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Editorial comment and review

What do maltreatment and schemas have to do with the treatment of chronic pain?
Commentary on 'Early maladaptive schemas in Finnish men and women with chronic pain'

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Maltreatment during childhood or at other times in life has serious consequences for psychological and physical health. While physical and sexual abuses are traditionally seen as primary forms of maltreatment, today other life experiences such as physical or psychological neglect are also included. Indeed, neglect may entail things like leaving small children alone for long periods (supervision neglect), failing to provide basic physical needs like food and clean cloths, or psychological mistreatment e.g. continual verbal banishing. As an example, consider a large prospective cohort study of more than 15,000 youth who were asked about maltreatment and followed over time to observe possible effects on health [1]. They found that maltreatment was quite prevalent in the United States with about 40% reporting some form of maltreatment ranging from supervision neglect to sexual abuse. The consequences were clear: maltreatment was associated with future health problems in 8 of the 10 health outcomes examined. One might wonder whether maltreatment is related to pain and what the mechanism might be so that this knowledge could be translated into better treatment. The paper "Early Maladaptive Schemas in Finnish Adult Male and Female Pain Patients" attempts to shed some light on these issues [2].

There is good evidence that physical and sexual abuse during childhood or adolescences is related to a variety of pain problems in adults as reviewed in the Saariaho paper [2]. Many investigations rely on self-reports of these events and then relate these reports cross-sectionally to current pain problems or sometimes prospectively to future problems. There is great difficulty however, in drawing conclusions that it is the actual abuse that causes the pain problem since maltreatment often occurs in a cluster of adverse elements. Neglect more often occurs in certain groups of people e.g. the deprived, and is frequently associated with parents who may suffer substance abuse, criminality or psychological problems. Further, since some of the items used to assess abuse involve either low-levels or situations that might occur in "normal" dating (e.g. "has anyone ever touched you when you did not want them to"), it is not always easy to see a direct link to adult pain experiences.

However, an important aspect of pain, as well as of maltreatment, is the intensity of the emotions involved. Certainly maltreatment, particularly in the form of sexual or physical abuse, could be considered to be a great violation of one's personal space and worth. Consequently, these events would be expected to produce intense, difficult, negative emotions. This in turn brings into play the subjected person's ability to regulate these emotions. Difficulties in emotion regulation are now seen as a basic process that affects how people cope with a variety of stressors [3] where pain might be viewed as one such stressor. Thus, the emotional impact of maltreatment, particularly when it is repeated over time such as during childhood or adolescence, might in turn have considerable consequence when experiencing pain.

Saariaho et al. examine the concept of schemas as one way of understanding how the experience of various forms of maltreatment might impact on pain. Schemas are cognitive forms that are said to help us understand the vast amount of input from our senses. Rather than having to make sense out of every new situation, schemas help us quickly interpret input. Normally they are thought to be very helpful, but disruptions during their development might result in maladaptive schemas. The results in the Saariaho et al. article seem to highlight the emotional aspects of possible maltreatment and link them to schemas as well as the problem of pain. It puts these together by suggesting that an important link is schemas.

Understanding the link between current chronic pain problems and earlier psychological events however, is an extraordinarily difficult task. Thus, the current study is a daring attempt to produce a patch of clear water in a large muddy lake. While the results provide some new food for thought, they also need to be seen in relation to these difficulties. First, the study uses a cross-sectional design so while relationships exist we cannot know whether the schemas actually developed before the pain problems. This is a crucial prerequisite for showing causality. Second, the study does not actually examine maltreatment—the believed source of why maladaptive schemas would develop—but instead indirectly points to the probability that maltreatment occurred. Third, the measure employed,

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like many measures of psychological constructs, may not be particularly good at measuring schemas. There is a tendency in research on psychological factors that the measure becomes the concept. Catastrophizing, as an example, becomes what the Pain Catastrophizing Scale measures. This is dangerous because the concepts may become muddled. Nevertheless, the study provides another angle suggesting that emotions and how we process experiences cognitively have relevance for chronic pain patients.

The role of schemas that is underscored in the Saariaho et al. paper could be compared and contrasted to learning theories of the development of chronic pain. Although the original conceptions of chronic pain underscored the need to focus on the current situation (rather than childhood experiences) [4], later work views the development of chronic pain as a process occurring over time [5]. Simply stated, learning is a cumulative process where we cannot "undo" or "unlearn" things from earlier in life, we can only learn new things that may take precedence over the earlier ones. Thus, it is quite logical that patterns of behavior learned during childhood would have significant influence on how we cope with pain as adults. As outlined above, pain and maltreatment share for example the fact that both may invoke intense emotions. Patterns of how we deal with emotions developed earlier in life then might easily be thought to be activated to deal with emotions in adulthood such as when challenged by pain. However, the role of emotion regulation needs to be researched more as only a few reports exist on its role in pain. And, as the current article suggests, these emotions are almost certainly tied to specific ways of thinking. For example, catastrophizing thoughts have been associated with higher pain intensity and poorer treatment results [6] but is also often associated with negative emotions such as depression [7].

