Abstract

What are the naturalistic expressions people make as they experience pain? While some research has shown that manipulating participants’ facial muscles to form Duchenne smiles can improve the ability to tolerate pain (i.e., Kraft & Pressman, 2012), it is unclear whether this is characteristic of naturalistic pain experience. Further, it is unclear if other naturalistic expressions (e.g., wincing or frowning) can also influence pain. To our knowledge, research has yet to examine whether there is an association between natural facial expressions made during pain and pain outcomes, like self-reported pain and pain tolerance. Self-reported pain (how much pain one reports feeling on a 0-100 scale) and pain tolerance (how long one endures pain) were measured as outcomes in the present study. In the present study, 160 participants consented to being videotaped throughout a larger study on ethnicity and pain (77.8% women & 22.2% men; 57.5% Latino, 29.4% White, & 13.1% Mixed) and participated in a standardized pain task, the cold pressor, where they were asked to submerge their non-dominant hand in cold water (5°C ± 0.2) for as long as they could tolerate (with a maximum of four minutes). Self-reported pain (how much pain one reports feeling on a 0-100 scale) and pain tolerance (how long one endures pain) were measured as outcomes in the present study. Coders rated Facial Expressiveness by measuring the duration and intensity that participants contracted their facial muscles (into smiles, frowns, etc.). Facial Expressiveness (regardless of the expression) was negatively associated with pain tolerance while stoicism was positively associated with pain tolerance ($p$’s < .05). Further, facial expressions were associated with self-reported pain ($p$’s < .05). In sum, pain tolerance and self-reported pain can be predicted, to some extent, by expressiveness.