

Interactive comment on “Fracking bad language: Hydraulic fracturing and earthquake risks” by Jennifer J. Roberts et al.

Anonymous Referee #2

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This is a well written manuscript that would be of interest to both natural and social scientists working on various aspects of fracking. It adds to the literature that attempts to understand knowledge of the pros of and cons of fracking. It does rely almost exclusively on UK data and scholarship which is a limitation of the paper. A substantial and growing literature on fracking in the US and to a lesser extent Europe exists and this should be better represented.

Specific concerns: 1) In section 2 on page 6, the authors discuss their sources for expert views of induced seismicity from fracking. They note in the second paragraph, "We do not consider peer-reviewed publications in scientific journals, since relevant outcomes should be captured within the expert reports." Then later on the page they state, "Most expert reports conclude that the risks of induced seismicity from fracking in

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the UK are very low. It is therefore fair to conclude that there is scientific consensus that the risks of induced seismicity are low, lower or no different to other human-induced seismicity..." This seems problematic to me. To conclude that there is scientific consensus on a topic, without consulting the peer-reviewed academic literature does not make sense. While some of the reports will undoubtedly have some scientific information in them, there is also the potential for bias in those reports who are going to often be more sympathetic to industry positions. Academics often have different opinions than industry and government people, which they derive primarily from peer-reviewed journal articles. The authors themselves note this on page 20 (albeit in another context), "It would be fair to presume that most academics would source their information from research papers..." This lack of the use of peer-reviewed science gage the "expert" opinion on induced seismicity is a serious weakness of this study.

2) On page 9 the authors discuss language usage in survey questions and how that may affect how respondents answer the questions (e.g. the questions are emotionally phrased, leading, etc.). At the bottom of page 9, the authors note that term "earthquakes" "evoke imagery of destruction and disaster, whereas phrases like 'seismic activity'....are less threatening." This is, of course, true. However, the authors do not discuss that researchers may chose to use the word "earthquakes" rather than "seismic activity" or "induced seismicity" because not all members of the lay public will know what those phrases mean. This is a common issue in survey question construction and should be acknowledged. This is probably one of the reasons why you find that, on page 25, "Academics use the phrase earthquake far more than those employed in other sectors..."

3) In the discussion of the participants in section 3.1.1, it would be helpful if the authors could provide information on how many of the 387 participants were employed in industry, government, academia and so on.