support groups[c]	.19***	.19***	.03	.10*	.12**
Appraisal of cancer					
7. Problem	.01	.00	.00	−.05	.06
8. Degree of stress	.40***	.05	−.02	.29***	.24***
Medical condition					
9. Breast cancer[c]	.11*	.03	.01	−.02	.00
10. Time since diagnosis	−.01	−.05	.01	−.02	.12**
11. In treatment[c]	.07	−.01	.04	.06	−.07
Emotional distress					
12. POMS-BI[d]	.20***	.22***	.13*	−.11*	−.25***
Adjusted R^2	.24	.25	.02	.29	.24
F	10.98***	11.65***	1.78*	13.97***	10.95***

[a]1 = male. [b]Recoded 1 = high school or less, 2 = some college or more. [c]0 = no, 1 = yes. [d]High scores = positive affect, low scores = negative affect.

*$p < .05$. **$p < .01$. ***$p < .001$.

Of the stress appraisal variables, the specific problem with which subjects were coping did not relate significantly to patterns of coping. In contrast, perceived stressfulness of the current problem was associated with significantly greater coping through support, and significantly greater use of both forms of escape–avoidance. Of the medical condition variables, respondents with breast cancer were slightly more inclined to seek support than those with cancer in other sites, but there were no further effects of type of cancer on coping. Time since diagnosis was also associated only with one pattern of coping; the greater the time that had elapsed since the first cancer diagnosis, the more frequently people coped with cancer-related problems by behavioral escape–avoidance. Whether a person was currently in treatment was not significantly related to coping in regression analyses with other variables controlled.

Finally, emotional state was associated significantly with all five patterns of coping in regression results. Less emotional distress was significantly associated with more coping through social support, focusing on the positive, and distancing. More distress was associated with using more of both types of escape–avoidance.

DISCUSSION

Patterns of Coping With Cancer

Five patterns of coping with cancer were identified: seeking or using social support, focusing on the positive, distancing, cognitive escape–avoidance, and behavioral escape–avoidance.[5] These are the first coping patterns to be identified with a large and heterogeneous sample of cancer patients, and they are similar to those identified earlier with smaller samples of cancer patients (Felton et al., 1984; Ray, Lindop, & Gibson, 1982; Weisman & Worden, 1976–1977) and large samples of community residents experiencing a variety of life stresses (Aldwin & Revenson, 1987; Folkman, Lazarus, Dunkel-Schetter et al., 1986). It appears that they may be representative of universal dimensions of coping and are not specific to cancer, except as noted later.

There was little evidence of coping styles in these cancer patients. Most subjects in the study coped in multiple ways with the stressful aspects of cancer. Even the subjects who used only one or two of the five patterns of coping did not report any single pattern of coping much more frequently than the others. People who have had cancer appear to use a large repertoire of behaviors to cope flexibly with any one threat from the disease, rather than rigidly adhering to a particular coping style (Folkman & Lazarus, 1980; Folkman, Lazarus, Gruen, & DeLongis, 1986).

Distancing was the most common form of coping in this study. However, coping by distancing was predicted relatively poorly by the variables in our model—especially compared to the other four coping patterns, which were predicted quite well. Although distancing was negatively associated with education, it was unrelated to

[5]Some of the factors were not themselves unidimensional. For example, the three items loading lowest on the Seek and Use Social Support factor were problem-solving behaviors, which is consistent with the existence of a higher order problem-focused coping factor (Dunkel-Schetter et al., 1987). However, this is to be expected in that, although only five factors were interpretable and internally consistent, more than five eigenvalues were greater than 1. Examination of the written responses to the open-ended item on "other ways subjects coped" revealed only behaviors easily coded as one of the five core factors and did not reveal any additional dimensions not tapped by our item pool.

every other variable tested in both multivariate and bivariate tests. It appears that most individuals with cancer cognitively and behaviorally distance themselves from the disease and its adverse effects most of the time, perhaps due to the ambiguity of the outcome of most cancers and the uncontrollability of the disease (Felton & Revenson, 1984). That distancing was the most common primary method of coping is also consistent with this conclusion. Distancing was not associated with time since diagnosis, however, which suggests that it is not disproportionately prevalent in people with newly diagnosed cancers.

The remaining four patterns of coping were used in different degrees depending on the characteristics of the person with cancer and her or his currently appraised situation. For example, social support and focusing on the positive were the two most highly correlated patterns of coping in this study, yet each had meaningfully different correlates. Focusing on the positive was most common among individuals who were very religious and who were younger. Differences among religious groups in this coping factor were also highly significant; Catholics were most likely to focus on the positive followed by Protestants, who used this coping method more than Jews, and those with no religious preference coped this way least often. In bivariate tests, focusing on the positive was also associated with being employed. Focusing on the positive, however, was not associated with degree of appraised stress. Overall, coping with cancer by focusing on the positive seems to originate more from personal characteristics (e.g., age or religion) of individuals than from situational factors (e.g., disease state or degree of stress). In fact, in bivariate tests, coping by focusing on the positive was most characteristic of individuals not in treatment and those currently in remission. In contrast, use of social support was strongly related to greater perceived stress from cancer and was associated in bivariate tests with more functional limitations, more frequent worry about cancer, and higher levels of education.

