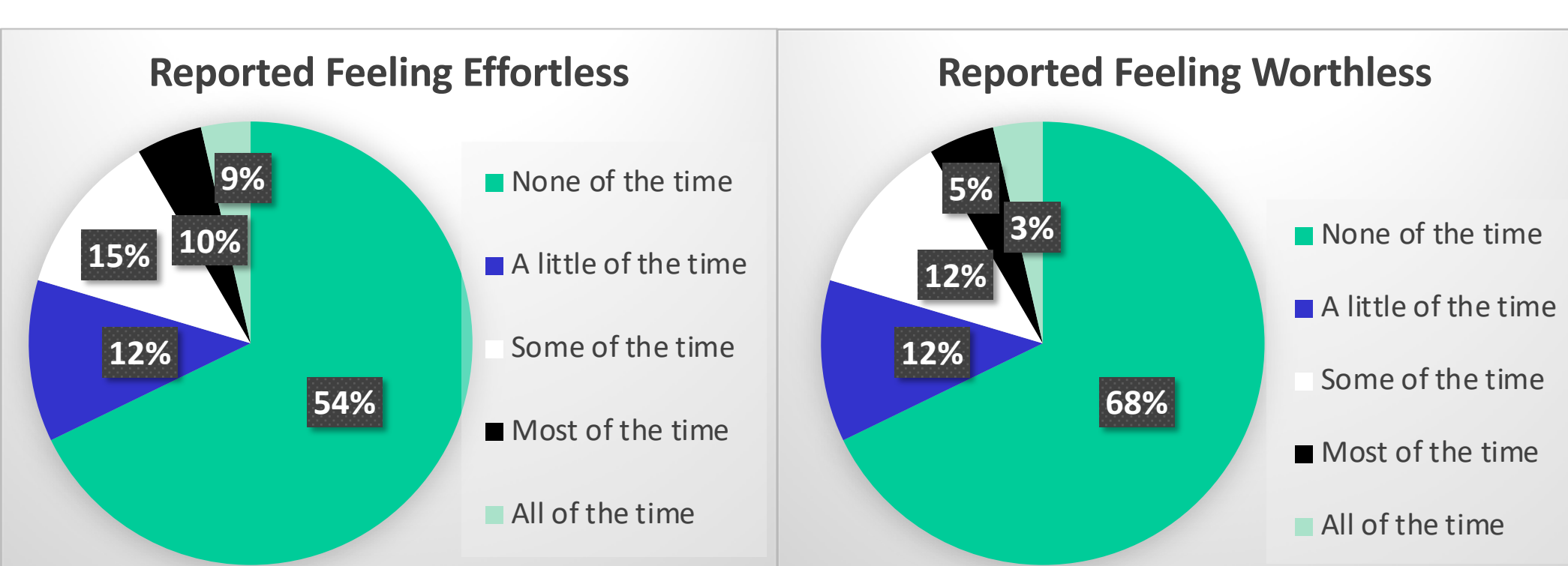
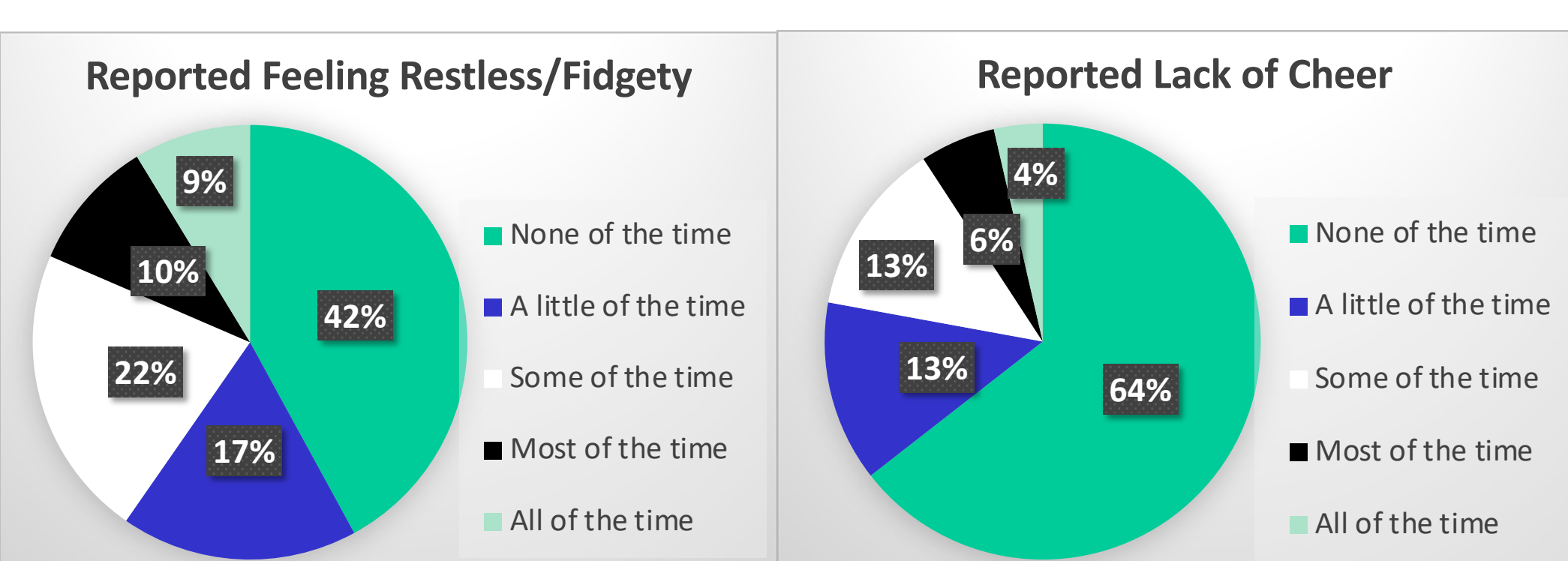
