

## EDITORIAL

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# What is the clinical value of assessing pain-related psychosocial risk factors?



Michael JL Sullivan\*

“...psychosocial variables have risen to the status of ‘risk factors’ for problematic recovery.”

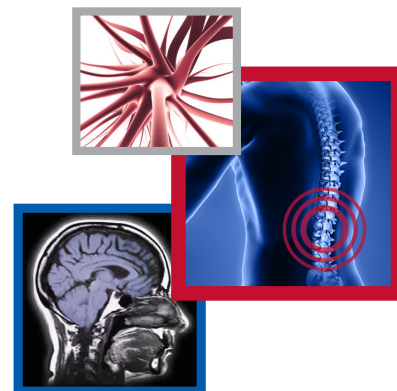
Twenty years ago, heated debates would arise during discussions of psychological influences on pain experience. Today there is little room for debate. Indeed, research has been consistent in showing that certain psychosocial variables can increase the risk of problematic pain outcomes [1].

This editorial will focus on two psychosocial variables that have emerged as significant predictors of problematic pain outcomes. These include catastrophic thinking and perceived injustice [1]. Numerous investigations suggest that individuals who engage in catastrophic or alarmist thinking about their symptoms, and who feel that they are suffering unjustly, are individuals at high risk for developing chronic pain and disability. The predictive value of catastrophizing, and perceived injustice for adverse pain outcomes has been so robust, that these psychosocial variables have risen to the status of ‘risk factors’ for problematic recovery [1].

Pain catastrophizing has been broadly defined as an exaggerated negative orientation to actual or anticipated pain comprising elements of rumination, magnification and helplessness [2]. Over 1000 studies have documented a relationship between

pain catastrophizing and adverse pain outcomes [2,3]. Pain catastrophizing has been associated with heightened pain severity, emotional distress and pain-related disability, even when controlling for medical status variables [2,4]. Pain catastrophizing has also been shown to compromise the effectiveness of pharmacological and psychological pain management interventions. Several studies have shown that reduction in pain catastrophizing is the single best predictor of successful rehabilitation for pain-related conditions [5,6].

Perceived injustice has been conceptualized as a cognitive appraisal involving a tendency to magnify the severity of pain-related losses, a sense that losses are irreparable and blame attributions [7]. Research indicates that perceptions of injustice are associated with heightened pain severity, pain behaviors, self-reported disability, depressive symptoms and the persistence of post-traumatic stress symptoms [7]. Perceived injustice predicts prolonged occupational disability following injury, even when controlling for pain catastrophizing, fear of movement and depressive symptoms [7]. Reductions in Injustice Experiences Questionnaire (IEQ) scores have



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\*Department of Psychology, McGill University, 1205 Doctor Penfield Avenue, Montreal, Quebec, H3A1B1, Canada; Tel.: +1 514 398 5677; Fax: +1 514 398 4896; [michael.sullivan@mcgill.ca](mailto:michael.sullivan@mcgill.ca)

been associated with reductions in depressive symptoms and increases in physical function [7].

Over the past two decades, great strides have been made in alerting clinicians to the importance of assessing psychosocial risk factors in their evaluations of individuals suffering from debilitating pain conditions. Measures of pain catastrophizing, such as the Pain Catastrophizing Scale (PCS) [8] and the IEQ [7] have been incorporated into the assessment protocols of pain clinics and rehabilitation centers around the world. Recent research has also increased the clinical utility of these measures by proposing cut scores to better identify patients with a psychosocial risk profile [9,10]. Electronic copies of the PCS and the IEQ can be accessed at no cost at [10].

Although psychosocial risk measures such as the PCS and the IEQ have been readily adopted, the clinical community has lagged in the development and implementation of interventions specifically designed to target these psychosocial risk factors. While speaking at a recent rehabilitation conference, I asked members of an audience of approximately 1000 clinicians to raise their hand if they used a measure of pain catastrophizing as part of their assessment protocol. Nearly every hand in the audience was raised. I then asked what clinicians did differently when one of their patients obtained a high score on the measure of catastrophizing. Not one hand was raised to offer a response.

The assessment of psychosocial risk factors is only worthwhile if there are plans to institute an intervention specifically designed to target these risk factors. Unfortunately, in many settings, the assessment of pain catastrophizing and perceived injustice (and other psychosocial risk factors) is more likely to be used to blame the patient for failing to respond to treatment, as opposed to being used to tailor treatment to the patient's needs.

When measures of psychosocial risk are used for assessment as opposed to treatment planning, their use can actually be potentially harmful to the client. I have witnessed many occasions where psychosocial risk measures were included as part of a functional capacity evaluation. When results fail to reveal a consistent picture of physical limitations, and the patient obtains high scores on pain-related psychosocial risk factors, the conclusion is drawn that the patient's problem is psychological as opposed to physical. This erroneous conclusion can have disastrous consequences for the patient's eligibility for compensation.

