

Tulane student creates review on coping strategies for water insecurity

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Water scarcity, also known as water insecurity, was listed in 2019 by the World Economic Forum as one of the largest global risks in terms of potential impact over the next decade¹. Shalean Collins, a current doctoral student in the Department of Global Community Health and Behavioral Sciences at the Tulane School of Public Health and Tropical Medicine, has been working on [a study](#) reviewing people's

coping strategies for water insecurity. She was the co-first author and her role in the study was the conceptualization, analysis, and synthesis of the data, and the compilation of results.

The study entitled “Coping strategies for individual and household-level water insecurity: A systematic review” appeared in the September/October 2020 volume of *WIREs Water*, a new journal to promote cross-disciplinary understanding of the water environment and the severe challenges that it faces during the 21st Century. Collins worked on the study with colleagues from Northwestern University.

“Household water insecurity is a complex socioecological challenge with a range of consequences for health and wellbeing,” said Collins.

“Understanding individual and household-level coping strategies, such as responses or adaptations to manage water insecurity, can shape future research and development practice.”

In the report Collins and her colleagues systematically describe the characteristics and contexts of 173 studies, mostly from Sub-Saharan Africa or South Asia, documenting coping strategies and classifying the types of strategies within four domains of water insecurity: access, use, quality, and reliability.

In the domain of access, the most common coping strategies were building infrastructure, and storing, purchasing, and sharing water. For use, changing food consumption, agricultural practices, and hygiene were most frequently mentioned. For quality, water treatment was the most common strategy. They found to ensure water reliability, people most frequently reported changing routines or relocating their homes altogether.

“Water insecurity is a pressing global health challenge that has major consequences for the most vulnerable members of the population,” said Collins. “This work explored the coping strategies that households in low- and middle-income settings use when they have insufficient water to meet their daily needs. The implications of these findings can inform interventions to reinforce positive coping strategies and improve resilience to water insecurity.”

Their review provides a useful framework to understand coping strategies, but they recommend more research is needed to address three gaps in particular. First, they recommend more representative exploration of the range of coping strategies,

particularly in middle- and high-income countries. Second, the links between coping with water insecurity and a range of other nutritional, social, financial, and health outcomes need to be better understood to address overall household wellbeing. Third, they recommend the development of a metric to quantify individual and household-level water insecurity-related coping strategies. This line of investigation can enable people to design and implement context-specific solutions that leverage pre-existing strategies to improve the global challenge of water insecurity.

¹ ["Global risks report 2019"](#). World Economic Forum. Retrieved 22 October 2020.