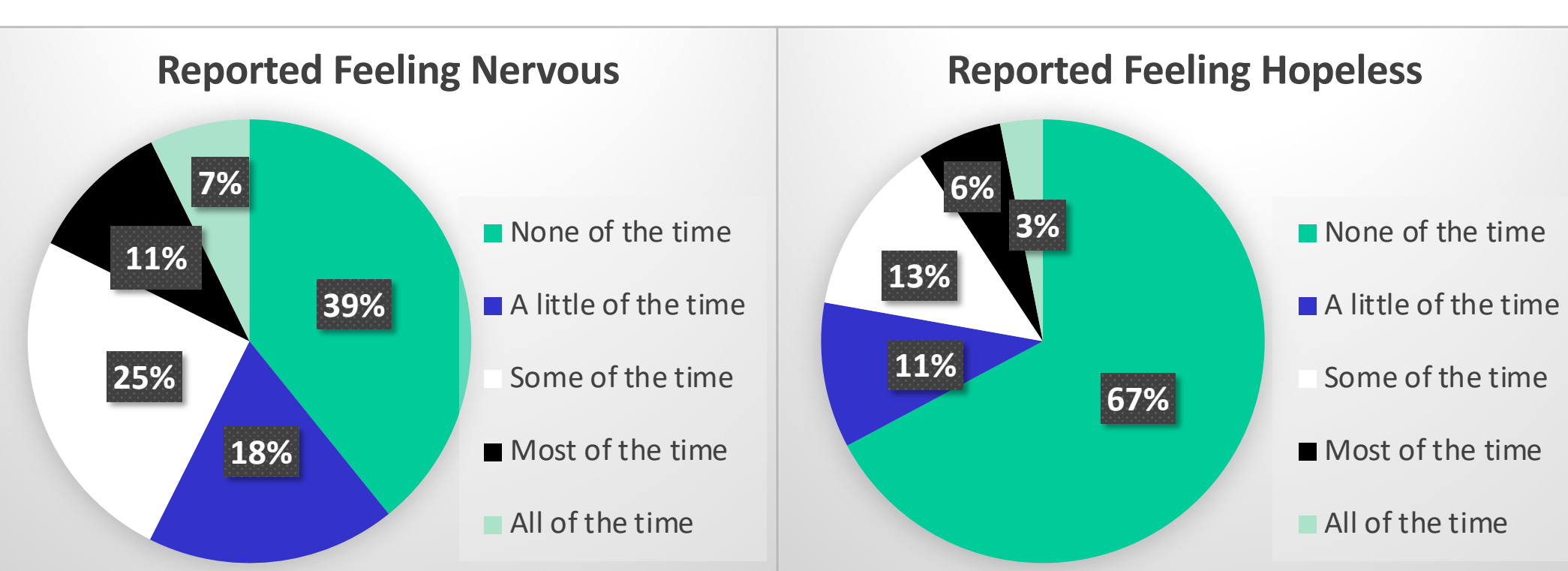


