

University of New Orleans

Department of Psychology

A recent study by UNO Assistant Professor Elizabeth “Birdie” Shirtcliff discovered that the impact of stress exposure early in life persists for years after the stress is over. Not only is this true for psychological outcomes, but it is also true for how well the body fights sickness. This study, which will appear in the Proceedings of the National Academy of Sciences, used a novel and innovative outcome: the containment of Herpes Simplex Virus Type I in saliva. Most individuals are exposed to HSV Type I early in childhood through virus shedding caregivers or family members. This is a latent virus, which means that after the first exposure, the virus stays hidden in a cranial nerve for the rest of their life. Normally, this isn’t such a big deal because the body easily keeps the virus in check. Shirtcliff’s bioassay of HSV-sIgA antibodies is highly sensitive and can detect when someone’s immune system is working harder to keep the virus latent even in the absence of overt symptoms – the common cold sore.

We’ve known for decades that stress increases the chances that the person will have difficulty containing HSV based on studies linking stress with the appearance of a cold sore. Shirtcliff extended this view by examining whether this was true for children exposed to substantiated child abuse. It wasn’t surprising that abused children have compromised immune function using the HSV-sIgA bioassay. What was surprising, however, was that the immune system continued to be impaired even years after the stress is over. Shirtcliff examined a group of adolescents who had been adopted from Romanian and Russian orphanages. As babies and toddlers, these children experienced extreme deprivation and social neglect in institutions. After adoption, their lives objectively improved, yet their early experiences continue to affect them. Across several days – and likely across their entire lives – these children’s immune system works harder to keep the HSV Type I virus latent.

Shirtcliff plans to extend this study to adolescents in New Orleans. Although the Hurricane is over, the impact of these types of stressors certainly continues to be felt psychologically. It is also possible that these experiences can “get under the skin” to impact immune functioning as well. The study was conducted in collaboration with Drs. Chris Coe and Seth Pollak of the University of Wisconsin-Madison.