

MASTER'S THESIS

Social representations of nuclear power on Chinese social media: a topic modeling analysis

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ABSTRACT

As nuclear power remains an ongoing controversy in contemporary society, it is crucial to understand how laypeople make sense of nuclear power by considering influences at both the cognitive and the social level. Using the lens of social representation theory, this thesis employed automatic content analysis and core-periphery analysis to reveal the content, structure, formation, and dynamic shifts of laypeople's social representations concerning nuclear power as they were expressed in tweets and comments posted on Chinese social media platform Weibo from 2011 to 2018. This thesis found that laypeople in China regarded nuclear power predominantly as an energy source, and they focused on general knowledge regarding national development of nuclear power and related energy policies, which remained unchanged over the eight years. Additionally, they perceived risks of nuclear power to occur at an individual level while benefits occurring at a social level, and they showed a reluctant acceptance of nuclear power. Alternatively, laypeople also made sense of nuclear power by addressing its controversial nature, such as plant siting and nuclear accident causation, but these ideas varied according to the specific social contexts. To form these representations, laypeople anchored nuclear power within social/historical events, a preexisting knowledge system, and personal experience, objectifying nuclear power through familiar objects and verbal metaphors. Moreover, they created and shared these representations by transforming abstract scientific knowledge about nuclear power into common-sense information and by adopting consensual discourse like heterogeneous arguments, affective expression, and stories about nuclear power. These findings provide implications for understanding laypeople's everyday knowledge of nuclear power and for designing effective

communication strategies in line with laypeople's actual understanding for popularizing science and communicating risk in terms of nuclear power.

Keywords: social representation; nuclear power; topic modeling; core-periphery; Chinese social media

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