Admittedly, there is intuitive appeal to the notion that a comprehensive functional capacity evaluation should include assessment of physical and psychological factors. However, at this time, there is no clinical research to guide the interpretation of combined physical and psychological findings. Without an integrative conceptual framework that lays out interpretive guidelines for assessment results, clinicians succumb to a Cartesian dualism where they attempt to discern whether the patient's problem is one of 'the mind' or of 'the body'.

Unfortunately, not all clinicians who use pain-related psychosocial risk measures are fluent in what these instruments actually measure. High scores on measures of catastrophic thinking or perceived injustice do not bring into question the authenticity of a patient's pain condition. Nor do high scores on these measures suggest a psychological origin to the patient's pain symptoms. On the basis of research conducted to date, it could only be concluded that pain-related psychosocial risk factors augment the severity of a pain condition [1]. Basic research suggests that pain-related psychosocial risk factors can trigger a cascade of physiological and psychological processes that interfere with endogenous pain modulation, compromise the effectiveness of cognitive coping strategies, interfere with the effectiveness of pain medication and promote the engagement in maladaptive behaviors [1].

While a case can be made for the importance of assessing pain-related psychosocial risk factors, the assessment of these risk factors should form the basis of treatment planning, not adjudication or diagnosis. When a patient scores in the risk range on measures of pain catastrophizing or perceived injustice, the patient should be offered an intervention that is specifically designed to target these risk factors.

A wide range of interventions appear to yield reductions in pain-related psychosocial risk factors. For example, participation in cognitive-behavioral pain management programs has been associated with reductions in pain catastrophizing [11]. Even primary care interventions, such as physiotherapy, have been shown to reduce pain-related psychosocial risk factors [12]. While numerous interventions may yield reductions in psychosocial risk factors, it remains unclear whether the reductions in psychosocial risk factors achieved through these untargeted interventions are clinically meaningful. Smeets *et al.* reported that interventions,

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such as physiotherapy, problem-solving therapy or even combined treatment, yield approximately 10% reductions in pain catastrophizing [5]. Multidisciplinary pain management programs for patients with whiplash injuries yield only a 5% reduction in perceived injustice scores. Recent research suggests that reductions of less than 25% in pain catastrophizing and perceived injustice scores are not clinically meaningful [9,10]. It appears therefore that current approaches to the management of pain problems do not necessarily contain the elements necessary to effectively target pain-related psychosocial risk factors.

Proceeding from research highlighting the negative impact of pain-related psychosocial factors, we reasoned that an intervention specifically targeting these risk factors might yield more positive outcomes than was currently being achieved [6]. The Progressive Goal Attainment Program (PGAP) was the result of these efforts. The primary goals of the PGAP are to reduce catastrophic thinking, fear of movement, perceived injustice and disability beliefs in order to promote reintegration into life-role activities and facilitate return-to-work.

The PGAP differs from many other psychosocial interventions in that it contains only techniques that have been shown to effectively target pain-related psychosocial risk factors. Disclosure and validation techniques are used to target catastrophic thinking and perceived injustice. Thought monitoring and re-appraisal techniques are also introduced to the client to reduce the frequency of catastrophic and justice-related thinking. Repeated exposure to discontinued activities is used to reduce fear of movement, and behavioral engagement is used to challenge disability beliefs. The intervention techniques are delivered by one clinician over the course of ten weekly meetings.

The PGAP has been shown to be effective in reducing catastrophic thinking, fear of movement, perceived injustice and disability beliefs in individuals with whiplash injuries, work-related musculoskeletal injuries, and individuals with fibromyalgia [6,13]. The magnitude of reduction in pain-related psychosocial risk factors following participation in the PGAP ranges from 20 to 45%. The results of outcomes studies indicate that using techniques specifically designed to target pain-related psychosocial risk factors might be more cost effective than more expensive untargeted approaches [14].

To summarize, research findings highlighting the deleterious effects of pain-related psychosocial risk factors argues for the adoption of psychosocial screening as part of routine assessment of individuals suffering from pain conditions. However, the intent of psychosocial screening should be for treatment planning, not for the purpose of diagnosis or adjudication. Incorporating risk-targeted interventions into the repertoire of services offered to pain patients is an important challenge currently facing pain clinics and rehabilitation services. Continued neglect of pain-related psychosocial risk factors in the treatment of pain conditions will likely contribute to unnecessary and prolonged suffering for many patients with pain.

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#### Financial & competing interests disclosure

*M Sullivan receives royalties from the sale of the treatment manual associated with the Progressive Goal Attainment Program. The author has no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.*

*No writing assistance was utilized in the production of this manuscript.*

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**■ Website**

- 101 Electronic copies of the PCS and the IEQ. <http://sullivan-painresearch.mcgill.ca>