Two distinguishable escape–avoidance coping patterns were detected in this study. These patterns have not been differentiated in studies of coping in community samples (Aldwin & Revenson, 1987; Folkman, Lazarus, Dunkel-Schetter et al., 1986), but they are similar to two factors reported in the study by Felton et al. (1984) on coping with chronic illness—suggesting that they may be manifested primarily in response to illness. In this study, the Cognitive Escape–Avoidance factor included several items on fantasizing or wishful thinking together with hints of fatalism, resignation, and preparing for a poor outcome. The Behavioral Escape–Avoidance factor involved behavioral signs of avoidance likely to be maladaptive, such as social withdrawal, drug use, and impulsivity. A self-blame item also loaded on this factor, consistent with earlier research (Dunkel-Schetter et al., 1987).

Cognitive escape–avoidance was associated with less education and greater religiosity in regression analyses. Bivariate correlations also showed significant relationships of use of cognitive escape–avoidance to lower income, unemployment, and greater likelihood of a Christian religious preference (i.e., Catholics and Protestants). Analyses further indicated that cognitive escape–avoidance coping was more common in those individuals with recurrent disease, those currently in treatment, and those with more functional limitations. Because both methods of escape–avoidance coping were associated with degree of perceived stress, they appear to be situationally influenced patterns of coping. However, cognitive escape–avoidance seems to occur more in response to currently problematic medical conditions, whereas behavioral escape–avoidance seems to occur more in response to past cancer treatment and any residual problems from it.

Behavioral Escape–Avoidance was the only coping factor associated with time since diagnosis; the more time elapsed since diagnosis, the more frequently people coped with cancer-related problems in this way. People who coped with cancer by behavioral escape–avoidance were also more likely to live alone, but living alone was associated with coping more through social support as well. Similar results were obtained for marital status and parental status in bivariate tests: People without partners and without children were more likely to cope by behavioral escape–avoidance and support seeking. Yet, avoidance of others was the highest loading item on the Behavioral Escape–Avoidance factor, which is puzzling. Why should people without social ties engage in both avoidance of others and support seeking? Individuals using this form of coping were also less recently diagnosed and, as a result, may vacillate between avoiding and seeking out others in connection with the cancer. This aspect of our results may be worth follow-up given that social networks can play an important role in shaping coping responses (Dunkel-Schetter et al., 1987; Holahan & Moos, 1987; Umberson, 1987).

Predictors of Coping Behavior

The level of appraised stress from cancer was related to three of the five patterns of coping, as expected, whereas the specific cancer-related problem with which subjects were coping was not predictive of the ways people coped, contrary to predictions. Similarly, medical factors (i.e., type of cancer, time since diagnosis, and whether the cancer was currently being treated) were not strongly associated with coping when other factors were controlled. These results are highly consistent with past stress and coping research in which appraisal processes are a central mediator of coping behavior (Folkman, Lazarus, Gruen, & DeLongis, 1986; Vitaliano, DeWolfe, Maiuro, Russo, & Katon, 1990). One implication is that research on psychosocial adjustment to cancer might focus less on biomedical and disease characteristics often presumed to be determinants of coping and more on subjective appraisals of stress from cancer and their effects. Biomedical factors cannot be ignored—particularly in sampling, in which homogeneity is advised if small samples are studied. Nonetheless, medical factors seem to influence coping only as they are filtered through the person's cognitive appraisal system.

Of the personal characteristics studied, age, education, and religiosity proved to be especially important in explaining how people coped. For example, more-religious people in the sample were more likely to use methods of coping involving cognitively reframing the stressful situation. Our results, together with recent evidence suggesting "religious coping" is protective in the face of stress (Park, L. H. Cohen, & Herb, 1990), offer interesting hypotheses about differences among religious groups in coping and adjustment to cancer. In general, cancer patients may be predisposed by virtue of premorbid factors such as life stage, SES, or personal beliefs to cope in particular ways with their illness (Holahan & Moos, 1987).

