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Drinking water catchment protection as disaster risk reduction: Modelling community support for restrictive recreation policy using the health belief model

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RESEARCH SUMMARY

While natural and anthropogenic hazards are increasing, Disaster Risk Reduction (DRR) can protect individuals and communities from the adverse effects of disasters associated with those hazards. Under global and Australian agreements, all levels of society are responsible for DRR – including the prevention of foreseeable new hazards and reducing existing hazards – with the greatest onus for action being on government. DRR can be achieved through implementing policies to reduce or remove hazards. As policies need to be accepted and followed by the community to be effective, it is important to understand the variables influencing community acceptance of those policies.

Drinking water contamination, which can result in the loss of life or injury to customers and damage to water sources, is a significant public health and disaster hazard. Recreation in drinking water catchments (catchments) is a preventable water contamination hazard that can be mitigated through restrictive policy. Recreation in catchments was used as a case study for understanding community acceptance of DRR policy.

The research question sought to understand what variables affect community acceptance of risk reduction policies relating to recreation in catchments. Key research objectives were to identify a theoretical model of policy support and to test it using data captured through a survey of the adult community of the lower Hunter Region of NSW relating to their attitudes to recreation in the local catchments.

While no accepted model of policy support was found in the literature, risk perception was found to be a likely key influencing factor. Using partial least squares structural equation modelling, a risk perception-focused model

identified in the health behaviour field – the Health Belief Model (HBM) (Figure 1) – was found to have good explanatory power for recreation policy support in the sample. Modelling and subsequent analyses determined that risk perception was a key driver of policy support in the sample, with gender and self-interest – particularly in the form of proximity of residence to catchments and personal recreation preferences – being other important influencing variables in this context.

The research can benefit the water industry as the HBM may be used to identify groups and variables to which education campaigns can be targeted in order to increase community acceptance of restrictive recreation policies in catchments (and, potentially, other risk reduction policies). The findings, therefore, can help utilities to meet their duty to the community to ensure safe and resilient drinking water supplies, as well as due diligence, Australian Drinking Water Guidelines and DRR obligations.

Further, the use of the DRR lens through which to view and communicate the importance of catchment and water protection may be beneficial in aligning stakeholders with a common understanding, concern for, and willingness to act to increase catchment protection.

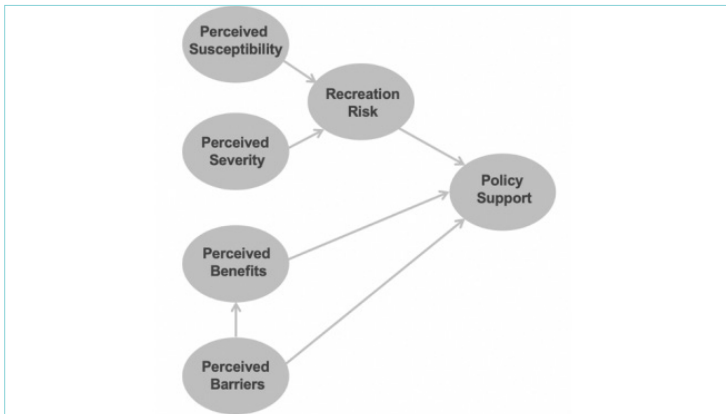


Figure 1. Model of Recreation Policy Support

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