Attentional Bias to Pain Body Postures Using the Bodies in the Crowd Task

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Background

Pain is communication through nonverbal channels such as facial expressions, vocalisations, and body postures. These cues can elicit helping behaviours from others, and warn them of potential threats.

However, pain communication is investigated between two people (dyads) and less so in larger groups. Most studies consider faces, and few body expressions of pain. It is not clear whether pain postures can be detected amongst a crowd of distracting social stimuli.

We therefore aimed to investigate the role of crowding and distractor stimuli on observers’ ability to detect pain body postures.

Method

42 participants (21 male) were presented a series of crowd stimuli, made up of 9 static body stimuli in a 3X3 grid (see fig1&2). They contained one affective state from pain, anger, happiness, or no emotion.

There were two types of trial: in (1) same trials, all of the bodies within the crowd communicated the same emotion, in (2) different trials, one body in the crowd communicated a different emotion to the other 8 bodies. For different trials, each combination of emotion pairs was presented.

Participants identified whether all of the bodies in the crowd presented the same emotion, or whether they were different.

Results

Paired samples t-tests demonstrated that reaction times (RT) to congruent pain crowds were significantly longer than for anger crowds or happy crowds.

Significantly slower attentional disengagement was found from anger and pain crowds than for happy crowds when a neutral target was presented. RTs to “same” trials of anger and pain postures were significantly longer than those for happy crowds.

No difference was found in attention capture.

Conclusion

Participants were slower to disengage from pain and anger body postures than from happy postures. This may be indicative of an attentional bias towards potentially threatening information in the social environment.

We conclude that pain, like anger, is processed preferentially in early attention processing due to its threatening nature.

This is the first study to examine the extent to which pain body posture captures social attention.

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