MedicalXpress

Psychologists identify influence of social interaction on sensitivity to physical pain

November 8 2010

Psychologists at the University of Toronto have shown that the nature of a social interaction has the ability to influence an individual's sensitivity to physical pain. The discovery could have significant clinical implications for doctor-patient relationships and the general well-being of an individual on a daily basis.

"Dozens of studies over the past several decades have demonstrated the impact of inadequate social connectedness on numerous health outcomes, including cardiovascular health, immune function, post-surgical recovery, and lifespan," says Terry Borsook, a PhD student in the Department of Psychology at U of T and author of a new study published in PAIN. "Our study is among the first to show in humans that the perception of physical pain can be immediately impacted by the types of social experiences that people have in their everyday lives."

In the study, healthy participants rated the intensity and unpleasantness of painful stimuli before and after engaging in a structured interaction with a trained actor who was instructed to be either warm and friendly or indifferent throughout the exchange. Participants who experienced the indifferent social exchange reported less sensitivity to pain after the interaction when compared to that measured before the exchange. Participants exposed to the positive social interaction, however, exhibited no change in pain sensitivity.

"While the analgesic effect resulting from a socially disconnecting event might seem like a good thing, we know from a great deal of research in

animals and humans that social threats provoke the well-known fight-or-flight stress response, of which pain inhibition is a typical component."

Borsook says that the results suggest that social relationships may be of such critical importance to human health and well-being that even a mild threat of disconnection can be stressful.

"This stress-induced analgesia evolved so that we can escape threats without being hobbled by pain. The pain reduction observed in our study is thus consistent with prior findings but what is remarkable about our results is that analgesia occurred in response to a type of experience that people experience in daily life, perhaps several times a day," says Borsook. "If such everyday mildly unpleasant encounters are enough to provoke pain inhibition, then this suggests that many people may be exposed to chronic fight-or-flight responses, which can have many negative implications for health. This would be the case especially for people who are sensitive to social exclusion, such as those who feel lonely or fear rejection"

Borsook says that the results also have important clinical implications when it comes to seeing your doctor. "Health practitioners who are aloof, lack understanding, or are generally unresponsive to patients may provoke an analgesic response resulting in underestimated reports of pain, with insufficient pain control measures being a possible consequence."

More information: The findings are presented in a paper titled "Mildly negative social encounters reduce physical pain sensitivity", published in the November issue of *PAIN*, the official publication of the International Association for the Study of Pain.