**Background**

On Christmas Day, 2012, a series of tornados touched down in a southwestern city of Alabama affecting several homes, businesses, and destroying a local high school. Following this disaster, system-level changes occurred to accommodate students of the high school, including relocation to the back lot of a school serving middle school students. Family functioning and resilience may buffer potential psychological distress following natural disasters (Walsh, 2006).

**Aims**

The current study had two primary aims: 1) explore the prediction of individual resilience based on family functioning dimensions in those who indicate high or low perceived impact of the event and 2) using family interviews, identify recurring themes of psychosocial stress related to experiencing the tornado and subsequent relocation of schools. Family functioning was measured using the McMaster Family Assessment Device (FAD, Epstein et al., 1983). Dimensions include:

1. Difficulties with Problem Solving
2. Difficulties with Roles
3. Difficulties with Communication
4. Difficulties with Affective Responsiveness
5. Difficulties with Affective Involvement
6. Difficulties with Behavioral Control
7. Difficulties with General Functioning

**Methods**

- **Participants**
  - Families with a student who had been relocated from a local high school that was destroyed by a tornado mid-year:
  - Adolescents (n=29) mean age 16.7 yrs. (SD=4.7)
  - Parents (n=39) mean age 46.1 yrs. (SD=7.12)
  - Predominantly female (71%)
  - Predominantly African American (59%)

- **Measures**
  - McMaster Family Assessment Device (FAD) (Epstein et al., 1983) (Cronbach’s alpha=.72 -.92)
  - Resilience Scale (RS; Wagnild & Young, 1993)
    - Cronbach’s alpha =.91
  - Completed ranking scale (1-10) for impact of event

- **Interviews**
  - All families were interviewed for recurring themes of psychosocial stress related to experiencing the tornado and subsequent relocation of schools.

**Results**

- Analyses revealed that 56% of the sample (26 parents; 12 adolescents) perceived the tornadoes as having high impact.
- No significant differences found between high impact and low impact groups on family functioning and resilience scores.
- Regression analyses found that increased difficulties in general family functioning ($β=.836$, $t(33)=2.893$, $p=.009$) and decreased difficulties in roles ($β=-.452$, $t(33)=-2.390$, $p=.024$) significantly predicted resilience in those who indicated high perceived impact.
- For participants endorsing low perceived impact, family functioning did not significantly predict perceived resilience.

**Thematic Analysis of Family Interviews**

**Parental Perspective**

- 71%: Experienced transportation issues
- 45%: Indicated that family turns to religion, works together as a family or has open communication to help them
- 33%: Suffered no direct damage from the tornado
- 14%: Were sad because their child was sad
- 14%: Felt parents were most affected by the tornado

**Adolescent Perspective**

- 43%: Student was the most affected
- 36%: Student felt like a prisoner
- 24%: Felt high school experience was affected
- 24%: Had issues with the temporary classrooms/portables
- 19%: Felt excessive restrictions were implemented on students
- 19%: Indicated grades suffered because of changes
- 14%: Complained about longer school days

**Discussion**

- Individuals’ own perception of their family functioning strongly predicted perceptions of their own individual resilience.
- Surprisingly, for the high impact group, family members who reported greater difficulties in general family functioning perceived themselves as being more resilient.
- Additionally, for the high impact group, family members who reported that their family has established patterns of behaviors for handling family functions such as provision of resources, providing nurturance and support, and assigning and carrying out tasks clearly and equitably, perceived themselves as being more resilient.
- Interestingly there were no significant differences between groups in how they perceived their family functioning and resilience.
- Findings indicate that family functioning dimensions differentially predicted perceived resilience to highly impactful traumatic events; family-wide interventions might be important post-disaster.
- Educational systems should consider how their disaster policies and procedures affect the well-being of not only their students, but also the family system.

*The Outreach Program was developed jointly by BP and the Plaintiffs’ Steering Committee as part of the Deepwater Horizon Medical Benefits Class Action Settlement, which was approved by the U.S. District Court in New Orleans on January 11, 2013 and became effective on February 12, 2014. The Outreach Program is supervised by the court, and is funded with $610 million from the Medical Settlement.*

**Figure 1. Prediction of Resilience by Family Functioning Domains in High Impact Group**

- **Perceived Resilience** ($B = .836$, $p = .009$)
- **Greater Difficulties With General Functioning** ($B = -.452$, $p = .024$)
- **Fewer Difficulties With Roles**