

Numerous investigators have consistently demonstrated that coping behaviors and perceived self-efficacy are important determinants in response to treatment of chronic non-malignant pain. However, to date, with the predominant focus on pain medicine in cancer pain treatment, very little attention has been paid to the significance of self-efficacy and coping strategies in the management of cancer pain. Also, few studies have addressed the differing effects between self-efficacy and outcome expectancies on behaviors. Moreover, the role of self-efficacy in coping with cancer pain has not been extensively researched. Therefore, the purposes of this study were to explore coping strategies recommended by the AHCPR used by patients with chronic cancer pain; to examine the relationship between self-efficacy and pain outcomes; and to determine the role of outcome expectancies in coping with pain. Research that thoroughly assesses the effects of self-efficacy and coping behaviors on cancer pain may contribute to its management.

Coping behaviors have been systemically demonstrated to play an important role in management of chronic non-malignant pain (e.g., Brown et al.).² Patients who experience pain appear to employ a wide variety of strategies for coping with it.³ There is growing interest in investigating strategies used to cope with chronic pain because these strategies may predict pain intensity and functional capacity in chronic pain patients.^{4,5} In patients with non-malignant pain, use of pain coping strategies has been predictive of pain intensity, depression, anxiety, functional capacity, physical impairment, disability, and psychosocial impairment.^{2,3,6,7} However, patients' attempts at using coping strategies in dealing with their pain have rarely been addressed in research on cancer pain,^{8,9} which appears to be an area requiring inquiry.

Perceived self-efficacy refers to people's judgments of their capabilities to perform given behaviors; outcome expectations, on the other hand, are judgments of the likely outcomes such behavior will produce.^{10,11} The self-efficacy theory postulates that the belief that one can successfully execute a required activity can help people perform that behavior. The self-efficacy theory further postulates that belief in the outcome of a behavior does not cause people to perform that behavior unless they also believe they can

successfully execute the required activity, i.e., self-efficacy functions as a moderator.

Perceived self-efficacy can bring relief from pain through three possible mechanisms.¹² First, people who believe they can control pain through the use of any certain skill will likely mobilize whatever coping skills they have learned to ameliorate their pain. Second, people who are self-efficacious may persevere in their efforts. Finally, a sense of self-efficacy also reduces distressing anticipations that create aversive physiological arousal and bodily tension, which may exacerbate pain sensations and discomfort. Research on self-efficacy beliefs provides strong evidence for their relationship to coping behaviors and perceptions of pain. Perceived self-efficacy has been associated with the level of functioning, psychological functioning, the degree of disability, coping behaviors, and response to treatment in patients with chronic pain.^{13,14} These observations suggest that the self-efficacy theory may contribute to a better understanding of the possible mechanisms underlying the success of cancer pain management.

In sum, whereas a considerable amount of research in chronic nonmalignant pain has demonstrated the significance of coping behaviors and perceived self-efficacy in pain management, little attention has been paid to their role in cancer pain research thus far. Researchers have also suggested that the self-efficacy theory has failed to credit the importance of outcome expectancies, yet few studies have addressed the different effects between these two variables. Therefore, this study was designed to test the following hypotheses.

1. Patients with chronic cancer pain employ cognitive as well as behavioral strategies to cope with their pain.
2. Self-efficacy is negatively related to pain outcomes (pain intensity and pain interference with daily life).
3. Self-efficacy is positively related to the use of coping and negatively related to the level of distress.
4. The use of coping is negatively related to pain outcomes, and the level of distress is positively related to pain outcomes.
5. Outcome expectancies are not related to the use of coping unless in the presence of self-efficacy, i.e., self-efficacy functions as a moderator.