Predicting Adolescent PTSD Symptomology One Year Post the Deepwater Horizon Oil Spill
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INTRODUCTION

• On April 20, 2010, the Deepwater Horizon oil rig explosion affected over 490 miles of Gulf Coast coastline. Lasting effects of this oil spill remain unknown (Polson, 2011).
• Post-disaster effects of oil spills can be different from natural disasters; oil spills persist for longer periods and are often due to human error (Osofsky, Palinkas, & Galloway, 2010).
• According to the ecological model of trauma (Harvey, 1996), one’s sense of connectedness to one’s environment influences one’s reaction to environmental disasters.
• It is predicted that adolescents who endorsed problems due to the oil spill, sustained impact from previous hurricanes, and have a strong connection to the environment will have greater self-reported post-traumatic stress disorder (PTSD) symptoms. Self-resiliency is expected to explain additional variance in PTSD symptoms by acting as a protective factor.

METHOD

• Participants included 575 high school students from the Alabama Gulf Coast region.
• The survey was modified from the LSUHSC Department of Psychiatry and Louisiana Rural Trauma Services Center Disaster Interview and was administered by teachers.
• Questions included demographics, problems due to the oil spill, impacts sustained from hurricanes, connectedness to the environment, reported level of self-resiliency, and PTSD symptomology.

RESULTS

• A multiple regression model was conducted to predict self-reported PTSD symptoms one year after the oil spill.
• First, financial, housing, and family problems due to the oil spill explained 29.5% of the variance in PTSD scores one year post-disaster.
• Next, impacts sustained via previous hurricanes significantly added to the regression equation ($R^2$ change = .05, $p<.001$), accounting for an additional 5% of currently reported PTSD symptoms.
• Third, connection to the environment also significantly added to the regression equation ($R^2$ change = .016, $p<.05$).
• Finally, a higher sense of self-resiliency and positive coping was shown to act as a protective factor and explained an additional 3% of the variance in the regression model.

DISCUSSION & CONCLUSIONS

• Overall, 37% of the variance in adolescents’ self-reports of ongoing PTSD symptoms were explained by the combination of problems due to the oil spill, sustained impact from previous hurricanes, connectedness to the environment, and reports of self-resiliency.
• Each variable was retained as a significant independent predictor in the final regression model. These findings demonstrate that disasters can have long-term effects on youth who care about their environment. However, perceived self-resiliency can function as a protective factor even under these conditions, which could be an important focus for intervention models.

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Demographics

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<th>Mean</th>
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</table>

PTSD Symptoms: $B = .44, p \leq .01$

Positive Coping: $B = -.10, p \leq .01$

Self-Resiliency: $B = .16, p \leq .01$

Environ. Connection: $B = .07, p = .05$

Sustained Impact: $B = .24, p \leq .01$

Oil Spill Problems: $B = .44, p \leq .01$