Our results raise the question of the amenability of coping behavior to change—which is an important assumption underlying much of coping research. Are some patterns of coping, specifically use of social support, more modifiable than others in cancer patients or in general? Although positive attitude is often promoted as a method of coping with cancer in media sources, self-help groups, and trade books (Simonton, Matthews-Simonton, & Creighton,

1978), a positive approach may not be feasible as a means of coping for everyone (Viney & Westbrook, 1982). Our results suggest that older and less religious cancer patients may find it difficult to adopt a positive stance. Popular sources advocating a positive attitude may be misleading and even harmful if a cancer patient is not able to adopt this perspective toward the disease. On the other hand, use of social support was not as strongly related to as many specific characteristics of individuals—suggesting that this coping method may be available to a wider range of cancer patients. The prevalence of support interventions for cancer patients may reflect the assumption of health care providers that it is easier to encourage use of support than it is to alter patients' well-established views of the world.

Rehabilitation efforts for cancer patients might take some of these findings into account in targeting interventions. Age was inversely related to three methods of coping with cancer and in bivariate tests was positively associated with coping by distancing. Older age may reduce perceptions of cancer as a threat and perceptions of the number of coping options one has. A greater understanding of the impact of cancer on older individuals compared to younger individuals seems valuable from the standpoint of psychosocial intervention and given the disproportionate occurrence of cancer among older people.

There was no evidence in this study for sex differences in coping with cancer, and there were very few effects of having breast versus other types of cancer. There were consistent effects of support group attendance, however, and attenders were more likely to be female. Support group attenders (those who attended a group at least once) applied more coping efforts of all types, except distancing, to manage their cancers compared to those who had never met with a group. Attenders were particularly likely to report seeking support and focusing on the positive, as were individuals who had previously been in therapy for any reason. Whether these coping methods predispose individuals to get psychological assistance or whether such assistance enhances the use of particular coping methods is not clear, but both appear to be probable occurrences. If self-help groups are disproportionately composed of individuals using problem-focused coping, individuals who cope in other ways, such as by distancing, may be difficult to assist by this means. The absence of sex differences in coping might be explained by selection bias in sampling such that avoidant men were less represented in the study. However, this selection bias would apply to avoidant women as well. It is also possible that differences between men and women in coping are less striking than differences between cancer patients in other factors such as age, religiosity, or perceived stress.

This study replicated earlier evidence that escape–avoidance coping is associated with more emotional distress and that positive reinterpretations (termed here *focusing on the positive*) are associated with less emotional distress (Felton et al., 1984; Weisman & Worden, 1976–1977). In addition, our analyses controlled for individual stress appraisals and whether the person was in treatment (which to some extent reflects severity of disease, albeit imperfectly). Distancing was associated with slightly less emotional distress in this study, whereas the earlier research found either no relationship or a positive one. Further post hoc analyses revealed that frequency of coping by distancing was related to emotional distress in a curvilinear manner (see also Meyerowitz, 1983). Distancing was most frequent at moderate levels of distress and least frequent under conditions of very low or very high distress. This finding may account for conflicting past results and can be understood if distress is viewed as a determinant of coping. Stressful conditions causing slight distress may not warrant the use of distancing as a means of coping, and those conditions causing extreme distress may make it impossible to distract oneself. At moderate levels of distress, which most of our cancer sample was experiencing, distancing was most common. We suspect that, under these circumstances, coping by distancing is more feasible and more adaptive.

Limitations of the present study include those common in coping research—for instance, lack of certainty as to whether self-reports of coping behavior reflect accurately how a person behaves. Observational studies and informant reports are needed to validate coping inventories (F. Cohen, 1987; Tennen & Herzberger, 1985). Concerns about confounded variables such as mood, personality, and social desirability can be partially addressed by the multivariate analyses, which controlled many factors. However, further studies of coping behavior are much needed to address some of the remaining questions in this domain of research. Finally, inferences about causality are difficult in cross-sectional designs such as this one. Although some alternatives could be ruled out in this study (i.e., effects of coping on age), others (e.g., third-variable causation) remain plausible and must be untangled in longitudinal or experimental designs.

Conclusion

Five patterns of coping were delineated and labeled *seeking and using social support, focusing on the positive, distancing, cognitive escape–avoidance, and behavioral escape–avoidance.* These conform well to how individuals cope with other major life stresses and were related in meaningful ways to factors hypothesized to be determinants of coping. Cognitive appraisals of stress from cancer were associated with three of the five coping patterns. However, medical factors such as site of cancer and time since diagnosis were not related to coping patterns after appraisals of stress were controlled. Type of cancer threat also was not associated significantly with coping. There was evidence for links between some aspects of social networks and coping. Finally, emotional distress was associated with focusing on the positive and escape–avoidance coping, and results on the relationship of distress to distancing clarify equivocalities in prior studies.

The coping literature was once described as a "three-car garage filled to the rafters with junk" and badly in need of rigorous housecleaning (Taylor, 1984, p. 2313). This article provides information on five patterns of coping with cancer within an established theoretical tradition, a practical method of assessing these patterns, and indications of the factors associated with the the patterns. Such information has implications for the provision of psychosocial assistance to cancer patients as well as for further basic research on coping.

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