Uninstructed Participants Use Pain Scales To Indicate Social Distress

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Background

The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”¹.

In common usage, the term “pain” is often used to denote emotional distress. In recent years, this broader use of the term has also permeated the scientific literature, notably to describe the distress of social exclusion (“social pain”)². This raises the possibility that individuals might use pain scales to reflect their current emotional state, creating ambiguity around self-reported pain in clinical and experimental settings.

To examine this possibility, we elicited social distress and asked participants to rate pain both with and without explicit instructions on what should be considered pain.

Method

Participants

Forty healthy subjects (23 females / 17 males; age: 24 ± 8) participated and were split into instructed (n=20) vs. uninstructed (n=20) groups.

Procedure

Cyberball task

Participants played a computerised ball-tossing game (Cyberball 5.0) in a three-player social exclusion paradigm. Initially, they received the ball twice, but were excluded on all subsequent 40 throws.

Results

Figure 1: bar chart representing instructed and uninstructed group differences for pain and unpleasantness ratings after cyberball task.

Despite receiving no nociceptive stimulation, participants rated the cyberball experience as **painful**, implying that “pain” was being used to indicate a negative emotional state. This tendency was significantly reduced for individuals given the IASP definition prior to the cyberball task ($M=3.65$ for uninstructed individuals, $M=1.95$ for instructed; $t=2.18$, $p<0.01$).

In contrast, regardless of prior instructions of the pain definition, participants rated the experience similarly unpleasant ($M=4.65$ for uninstructed individuals, $M=3.60$ for instructed; $t=1.44$, $p=0.16$).

Follow up questions

Participants were given the following multiple choice questions to describe the pain experience further.

The pain

- Felt like an injury to my body
- Made me feel rejected and/or sad

The pain I indicated on the body map felt like

- Physical pain that feels like an injury
- Emotional pain

Out of 40 participants, **none** reported that they perceived the pain as “injury to their body” or “physical pain that feels like an injury”.

The experience made 82.5% “feeling sad or rejected” and was described as “emotional pain” by 75%.

Conclusion

- These results indicate that participants will use pain scales to rate their emotional state, even in the absence of any nociceptive stimulation.
- This behaviour was significantly reduced by providing explicit instructions about what should or shouldn’t be called pain.

References

1. IASP. (1979). Pain terms: a list with definitions and notes on usage: recommended by the IASP Subcommittee on Taxonomy. *Pain*, 6, 249.
2. Eisenberger, N. (2015). Social pain and the brain: Controversies, questions, and where to go from here. *Annual Review of Psychology*, 66, 601-29.

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