

preting pain, reporting pain, and exercising (Table 4). The interaction effects were not found to be significant in any one of these equations after controlling for the predictor (outcome expectancies) or the moderator (perceived self-efficacy), indicating that outcome expectancies alone predicted how much patients did in fact use these strategies.

DISCUSSION

The major findings in this study are that the most frequently used coping behaviors were increasing activity levels, reporting pain, using pain medications, and coping self-statements. Patients' self-efficacy to cope with pain was inversely correlated with pain intensity and pain interference with daily life. Perceived self-efficacy was positively correlated with perseverance in the use of a coping behavior but not with the level of distress. Moreover, use of coping was positively related to pain intensity and pain interference with daily life. Finally, outcome expectancies were positively correlated with the use of coping behaviors. These findings are discussed below.

In this study, patients with chronic cancer pain appeared to employ a variety of coping strategies to deal with their pain. Among cognitive coping strategies, the most frequently used behavior was coping self-statements. This is consistent with the findings in one of the few studies which examined coping strategies of patients with cancer pain. Using the CSQ in a sample of patients with lung cancer-related pain, Wilkie and Keefe⁹ found that coping self-statements received the highest score on the CSQ. In this study, among behavioral coping strategies, not surprisingly, reporting pain to clinicians and using pain medications were very frequently used by patients with cancer pain. However, other approaches recommended by the AHCPR, such as relaxing, using imagery, and using hypnosis, were rarely used in this study. These coping strategies may require special training in order to be properly performed. Therefore, interventions that instruct patients on how to appropriately use these AHCPR-recommended approaches need to be developed.

Not surprisingly in this study patients with chronic cancer pain reported using pain medications most fre-

quently. Traditionally, cancer pain has been approached from a unidimensional/biomedical model, which focuses on pharmacological interventions and assumes that these interventions can block pain pathways. As a result, medications, especially opioid analgesics, are the cornerstone of treatment for cancer pain. Tremendous research efforts have been generated investigating the effects of drug therapy. On the other hand, research on non-pharmacological approaches or psychological variables has garnered much less attention. For example, when the AHCPR guidelines for management of cancer pain were developed, the panel performed a comprehensive review of the literature. There were 499 research articles on drug interventions out of 6002 publications reviewed, while there were only 78 research articles on non-pharmacological approaches.²⁰ This lack of research effort on non-pharmacological interventions for the management of chronic cancer pain could be due to the belief that cancer pain is unique, and that biomedical methods are the best treatment for cancer pain. It is clearly stated that "cancer pain is so clearly different from chronic benign (non-malignant) pain in its causes and in its possible course and consequences, non-pharmacological approaches (behavioral methods) have been underutilized in cancer pain patients".²¹

Patients' perceived self-efficacies for praying/hoping, diverting attention, reporting pain, and exercising were negatively correlated with pain intensity. Patients' self-efficacies for reinterpreting pain and exercising were negatively correlated with pain interference with daily life. These relationships between perceived self-efficacy and pain outcomes have been consistently supported in other studies.^{7,13,14,22-24}

In the self-efficacy theory, Bandura postulated that belief in the outcome of a behavior does not cause people to perform that behavior unless they also believe that they can successfully execute the required activities. Bandura hypothesized that only self-efficacy will predict how much effort people will expend and how long they will persist in the face of aversive experiences. However, in this study both self-efficacy and outcome expectancies predicted patients' uses of these coping behaviors. The hypothesis that self-efficacy functions as a moderator between outcome expectancies and use of coping was not sup-