NUMBY or not? The influence of geographic proximity on public risk perception and attitudes of shale gas development in China

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Overview
Growing attention has been paid to the environmental impacts of shale gas development in both Europe and the United States, but public discourse regarding this issue has so far been rather sparse in China due to political and economic reasons. Whereas Chinese government is heavily pushing the shale gas industry forward, little is known on whether people exposed to the risks associated with shale gas development support or oppose it, not to mention the spatial dynamics of public attitudes. In this article, we consider the role of proximity to new unconventional oil and gas wells in shaping public support for shale gas development in China. By conducting a questionnaire survey to characterize the risk perception of laypeople (n=549) who live close to shale gas wells in Sichuan, China, we examined the relationship between local residents’ proximity to development and risk perception and attitudes toward shale gas development. Our results suggest an insignificant relationship between proximity and residents’ attitudes toward shale gas development, while some other evidence of NUMBYism is partially found. The findings can inform policy makers of the target audiences for risk communication more precisely and thereby improve the effectiveness of shale gas related risk communication.

The paper begins with a review of previous studies on NIMBYs and factors influencing public attitudes toward shale gas development. Hypotheses and research questions are then formulated. The subsequent section describes the survey instruments and sampling, followed by a presentation of the results from the study. A discussion of the findings with implications, limitations and recommendations for future research concludes the paper.

Methods
Paper-based survey questionnaires were completed by 730 respondents. A final sample 549 respondents, spanning over 29 villages, 5 townships, and 2 cities, were obtained after removing invalid responses, yielding a response rate of 75.2%.

Results
In terms of overall support or opposition toward shale gas development, 85.7% of respondents indicated that they supported (either somewhat or strongly) shale gas development, 13.1% opposed (either somewhat or strongly), and 11.1% were indifferent. Within-subjects attitudes toward local (M=3.85, SD=1.30) versus distant (M=4.15, SD=.981) shale gas development revealed significantly differences (t(545) =6.549, p<0.001), suggesting that respondents were more less in favor of local development compared to development in distant regions.

Conclusions
This paper provides the first-hand empirical evidence to NIMBY reactions with regard to shale gas development in China, by examining the support/opposition of local residents living in areas with and without active shale gas operations in relation to their proximity to operations. This study can inform policy-makers of public risk perception and attitudes, and
help to better develop risk communication strategies related to shale gas development in China.

**References**


