Further results about pain rating by patients and physicians: reply to Chibnall and Tait

We thank Chibnall and Tait for bringing to the readers’ attention their excellent studies which, although focusing on chronic pain, provide very useful insights into the assessment of acute pain as well.

We also thank them for pointing out that the amount of ‘miscalibration’ (the patient’s pain rating minus the physician’s) has been shown to increase as the patient’s rating increases. We performed, therefore, a new set of analyses. We too found that, the higher the patients’ self-ratings, the greater was the miscalibration. This effect held both at arrival in the emergency department \[F(1, 182) = 82.22, \ P < 0.001\] and at discharge \[F(1, 154) = 63.41, \ P < 0.001\]. Furthermore, we found that controlling for the patient’s own rating affected several interactions. As Chibnall and Tait suspected, the effect of expertise—the experts’ significantly greater degree of miscalibration—and the three-way interaction among physician expertise, physician gender, and patient gender, which had approached significance at discharge, were no longer significant at all [for expertise: \(F(1, 182) = 2.00, \ P = 0.158\) at arrival and \(F(1, 154) = 2.32, \ P = 0.13\) at discharge; for the three-way interaction: \(F(1, 182) = 0.56, \ P = 0.452\) at arrival and \(F(1, 154) = 1.99, \ P = 0.161\) at discharge]. In contrast, a significant effect of age appeared, so that miscalibration was greater for younger patients, both at arrival \[F(1, 182) = 4.93, \ P = 0.027\] and at discharge \[F(1, 154) = 5.71, \ P = 0.018\]; and the three-way interaction between physician gender, patient gender, and obviousness of cause became significant (as shown in Fig. 1) at arrival \[F(1, 182) = 4.04, \ P = 0.046\] and also at discharge \[F(1, 154) = 4.25, \ P = 0.041\].

In sum, controlling for the patient’s level of self-rated pain increased the robustness of our conclusion that miscalibration depends at least in part on ‘non-functional’ factors. Do we want, for example, to have our pain treated differently depending on whether the physician is a male or a female?

We then looked at the effect of the patients’ ratings on the analyses that used the physicians’ ratings, rather than miscalibration, as the dependent variable. The effect of the patient’s rating on the physician’s rating was significant both at arrival, \(F(1, 182) = 82.17, \ P < 0.001\), and at discharge, \(F(1, 154) = 112.26, \ P < 0.001\). Controlling for the patient’s rating did not affect any of the interactions involving the physicians’ ratings; in particular, the three-way interaction between physician gender, patient gender, and obviousness of the cause was still significant at both arrival and discharge. The patient’s rating did, however, change the main effect of age, which remained significant at arrival, \(F(1, 182) = 4.947, \ P = 0.027\), but became significant at exit as well, \(F(1, 154) = 5.71, \ P = 0.018\). It also changed the main effect of obviousness of the cause, which lost significance at arrival \(F(1, 182) = 0.08, \ P = 0.078\), as well as at exit, \(F(1, 154) = 0.02, \ P = 0.883\). Thus, the results with physicians’ ratings as the dependent variable are now fully coherent with the results with miscalibration as the dependent variable.

Finally, Chibnall and Tait listed some of the multiple factors that can influence pain ratings. Even though, as already mentioned, they focused in their research on patients with chronic pain, we agree that these factors can surely affect patients with acute pain as well, causing their decision making to be more ‘non-functional.’

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Fig. 1. Three-way interactions on miscalibration between patient gender, physician gender, and obviousness of the cause, at arrival (upper graphs) and discharge (lower graphs).