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The September 29, 2009 Earthquake and Tsunami in American Samoa: A Case Study of Household Evacuation Behavior and the Protective Action Decision Model

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In 2009, the islands of Samoa, American Samoa, and Tonga were struck by an 8.1 magnitude earthquake that triggered a tsunami. The latter claimed an estimated 149, 34, and nine lives, respectively. Preparing persons to take protective action during an earthquake and tsunami is important to help save lives, but evacuation behavior is a dynamic process, which involves many factors such as recognition and interpretation of environmental cues, characteristics of the receiver, characteristics of official and informal warnings and a person's social context during the event. Compared to individualistic cultures like that in the USA, little is known about what factors affect household evacuation behavior in collectivist cultures. The Protective Action Decision Model (PADM) of Lindell and Perry (2004) is a theoretical framework that purports to explain human response to natural hazards. This broad behavioral hazard model has been tested in several settings in the United States. However, to date, the PADM has never been tested in a collectivist culture. Thus, this study will summarize interview findings from 300 American Samoan survivors to understand household evacuation behavior in response to the 2009 tsunami and earthquake that hit American Samoa. In addition, an investigation of how well the PADM explains evacuation action behavior will be reported. Findings from this study will be useful for public health emergency professionals in planning efforts for local tsunamis in coastal communities in the Pacific and around the world.