1. Implications for treatment

Given the obvious trauma that maltreatment encompasses and the data that pain patients appear to have maladaptive schemas, it would be easy to suggest that clinical treatment should address the maltreatment and alter the schemas. This would be a serious mistake.

First, there are some flies in the ointment which might render the association as fairly limp in the clinical situation. As mentioned above, the reporting of maltreatment is prevalent. While shocking, it also suggests that the influence might be a general one (e.g. via emotion regulation as described above) rather than a specific one. This would make it quite difficult to address the problem. Schema therapy has been put forward in the psychotherapy literature as one method of realigning schemas [8] and this might be one way of approaching the problem. However, schema therapy is an intense therapy that requires considerable resources from the therapist and client and the evidence base for it is still being developed.

Second, we need to consider how pain patients view their problem. Although therapeutic interventions might result in insights into how schemas influence the problem, most patients do not seem to view this as the source of the problem. We interviewed chronic pain patients seeking rehabilitation and for those who reported a history of sexual or physical abuse we asked if and how they believed it influenced their current pain problem [9]. While reports of abuse were clearly related to outcome variables, 85% said that the abuse did NOT affect their pain. This illustrates that patients may not see a link and therefore that attempts to work with such issues will be quite challenging.

2. The probable role of coping

Another view might be that maltreatment has a variety of effects on how we cope with future situations. The mechanisms might well be multifaceted such as via emotion regulation, the forming of maladaptive schemas, self-image/self-efficacy, and learning. Thus, two people suffering low back pain might have different basic abilities to deal with the pain. In many indirect ways the earlier life experiences might come to play. Certainly, we would guess that someone growing up with daily neglect and abuse might have different coping strategies and resources to deal with it than some with a different background. Still, we should not draw conclusions too fast as some people may survive adversity and actually use it to hone their coping strategies as witnessed in war or natural catastrophes. Nevertheless, the focus for treatment might be how the patient deals with the pain problem. To be sure, cognitive-behavioral programs would still seem to be relevant treatments since they target emotions, cognitions and overt behaviors that can be utilized to improve function, pain, and quality of life.

3. A need for in-depth treatment?

Perhaps the most important treatment issue involved is one of depth and not kind. In other words, perhaps the type of treatment appropriate for these patients may be the same *as for other patients*. On the other hand, other aspects of treatment might need to be different. One puzzle in pain rehabilitation is why so many patients have relapses. Patients with a history of maltreatment where emotion regulation is problematic or maladaptive schemas have developed may simply need very structured and long term treatments. I base this on ideas borrowed from the treatment of so-called "borderline". While forms of cognitive-behavioral therapy (e.g. dialectical therapy or schema therapy) show promise, they entail long-term treatment commitments and structured programs in order to make progress.

4. Conclusions and future directions

The Saariaho et al. article is one step forward in untangling the hows and whys of persistent pain. As such it provides some additional ways of viewing the problem that might have much relevance for understanding why patients do not always respond to rehabilitation efforts. Yet, there is good reason to be cautious. One study cannot be decisive and there are many stumbling blocks in interpreting the results in this case. What has been shown is that based on questionnaires given to Finnish pain patients there is a relationship between the conceptualized schemas and the problem. This is cause for further reflection and study.

Indeed, several lines of research might move us forward. First, there appears to be a need to better identify pain patients in need of rehabilitation services, but who are nevertheless likely to have a poor outcome. Future research might examine how factors like emotion regulation or schemas could be helpful (or not) in identification of such patients. Identification would set the stage for providing some form of alternative intervention so as to enhance outcome. Second then, is the need for bold treatment protocols that focus on patients who currently have a poor prognosis. In this light various forms of psychological approaches might be helpful. To be sure, the trend in the treatment of psychological problems is to treat the immediate problem, but to also address basic processes that may contribute to the symptom. New therapies like dialectical behavior therapy or emotion regulation-based techniques might be fresh ways of dealing with the problems this patient group face [10]. In reality, there is a group of patients, probably those identified in the Saariaho paper, who after numerous short-term unsuccessful treatment have larger been forgotten and referred to their own devices to cope with their pain problem. For these patients the Saariaho paper and the research agenda it underscores is a small ray of hope.

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