Introduction

A fertilizer plant containing ammonium nitrate exploded in West, TX in April of 2013. Fifteen individuals were killed, and at least 252 additional individuals were directly injured by the explosion. Six years later, the Waco-McLennan County Public Health District responded to a call from community members to conduct a follow-up study of the health status of residents living in West, TX. Here, MTSU has partnered with them to examine the long-term effects that an anthropogenic disaster has on the mental health of a community.

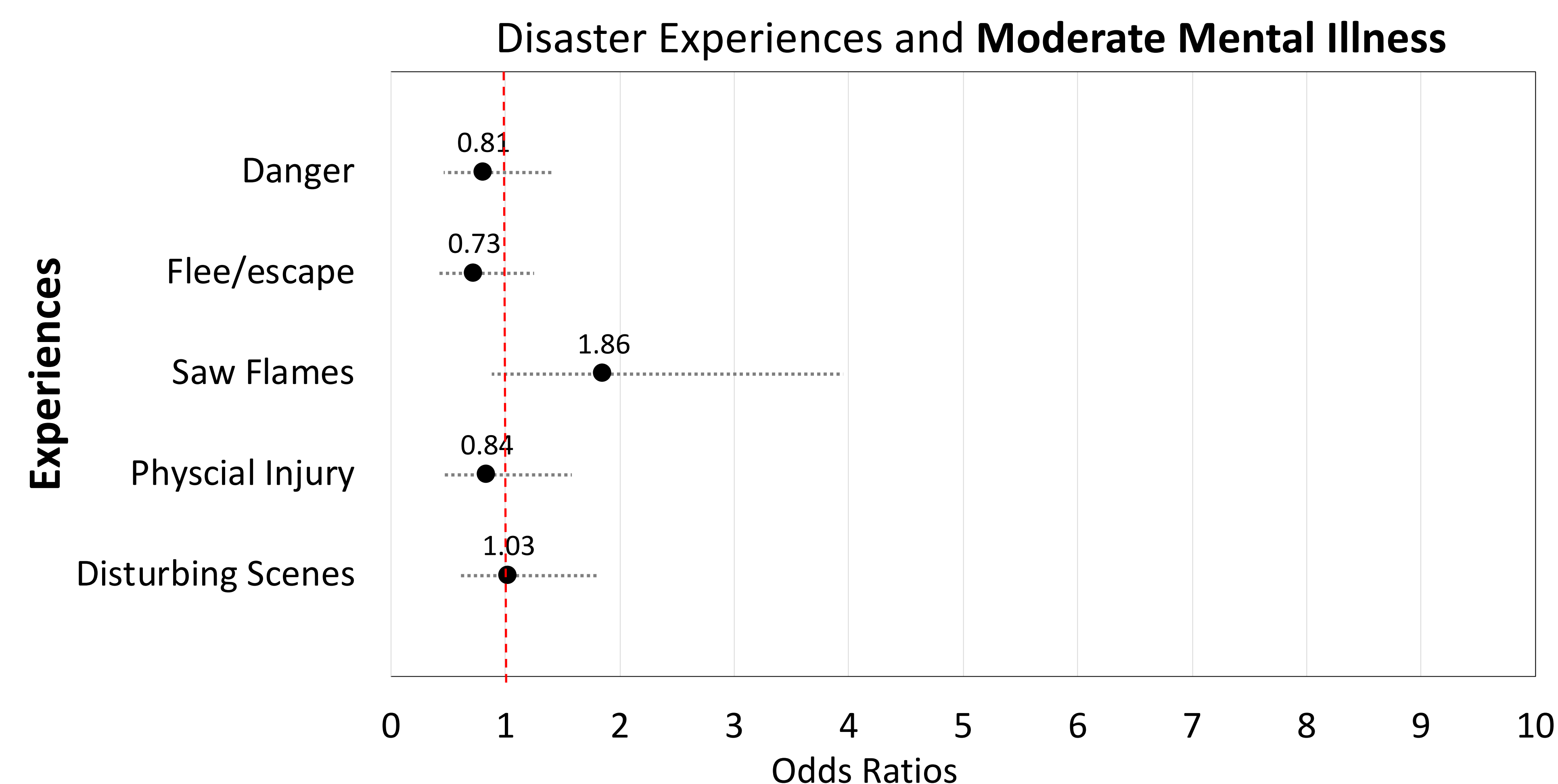
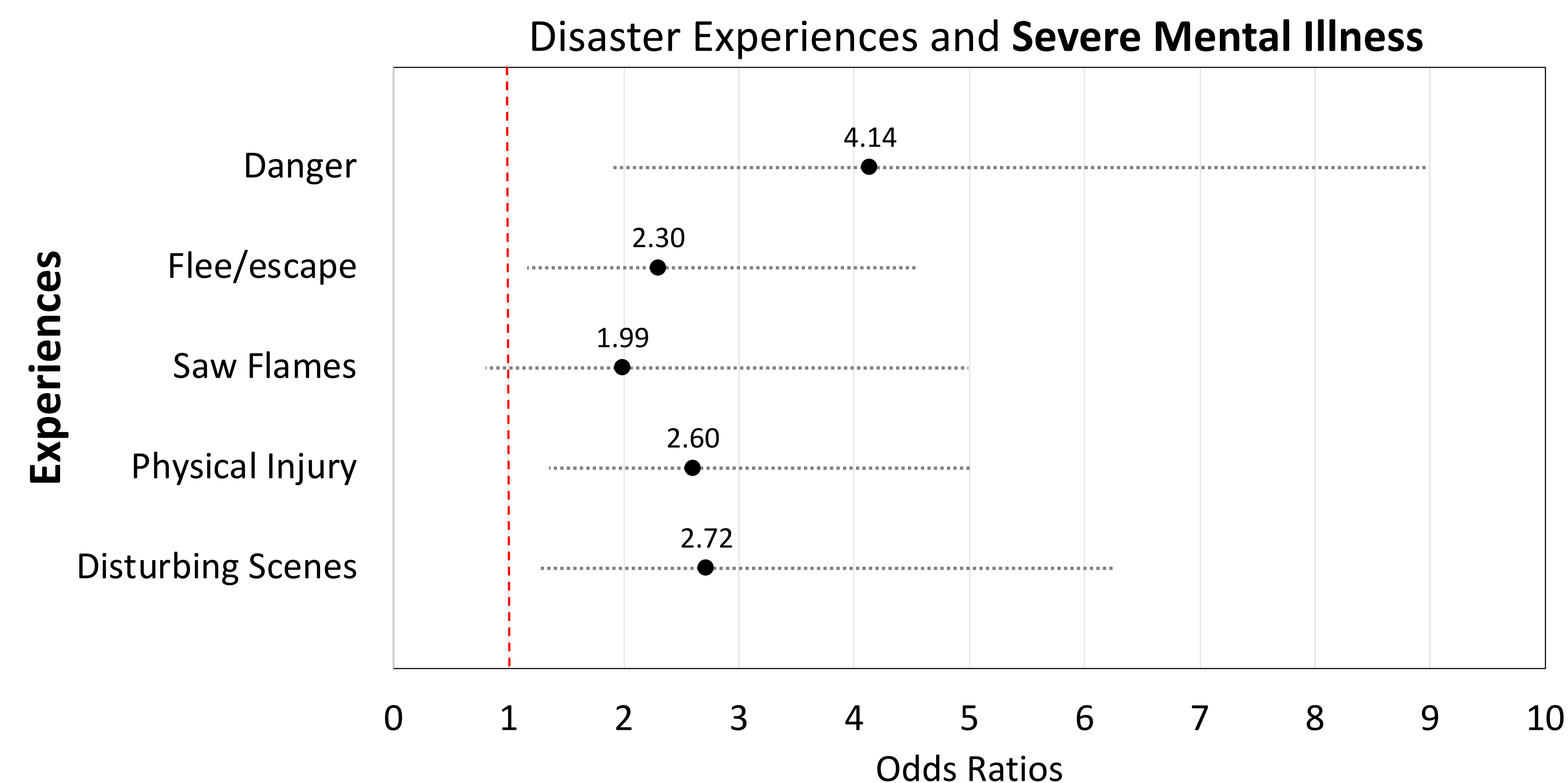
Methods

