



# Virtually Resolute: Influencing Decision-Making to Promote Mental Health and Reduce Flood Driving

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**Flood driving fatalities are on the rise despite appeals to the general public. While much is known about the demography of flood driving fatalities, less is known about the psychological mechanisms of flood driving behaviour and how this might be used to influence behaviour change.**

Individuals may be more likely to take the risk to drive through floodwater when:

- ▶ They believe they have little control over the decision to drive through (perceived behavioural control).
- ▶ They see peers driving through, waving them through or telling/showing them that it is safe to do so (subjective social norms).
- ▶ They have driven through before without incident, or have been culturally raised to believe driving through floodwater is not as dangerous as described by advertisement (attitude).
- ▶ Certain personality factors (social anxiety, risk taking, antisocial behaviours) prompt certain behavioural reactions.
- ▶ They are cognitively overloaded (i.e. thinking about a combination of the above factors) and make a decision impulsively.

However, there is little research noting which of these factors has the greatest influence on this decision, or how well these factors explain the behaviour.

Consequently, there is no research into appropriate clinical methods of behavioural modification to remedy the issue, as there has been little investigation into the prevalence of psychological disorders that may be influencing risky behaviour.

The present research will investigate these factors, with a focus on the effect of Social Anxiety and personality traits on risk taking in absence of prior experience with natural disasters.



Conan Whitehouse

## RESEARCH QUESTIONS

The aim of this research is to discover the psychological determinants of floodwater driving and to find ways to discourage or shape it.

Research questions include:

- 1) What is the relationship between cultural worldview, psychological disorder, personality factors and intention to cross a flooded roadway?
- 2) How can we explore these same relationships using virtual reality equipment to establish how individuals reporting personality disordered symptomatology are likely to act?
- 3) How well does self-report of these decisions match with actual behaviour?
- 4) Are there ways of using clinically driven techniques to reduce the likelihood of floodwater driving in those individuals that are more prone to risk-taking behaviour?

## PROPOSED RESEARCH METHODS

Participants will:

- ▶ Be asked to engage with a range of vignettes (through written word and virtual reality) which will be designed to explore participant reactions to risk.
- ▶ Undertake personality assessments to understand whether there is consistency in how particular personality types respond to floodwater driving.
- ▶ Undertake assessment of cognitive load.
- ▶ Delve into another virtual environment that includes psychologically derived advertising designed to dissuade participants from floodwater driving behaviours.

## STUDY ONE

The first study aims to begin the investigation into the relationship between cultural worldview, psychological disorder, personality traits and intention to cross using written word vignettes.

As research of this kind does not currently exist, the first study will be used to help narrow the lens of the second and third studies through the trialed use of Latent Profile Analysis, Exploratory Factor Analysis and Multiple Regression.



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## INDUSTRY IMPLICATIONS

Previous research into the psychology of risk and natural hazards largely revolved around bushfire. More attention is now being focused on flood risk, including the risk of driving through floodwater using campaigns such as NSW and QLD's "If it's flooded forget it" The effectiveness of these campaigns may be related to the heterogeneity of how the public relate to these messages.

This research will add to our understanding of how the public perceives flood risk by:

- Providing agencies with a psychological understanding of flood-specific risk-taking behaviours.
- Understanding how personality, attitudes and worldviews influence flood driving behaviour.
- Advising on suitable flood driving behavioural change interventions aligned to personality, attitudes and worldviews.