

Natural Disasters Mental-Health Impacts on Australian, Greek, and United States Farmers

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Introduction and Theoretical Framework

Global climate change is characterized by changes in long-term weather patterns and has started showing its impacts worldwide (Mahato, 2014). A natural disaster is an event with catastrophic consequences including landslides, droughts, heat waves, floods, forest fires, tropical cyclones, or tsunamis (Sivakumar et al., 2005). The inconsistent climate, including drought, and financial hardships are two of the most cited sources on the mental health of farmers (Palmer & Strong, 2022). Extension systems should examine the professional competencies being developed in their staff to better address farmer needs in changing global conditions (Harder et al., 2013; Strong & Harder, 2011).

Ajzen and Fishbein's theory of reasoned action (1980) was used to understand the behavior of farmers who experienced a natural disaster. In understanding the theory of reasoned action, two things affect human behavior: attitude and subjective norms (Coppedge et al., 2013). Attitude refers to a positive or negative feeling about someone or something, and subjective norms are determined by the motivation to behave according to a person or group's beliefs.

Purpose and Objectives

The purpose of this study was to explore how climate change induced natural disasters impact farmers' mental health. Specifically,

1. Identify studies from Australia that have discussed the mental health of farmers after a natural disaster.
2. Identify studies from Greece that have discussed the mental health of farmers after a natural disaster.
3. Identify studies from the United States that have discussed the mental health of farmers after a natural disaster.

Methods

Comparative case studies were conducted through the use of key terms to determine the best cases to examine respective to the research objectives. Comparative case studies involve process orientations and seek to answer the process that connects x and y (Yin, 2018). The advantage of comparative case studies for researchers is the approach segregates phenomena from context enabling a study to explore contemporary and historical processes that have created a sense of shared place, purpose, or identity. Natural disaster occurrences were reviewed in Australia, Greece, and the United States to assess the mental health of farmers from each location. Literature demonstrates how natural weather-related disasters and climate change negatively impact farmers mental health from those geographical locations (Edwards et al., 2015; Padhy et al., 2015; Papanikolaou et al., 2011). Researchers from Texas A&M University assessed external, internal, and construct validity, and determined the study was well founded. Researchers analyzed the cases used in this study and determined the reliability. An embedded multiple-case design (Yin, 2003) was used to describe the behavior of farmers in several cases from three geographical locations.

Results

Australia

Recently observed climate change patterns have made Australian farmers more worried about the weather, resulting in an increase in depression and suicide (Ellis & Albrecht, 2017). In rural communities, suicides tend to occur more frequently because of droughts, particularly among male farmers and their families (Hanigan, 2012). Grape farmers drought induced suicides have increased and farmer numbers are not replenished (Bryant & Garnham, 2013). Farmers indicated mental health waiting times were lengthy, services are expensive, and local services were cut back including confusion about the available support (Polain et al., 2011). Service providers have been known to lack understanding of rural issues (Brumby et al., 2011). Cultural characteristics of farming promote behaviors such as ignoring mental health, preventing individuals from seeking help (Vayro et al., 2019). The SCARF (Suspect, Connect, Ask, Refer, Follow-Up) workshop was developed for Australian farming and rural communities and has indicated significant increase in suicide literacy and improved mental well-being at the 3-month follow-up (Perceval et al., 2019).

Greece

The Mediterranean is a hot spot for the world's biodiversity, supplying clean water, food, flood protection, carbon storage, and recreation to people (Guilot & Cramer, 2016). Agriculture and tourism are important economic sources of Greece, and they may be strongly affected by changing climate conditions in the future (Giannakopoulos, 2011). Changes in the number of wet and dry spells, drought duration, and changes in growing season were investigated in this study. In the Mediterranean region it is projected that drought damages are going to increase in Greece (Naumann et al., 2021). Mental health care may be limited to those in rural communities due to the lack of facilities or socioeconomic status. Through the development of Mobile Mental Health Units (MMHUs) in Greece, rural areas can receive mental health care right from their homes (Peritogiannis et al., 2017). A study done on a rural area in Greece found psychological and physical health effects after wildfires destroyed land and increased financial difficulties (Papanikolaou et al., 2012).

The United States

Twenty percent of the population in the United States is rural residents who have limited access to mental health services (Smalley et al., 2012). Mental health will become more prevalent as climate change continues to worsen existing droughts and exacerbate Montana farmers and ranchers mental health (Howard, 2020). A drought in two rural counties in California had impact on finances and property, which were associated with impacts on mental health (Barreau et al., 2015). There is a positive association with increased occupational psychological stress when drought occurs during growing season (Berman et al., 2021). Mental health resources for farmers are limited. Within the three months of landfall of Hurricane Irma, Floridian rural residents presented symptoms of anxiety, depression, and physical pain (Grattan et al., 2020). Debt-abolition or economic support for farmers may reduce the number of farmer suicides from climate change consequences (Padhy, 2015).

Recommendations

Agricultural extension officers should expand their existing competencies to increase familiarity with the mental health impacts on farmers post natural weather-related disaster. Farmers' improved mental health will enhance resilient and sustainable agricultural systems and therefore, increase the likelihood rural communities can achieve food security. This study indicated natural disasters affect mental health and needs to be addressed by agricultural extension in order to improve the lives of farmers with mental health issues. Our findings provide evidence of a significant need for resources confronting the effects of natural weather-related disasters on farmers' mental health globally.

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