The Kessler-Six (K6) screening tool was used to evaluate the mental health outcomes of participants from the questionnaire. The K6 uses a 6-itemed questionnaire designed to measure anxiety and depression utilizing a five-level response scale, with a cumulative score of ≥ 13 indicating severe mental illness. Analysis conducted using SPSS showed the frequencies, mean of scores, and odds ratios of the variables in question.



Results

Rural community experiences during a disaster are associated with long-term severe mental illness.



Discussion

- Feeling in danger (OR 4.14; 95% CI 1.91-8.98), fleeing/escaping (OR=2.3; 95% CI 1.16-4.54), seeing flames (OR=1.99; 95% CI 0.80-4.99), physical injury (OR=2.60; 95% CI 1.35-5.02), and disturbing scenes (OR=2.72; 95% CI 1.27-6.25) were associated with **severe mental illness**.
- Feeling in danger (OR 0.81; 95% CI 0.46-1.42), fleeing/escaping (OR=0.73; 95% CI 0.42-1.25), seeing flames (OR=1.86; 95% CI 0.88-3.95), physical injury (OR=0.84; 95% CI 0.45-1.58), and disturbing scenes (OR=1.03; 95% CI 0.59-1.80) were associated with **moderate mental illness**.
- Of the 357 who completed the K6 screening portion, the mean score was a 5.66, SD=7
- The K6 tool estimated 43 percent have some level of psychological distress (moderate = 27%; severe= 16%) since the explosion.

Conclusions

While this assessment cannot establish causation, it documents an elevated level of psychological distress in a rural community six years after a traumatic event. This study suggests that the impact on a community's mental health after a disaster is long-term.

Acknowledgements

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