Neighborhoods and health: Development and validation of an experimental manipulation of neighborhood characteristics in a virtual reality environment


* USC Suzanne Dworak-Peck School of Social Work, University of Southern California; § School of Social Work, University of Wisconsin-Madison, Madison; * Chair of Cognitive Science, ETH Zürich

**Results: Emotional Responses**

- **Neighborhood disadvantage elicits significantly different emotional responses**
  - **Higher** levels of compassion

![Graph showing emotional valence](image)

- **Emotional valence:**
  - Two Factors: Positive (amusement, enthusiasm and happiness) and negative (anger, fear and sadness)

**Results: Physiological Reactivity**

- No main effects of neighborhood type on Systolic BP (SBP), Diastolic BP (DBP), skin conductance level (SCL), or non-specific skin conductance responses (nSCR)
- Significant interactions between parental education and SBP, SCL and nSCR (all ps < 0.02)

![Graph showing systolic BP reactivity](image)

**Summary**

- Using VR to model neighborhood conditions is technically and conceptually feasible.
- Neighbors perceptions are perceived as distinct and reflective of disadvantage and affluence, varying in congruence with observations of neighborhoods differing in SES.
- Neighborhood disadvantage elicits more negative and less positive emotions.
  - Compassion is also increased when participants are exposed to greater disadvantage.
- There are no main effects of neighborhood type on physiological reactivity.
  - The influence of neighborhood type depends on childhood SES, even in an advantaged sample.
- This interaction is system-specific: Evidence for both habituation (SCL) and sensitization (BP).

**References**