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Topical review

Do we need a communal coping model of pain catastrophizing? An alternative explanation

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1. Introduction

Undoubtedly, one of the most robust findings in contemporary psychological pain research is the important role of pain catastrophizing. Despite the growing body of research on pain catastrophizing (for an extensive overview see Sullivan et al., 2001), there is still conceptual confusion about the construct, which revolves around the question whether or not pain catastrophizing is to be considered a form of coping. An illustrative example of the polemic around this question can be found in a 1999 issue of Pain Forum (Geisser et al., 1999; Haythornthwaite and Heinberg, 1999; Keefe et al., 1999; Thorn et al., 1999). Related to this conceptual confusion is the lack of a guiding theoretical framework (Keefe et al., 2004). Sullivan et al. (2001) give an extensive and a thorough review of the literature on pain catastrophizing and discuss several models that can have a heuristic function and may help to sort and understand the research data on pain catastrophizing. One of these models in particular, the communal coping model (CCM) of catastrophizing (Sullivan et al., 2000, 2001) is clearly taking root in pain research lately.

In this topical review, a case is made for placing pain catastrophizing within the transactional stress and coping model of Lazarus and Folkman (1984). It is argued that the CCM in its current formulation might actually contribute to the conceptual confusion around the construct of pain catastrophizing that was mentioned previously. This finally leads to the question of whether we actually need a CCM of catastrophizing.

2. Catastrophizing, beliefs, appraisal, and coping

In their transactional model of stress and coping, Lazarus and Folkman (1984) make a clear distinction between the concepts of beliefs, appraisal, and coping.

With the concept of beliefs, Lazarus and Folkman (1984) refer to a person characteristic that is an important determinant of appraisal. Particularly important for the present discussion are generalized beliefs about personal control that have to do with feelings of mastery and confidence. They are conceptualized as stable personality dispositions.

According to Lazarus and Folkman (1984), appraisal can be understood as an evaluative process. They distinguish between primary appraisals that involve evaluating a particular event as irrelevant, benign-positive, or stressful with regard to a person's wellbeing and secondary appraisals that involve evaluating a particular event with respect to coping options and their possible effectiveness. Both interact with each other and influence whether and which coping efforts will be attempted.

Finally, coping is defined as both behavioral and cognitive efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (Lazarus and Folkman, 1984).

In 1995, Sullivan et al. (1995) already discussed that at a descriptive level there are similarities between the three subscales of the pain catastrophizing scale (PCS) on the one

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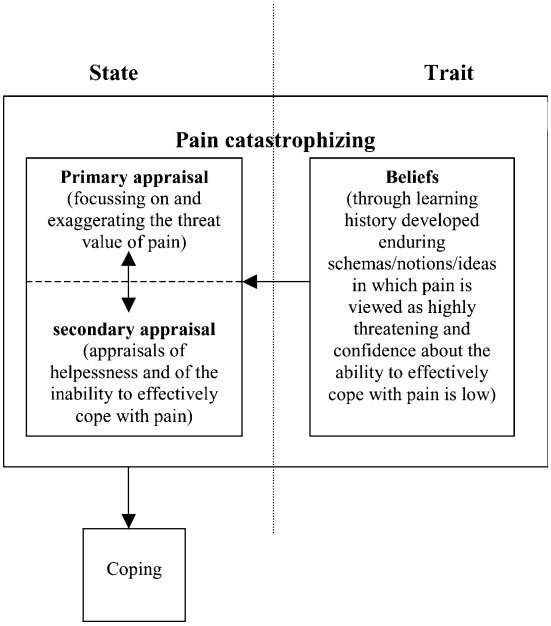

Fig. 1. Proposed appraisal model of pain catastrophizing.

hand (i.e. magnification, rumination, and helplessness) and primary and secondary appraisal processes on the other hand. Magnification and rumination may reflect a focus on and evaluation of painful stimuli as extremely threatening whereas helplessness reflects the evaluation of painful stimuli as unable to cope with. Furthermore, people may possess enduring beliefs or schema about the threat value of painful stimuli or their ability to effectively cope with painful stimuli (Sullivan et al., 1995).

There are some research findings that support these similarities, e.g. the high test–retest reliability of the PCS, the close association between pain catastrophizing and other appraisal constructs, and the lack of association between pain catastrophizing and forms of coping (for a more detailed description see Sullivan et al., 1995, 2001). Furthermore, associations have been found between pain catastrophizing and trait constructs such as trait anxiety (Sullivan et al., 1995) and neuroticism or negative affectivity (Affleck et al., 1992; Drossman et al., 2000; Sullivan et al., 1995). In Fig. 1, we propose an appraisal model of pain catastrophizing, based on the transactional model of stress and coping (Lazarus and Folkman, 1984).

3. The communal coping model of pain catastrophizing

Based on the finding that pain catastrophizing mediates the gender–pain relationship, Keefe et al. (2000) and Sullivan et al. (2000) proposed a communal coping model (CCM) of pain catastrophizing. In this model, pain catastrophizing is conceptualized as being part of a broader, interpersonal or communal coping style in which it serves a social communicative function. At the core of the model is the tenet that dealing with stress within a social, interpersonal, or relational context, for instance by soliciting social support, assistance, or empathic reactions from (significant) others, might be more important than pain or stress reduction per se. To the extent that catastrophizing serves this goal it may be considered adaptive although it has detrimental consequences for the pain problem itself.

