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Video Analysis of Earthquake-Related Behavior: Understanding Influences of Social and Physical Context

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Abstract Text:

Improving safety during major earthquakes requires understanding how people behave in relation to unfolding events within particular physical and social contexts. We gathered videos available on social media platforms from the M7.1 Anchorage Earthquake in 2018 to analyze behavior during earthquakes. Utilizing public-domain annotation and coding software ELAN 6.1, we analyzed videos depicting people's earthquake responses. Protective actions and social responses were varied, and people reacted sequentially to multiple triggers as earthquakes unfolded in time. Recommended protective action, like Drop, Cover, and Hold On, was less common as well as less timely when people experienced the Anchorage 2018 earthquake in private relative to public structures. Adults significantly delayed their own personal protective action to find children, and often made poor protective-action decisions, especially at home. These findings showcase the efficacy of video analysis for understanding earthquake-related behavior, and point to the importance of increased focus on education and protective-action rehearsal in home settings. Future work includes analyzing earthquake response footage from the Ridgecrest earthquake sequence in 2019, and the Puerto Rico Southwestern earthquake sequence in 2020. Further, our interests include how behavior may change with the introduction of earthquake early warning systems like ShakeAlert.

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S006. Earthquake Early Warning: Performance and Progress

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I do not want to be involved in the OSPA program as a judge (students will be able to opt-into the OSPA program in October).

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