Prenatal Exposure to Superstorm Sandy and Maternal Education Level: Possible Influences on Prenatal Bonding With Three-Year-Olds

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Background

- The transactional model of development states that child development depends on the interaction between an individual and their environment.
- Natural disasters are expected to increase in frequency and intensity, prompting a need to identify factors that may interact and affect psychological well-being in mothers and their children.
- The present study seeks to evaluate associations between maternal stress related to Superstorm Sandy and maternal education (i.e., an indicator for socioeconomic status (SES) among pregnant women) on parental bonding (affection) with their 3-year-old children.

Methods

- **Sample Population:** This study analyzed a subsample of 56 (n = 56) mothers participating in the Stress in Pregnancy (SIP) Study.
  - Mothers were categorized by: (1) as having been exposed/unexposed to Sandy and (2) whether placental gene core samples were collected at time of birth.
- **Measure:** Parental Bonding Instrument (PBI), which prompted mothers to rate their overall parenting styles on two dimensions: (1) affection/caring and (2) controlling/overprotection.
- **Data Analysis:** An independent t-test was conducted to compare mean scores of affection between exposure versus non-exposure. A one-way ANOVA was conducted to compare mean scores of affection between educational attainment. A two-way ANOVA was conducted to examine an interaction between exposure and educational level.

Results

- Mothers who were exposed were less likely to be caring than those who were unexposed (M 23.76 vs. 37.05, \( p = .001 \)).
- There was a significant effect of educational attainment on mean level of affection (\( p = .010 \)).

Discussion

- Exposure to natural disasters during pregnancy make expectant mothers less affectionate towards their children.
- Expectant mothers who have a lower level of education may be more affectionate toward their children than those with a higher level of education.
- There was no notable interplay between exposure to Superstorm Sandy and level of education in their affection, suggesting that exposure to natural disasters and socioeconomic status are independent factors influencing the level of affection in mothers.
- Future research may want to control for how the participants themselves were raised and subsequent research will incorporate placental genes and expand the age groups.

### References