However, placing pain catastrophizing within a communal coping framework passes over the fact that pain catastrophizing is a theoretical construct with an explicitly *cognitive* connotation. Therefore, it is rather confusing to operationalize catastrophizing other than in a cognitive way. Furthermore, these catastrophizing cognitions or appraisals cannot serve a social communicative function in and of themselves because they are not observable. Rather, their sheer existence can only be inferred by asking people to complete the PCS or the CSQ or from the behavior, either verbal or nonverbal, of those who catastrophize about pain. This behavior, of course, may or may not serve a social communicative function. So, pain catastrophizing could only serve a social communicative function indirectly. Again, however, it is quite confusing to define the nature of a process, which is cognitive in the case of pain catastrophizing, in terms of its potential function or one of its effects. Analogously, although one of the effects of pain behavior might be that people become less active and develop a disuse syndrome, this does not mean that pain behavior should be defined in terms of disuse. Therefore, we argue here that the term ‘pain catastrophizing’ should be used in its pure, that is, *cognitive* meaning. By placing catastrophizing within a coping framework, the conceptual confusion that already exists may even be enhanced.

4. Do we need a communal coping model explanation of catastrophizing?

According to Sullivan et al. (2001), several research findings support a CCM explanation of catastrophizing. For example, Keefe et al. (1997) found that catastrophizing was related to lower spousal ratings of self-efficacy for pain. More recently, some hypotheses, derived from the CCM have been examined in research. Keefe et al. (2003) found that cancer patients who catastrophized about their pain reported receiving higher levels of caregiver instrumental support. Caregivers of these patients reported having higher levels of stress and critical behaviors and rated the patients as having more pain and engaging in more pain behaviors. Giardino et al. (2003) showed that there was a positive association between pain catastrophizing on the one hand and solicitousness and pain reports on the other hand. Perceived solicitousness and the type of social relationship (spouse or partner versus someone else) moderated the association between catastrophizing and pain reports. Finally, Sullivan et al. (2004) found that compared to low catastrophizers, high catastrophizers displayed pain

behaviors for a longer duration and used fewer pain coping strategies in the presence of an observer.

Overall, the results of these studies seem to support a CCM interpretation of pain catastrophizing in that they, at least partially, confirm some of the predictions derived from the CCM, and demonstrate that pain catastrophizing has interpersonal correlates. Nevertheless, the question is justified whether the same predictions can also be derived from existing models of pain catastrophizing, in particular the appraisal model of pain catastrophizing for which supporting research data have been found as well.

According to the appraisal model of pain catastrophizing primary appraisal processes (magnification and rumination) and secondary appraisal processes (helplessness) interact and determine whether and which coping efforts will be attempted. Indeed, several studies that have started from the transactional model of stress and coping have found specific relations between appraisals of stressful events and ways of coping (Dunkel-Schetter et al., 1987, 1992; Folkman et al., 1986; Knussen and Lee, 1998; Turner et al., 1987). More specifically, researchers have found that threats to one's own physical health were associated with more seeking of social support (Folkman et al., 1986). Also, events that were appraised as highly stressful were characterized by support from significantly more people and by greater amounts of informational and emotional support than were events that were appraised as low in stress (Dunkel-Schetter et al., 1987). Finally, perceived stressfulness of having cancer was associated with significantly greater coping through social support (Dunkel-Schetter et al., 1992).

The point to be made here is that from this perspective and based on these findings, predictions may be made that individuals who focus on their pain (rumination), think that something terrible might happen to them because of the pain (magnification), and feel unable to effectively cope with their pain (helplessness), may adopt a coping style that, either intentionally or not, elicits social support and attention by means of overtly displaying distress, fear, helplessness, or pain behavior. The prediction of the CCM that the presence of other people serves as a discriminative stimulus for these overt displays of distress is not surprising in this context, for what is the use of showing, for example, that you are helpless if there is no one around to respond or to help you?

In a recent study by Sullivan et al. (2004) in which supportive evidence for the CCM is reported, it is proposed in the discussion section that '*strategies used to maximize the proximity of others may be motivated, at least in part, by low levels of coping efficacy*' (italics by the present authors). However, in our opinion they fail to follow this hypothesis to its logical and ultimate consequence, which is that exactly for that reason it may be unnecessary to hypothesize that some individuals prefer a more communal or interpersonal approach to coping and that catastrophizing plays an important role in communicating this approach. Rather, within an appraisal model of catastrophizing, it is the features of catastrophizing itself that directly impinge on these interpersonal correlates. In this view, the predictions derived from the CCM of pain catastrophizing can also be accounted for by the appraisal model of pain catastrophizing.

5. Conclusions

Summarizing the previous discussion, some tentative conclusions and recommendations can be made. First, an appraisal model of pain catastrophizing offers an attractive theoretical framework, is supported by research data, and might function as a guide for future catastrophizing research. Second, pain catastrophizing should be defined in terms of its cognitive nature and not in terms of its potential function or effects. Third, the fact that catastrophizing has interpersonal correlates is intrinsic to the very nature of pain catastrophizing and can be attributed to the effects of appraisals of threat and helplessness (that is, low levels of coping efficacy) on coping behavior (that is, overt display of distress and helplessness, as well as pain behavior), which in turn is likely to evoke social attention and support. Finally, to the extent that these conclusions can be validated empirically we doubt that there is a need for a CCM of catastrophizing in which it is hypothesized that individuals who catastrophize about their pain do so because they prefer an interpersonal approach to dealing with painful stimuli. Instead, we would rather argue the opposite, namely that these individuals seek assurance and social support because they focus on their pain, experience their pain as threatening, and feel helpless in dealing with their pain. Of course, further research will have to demonstrate which of these two models, the CCM or the appraisal model, has more merits.

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