BMF CP50: Perceptions of local issues and potable water reuse willingness

AISDL Team

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"Nightingale feeds himself sumptuously, gets thirsty, then goes inside the cage. Just when he is drinking the water, the door shuts down. A once-free bird is now a prisoner."
— "Dream"; *The Kingfisher Story Collection* [1]

1. Project description

1.1. Main objectives

The current study is conducted to examine whether the residents' concerns about local issues affect their direct and indirect potable water reuse willingness in Albuquerque, New Mexico.

Findings from this study are expected to contribute to promoting the eco-surplus culture for achieving the environmental semiconducting principle [2].

1.2. Materials

The mindsponge theory will be used for conceptual development, and Bayesian Mindsponge Framework (BMF) analytics will be used for statistical analysis on a dataset of 1831 water utility residential account holders in Albuquerque, New Mexico, USA [2-4]. The *bayesvl* R package, aided by the Markov chain Monte Carlo (MCMC) algorithm, will be employed for statistical analyses [2]. For more information on BMF analytics, portal users can refer to the following [2-3]. Data and code snippets of this initial analysis were deposited at: https://osf.io/46fbc/

1.3. Main findings

The analysis shows that concerns about drought/water shortage and population growth and development in the local county are positively associated with the willingness to utilize directly and indirectly reused water. Meanwhile, concerns about water quality and water bills are negatively associated with the willingness (see, e.g., Figures 1).
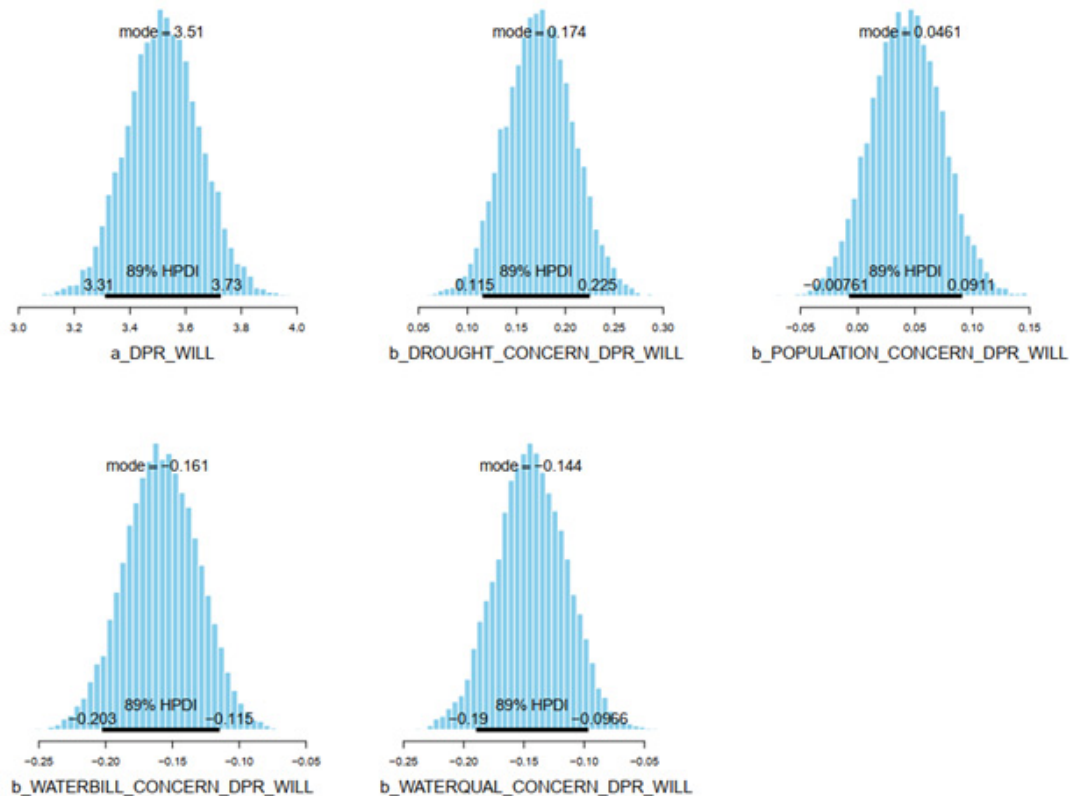

Figure 1. Estimated coefficients of Model 1

2. Collaboration procedure

Portal users should follow these steps for registering to participate in this research project:

1. Create an account on the website (preferably using an institution email).
2. Comment your name, affiliation, and your desired role in the project below this post.
3. Patiently wait for the formal agreement on the project from the AISDL mentor.

If you have further inquiries, please contact us at aisdl_team@mindsponge.info

If you have been invited to join the project by an AISDL member, you are still encouraged to follow the above formal steps.

All the resources for conducting and writing the research manuscript will be distributed upon project participation.

AISDL mentor for this project: **Minh-Hoang Nguyen**

AISDL members who have joined this project: Quan-Hoang Vuong.

The research project strictly adheres to scientific integrity standards, including authorship rights and obligations, without incurring an economic burden at participants' expenses.

References

[1] Vuong QH. (2022). *The Kingfisher Story Collection*. https://www.amazon.com/dp/B0BG2NNHY6

[2] Nguyen MH, Jones TE. (2022). Building eco-surplus culture among urban residents as a novel strategy to improve finance for conservation in protected areas. *Humanities and Social Sciences Communications*, 9, 426.

[3] Nguyen MH, et al. (2022). Introduction to Bayesian Mindsponge Framework analytics: An innovative method for social and psychological research. *MethodsX*, 9, 101808.

[4] Distler LN, Scruggs CE. (2020). Survey data on perceptions of water scarcity and potable reuse from water utility customers in Albuquerque, New Mexico. *Data in Brief*, 29, 105289.

[5] La VP, Vuong QH. (2019). bayesvl: Visually Learning the Graphical Structure of Bayesian Networks and Performing MCMC with 'Stan'. *The Comprehensive R Archive Network*.