



FINDINGS

Personality traits and sociocultural environment predict floodwater driving

Nurturing to avoid nature: The influence of personality traits and cultural worldview on floodwater driving

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While we are beginning to understand the demographics of who is most likely to drive through floodwaters, we know less about individual-level characteristics that influence this decision. Our study aimed to find whether personality factors can influence this behavior. We found that agreeableness, extraversion and neuroticism, as well as cultural worldviews can predict whether an individual would drive through floodwaters. Overall, perception of peer pressure appears to be a powerful indicator of floodwater driving.

Introduction

Floodwater driving as a behaviour continues to increase, despite pleas to the public to avoid it. While there is a growing body of research investigating the demographics on *who* engages in floodwater driving and *why* they may do so, our study aimed to examine whether personality traits (which are expected to remain relatively stable across lifespan) on an individual level may be interfering with attempts to alter group behaviour.

Methods

Participants (N=250) were asked to complete an online survey, including the International Personality Item Pool and Cultural Cognition Scale, in order to assess their psychological characteristics. Following this, they were asked to engage with a Situational Judgement Test: a series of three written vignettes designed to explore their reaction to risk and rank their likely responses to each of three driving conditions—the first in which they arrive at a flooded road and decide in isolation, the second where a car arrives behind them (to assess for social pressure) and the third in which the car overtakes them and they choose whether to follow.

Results

A multinomial logistic regression showed that in the first two conditions, individuals high in agreeableness would be significantly more likely to attempt to cross. Additionally, in the second condition, those high in neuroticism would be more likely to attempt a crossing than ignore the person behind them, while those who reported high extraversion would continue to assess for themselves. The third condition suggested that personality traits did not have any significant impact on driver behaviour, rather the decision to drive through was based on group culture signifiers: which are related to hierarchism and egalitarianism. From a cluster perspective, absent of any explicit social nudging (Condition 1), early latent class analysis reveals two groups or classes of individuals: Individuals in *Class 1* (Figures 1) are more likely to attempt a crossing immediately. They are characterised by

higher neuroticism, and responded that making the decision increased their anxiety more significantly than those in *Class 2* (Figure 2). *Class 2* individuals were characterised by higher levels of extraversion, agreeableness and conscientiousness, and as such would be more likely to hesitate to consider the behaviour.

Discussion

While we knew that social factors were involved in floodwater driving behaviour, we didn't necessarily know the extent to which it was affecting behaviour, or the number of levels at which it has that effect. Future research could confirm and implement these results in a number of ways:

- Due to the number of participants, the present study did not use a clinically recommended measure of personality. Further research would be well served to do so with samples geared toward agreeableness and extraversion and specific assessment for social anxiety.
- As neuroticism is often conceptualised as the experience of intense moods (which can be symptoms of anxiety or depression), it is possible that treatment for social anxiety may reduce the intensity of the anxiety experienced by decision-making. Further research focused solely on neuroticism could be beneficial to understand the differences in these responses.
- Current research has leaned toward addressing generic signage to reduce floodwater behaviour. More specific signage designed to capture the thought processes of different personality traits may see more success.
- It may be beneficial to see whether providing psychoeducation or more intense treatment to individuals experiencing peer pressure in the context of personality traits would make a significant difference to behaviour.

Figures

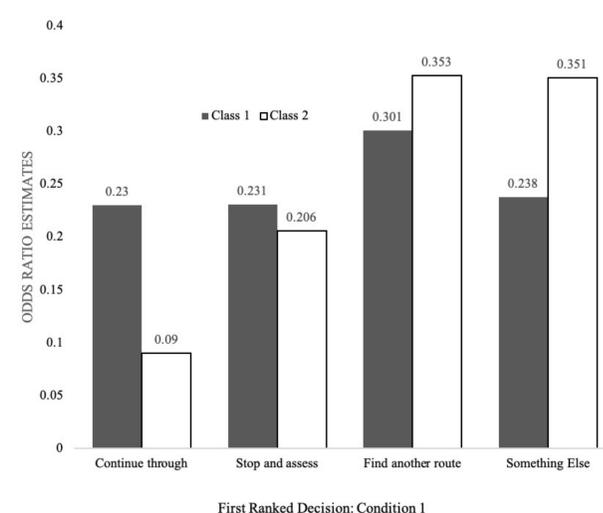


Figure 1: Primary Decision made in Condition 1

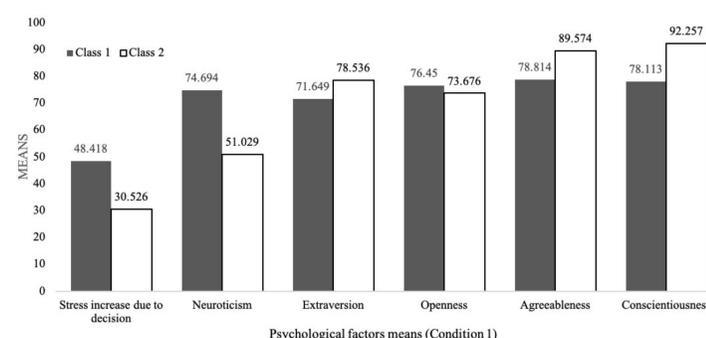


Figure 2: Psychological factor means



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