Community Members Coping: Long-term Adaptation after the Deepwater Horizon Oil Spill

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**Background & Aim**

- In 2010, the Deepwater Horizon disaster killed 11 workers and spilled millions of gallons of crude oil into the Gulf of Mexico. Damages to the economy are estimated at billions; however, damages to the wellbeing of the human and marine communities are yet to be fully understood (McCauley, 2010).
- Uncertainty and fear surrounding environmental damage can cause mistrust and an overall disturbance in community cohesion (Freudenburg, 1997).
- Individuals in Gulf of Mexico communities had higher levels of mental health problems right after the spill (Grattan et al., 2011).
- Previous oil spill research (e.g., Exxon Valdez) shows that PTSS can take a chronic course, lasting over six years (Arata et al., 2000).
- Thus, coping mechanisms relating to long-term post-traumatic adaptation are in need of investigation.

**Specific Aim:** To determine if direct contact with the oil and specific coping behaviors are associated with PTSS 18 months after the Deepwater Horizon disaster.

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**Data Collection**

- 213 individuals participated in the survey. Those who did not fully complete the survey and individuals who reported living in the community < two years prior to the spill were excluded, leaving a final sample of 213 participants.
- The sample consisted of people between 19 and 25 (8.5%), 26 and 35 (24.4%), 36 to 40 (12.7%), and those older than 41 years (54.5%).
- Participants were 69.9% female and 77.5% Caucasian.

**Measures**

- **Post Traumatic Checklist – Civilian (PCL-C)** was used to measure PTSS. This measure has been used in prior disaster research (Ososky et al., 2011) with high reliability, Cronbach’s \(\alpha = .94\), and convergent validity with the Impact of Events Scale (Blanchard et al., 1996; Ruggiero et al., 2003).
- The Brief COPE was used to measure coping behaviors, consisting of specific coping behaviors categorized into 3 general styles: 1. Problem focused coping: strategies that involve intentional actions to alter the stressor 2. Active emotion focused coping: confrontive strategies that are utilized to regulate emotional states and distress 3. Avoidant emotion focused coping: evasive strategies that are utilized to regulate emotional states and distress.
- There was adequate reliability for coping styles: problem focused, active emotion focused, and avoidant emotion focused (\(\alpha’s > .70\)).
- Oil contact was determined by a single question asking “Did you have direct contact with the oil?” This was used to form the two groups for analysis: those with oil contact (\(n = 63\)) and those with no oil contact (\(n = 150\)).

**Method**

- In 2010, the Deepwater Horizon disaster killed 11 workers and spilled millions of gallons of crude oil into the Gulf of Mexico. Damages to the economy are estimated at billions; however, damages to the wellbeing of the human and marine communities are yet to be fully understood (McCauley, 2010).

**Results**

- Participants were 69.9% female and 77.5% Caucasian. 35% (24.4%), 36 to 40 (12.7%), and those older than 41 years (54.5%).
- A sample of 213 participants.
- Those who did not fully participate in the survey and individuals who reported living in the community < two years prior to the spill were excluded, leaving a final sample of 213 participants.
- The sample consisted of people between 19 and 25 (8.5%), 26 and 35 (24.4%), 36 to 40 (12.7%), and those older than 41 years (54.5%).
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- The Brief COPE was used to measure coping behaviors, consisting of specific coping behaviors categorized into 3 general styles: 1. Problem focused coping: strategies that involve intentional actions to alter the stressor 2. Active emotion focused coping: confrontive strategies that are utilized to regulate emotional states and distress 3. Avoidant emotion focused coping: evasive strategies that are utilized to regulate emotional states and distress.
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**Findings**

- Those with oil contact reported greater use of problem-focused (active coping, planning, instrumental support), active emotion focused (venting), and avoidant emotion focused (self-distraction, denial, behavioral disengagement, and self-blame) coping behaviors.
- In the overall sample (\(n = 213\)), the use of any coping behavior, regardless of style, was associated with greater reported PTSS. Positive reframing was the only coping behavior not associated with ongoing symptoms of PTSS.
- The associations between PTSS and venting, denial, behavioral disengagement, and self-blame were substantially stronger in Oil contact vs. No contact group.
- Follow-up analyses revealed that avoidant emotion-focused style moderated the effect of oil contact on PTSS severity (\(b = 0.85, 95\% CI: 0.29 to 1.41\)), accounting for 35% of the variance in PTSS symptoms (see Figure 3).

**Conclusions**

- The use of all types of coping strategies 18 months after the oil spill was significantly related to ongoing PTSS. This differs from research showing an inverse association between problem-focused coping behaviors and PTSS five months after the spill (Mong et al., 2012).
- There were more relationships between coping behaviors and PTSS in the oil contact sample compared to those reporting no contact.
- The strongest associations with PTSS across groups were with avoidant-focused coping behaviors. This is consistent with previous research (Conner et al., 2010).
- There was a stronger association between contact and PTSS in those who endorsed a greater use of avoidant emotion focused coping behaviors.
- Long-term care programs may need to advocate lower usage of emotion-focused strategies such as venting and denial, and guide participants to towards adaptation by removing individual obstacles to resources and preventing avoidance.