

Abstract

Affective, Physiological, and Environmental Stress Among Adolescents with Chronic Medical Conditions

Brittany Ricart, BA, Nate Barnes, BA, Dana Mansfield, MA, Jocelyn Smith Carter, PhD
DePaul University

Introduction

Youth with chronic medical conditions (CMC) may be at-risk for increased stressors which influence hypothalamic-pituitary-adrenal axis sensitivity and autonomic nervous system responses. Physiological responses to acute stress are associated with negative affect responses. Environmental stressors may exacerbate stress effects. This study aims to investigate whether environmental stressors influence affective and physiological responses among youth with and without CMC.

Methods

A community sample of 141 adolescents (73 CMC, 68 matched by age and gender; 32% Hispanic, 29% Black, 11% White, 11% Other, 6% Asian) $Age = 14.4$ completed data collection at two time points. At time one, participants completed the Trier Group Based Stress Task while affective stress (Profile of Mood States - Short Form), physiological stress (salivary cortisol and alpha amylase), environmental stressors (Life Stress Interview) and census tract crime data were measured.

Results

Among youth with CMC, more neighborhood stress was associated with more anxiety ($r(28) = -.39, p = .039$) and with less positive affect ($r(28) = .42, p = .024$) reported post-TRIER. Higher overall crime was associated with lower peak cortisol levels $r(50) = -.38, p = .007$, and with more change in negative affect, such that more negative affect was reported post-TRIER, $r(45) = .36, p = .016$. No significant effects were found in youth without CMC. A Fischer Z test was used to compare correlations between these variables in youth with and without CMC. Neighborhood stress and anxiety change ($z = -1.886, p = .03$) and crime and peak cortisol ($z = -1.846, p = .03$) associations significantly differed between the groups.

Conclusions

Findings demonstrate associations between environmental stressors and acute physiological and affective stress responses in youth with CMC and healthy youth. Further examination of how environmental stressors may exacerbate CMC stress responses is needed.

Additional Measure Information

- Neighborhood severity via Life Stress Interview (Rudolph & Hammen, 1999)

1. *Severe neighborhood stress:*

- Adolescent reports many problems with neighbors, as evidenced by several significant arguments and/or altercations; or
 - Significant changes in the neighborhood have taken place (e.g., marked increase in crime or gentrification and/ or flight of lower-income or higher-income families); or
 - Adolescent rarely feels safe in neighborhood; or
 - Adolescent has been a victim of a serious crime or has witnessed a serious crime take place (e.g, physical assault, rape, murder, etc); or
 - Adolescent does not feel he/ she can trust any neighbors; or
 - There have been one or more significant instances in which the adolescents' family was made to feel unwelcome in the neighborhood (e.g., cross-burning on lawn).

2. ***Serious neighborhood stress:***

- Adolescent reports some problems with neighbors, as evidenced by a few significant arguments and/or altercations; or
 - There have been a few changes to the neighborhood (e.g., moderate increase in non-violent crime, such as vandalism, drug sales, etc.); or
 - Adolescent expresses a moderate amount of concern about his/her safety in the neighborhood; or
 - Adolescent has been a victim of a non-violent crime (e.g., mugging, theft, etc.); or
 - Adolescent has heard about a violent crime committed in the neighborhood; or adolescent does not feel he/ she can trust most neighbors; or
 - Adolescent's family has experienced a moderate degree of hostility in neighborhood (e.g., racist comments from neighbors, deliberate efforts to "snub" family).
 - Aware of shootings and presence of gangs in neighborhood

3. ***Moderate neighborhood stress:***

- Adolescent reports a few Moderate problems with neighbors that were resolved or were not significant in nature; or
 - Adolescent has witnessed a non-violent crime (e.g., mugging, theft, vandalism, drug sales)
- Adolescent feels safe in his/her neighborhood for the most part; or
 - Adolescent has a positive relationship with some neighbors.

4. ***Average neighborhood stress:***

- Adolescent feels comfortable and safe in his/her neighborhood
- He/ she may have heard about a non-violent crime committed in the neighborhood
- Adolescent feels he/ she can trust most neighbors (not required to know most neighbors)

5. *Little to no neighborhood stress:*
- No problems reported during any time
 - Adolescent feels comfortable and safe in his/her neighborhood all of the time.
 - Adolescent reports good relationships with neighbors.