

**MIRG Final Report**  
**Childhood Trauma and Mental Health among College Students:**  
**Identifying Neurological, Physiological, and Behavioral Pathways**

**Mental Health Research Group**

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**Project Abstract and Preliminary Findings**

The Adverse Childhood Experiences study (ACEs) reveals that strains in childhood such as abuse/neglect, parental depression, and family violence are common and can produce a level of toxic stress in young children that has lifelong consequences. This study demonstrated that childhood trauma significantly increases the risk of adult disease, mental illness, and early death. While the ACE research has been highly influential, researchers have not yet elucidated the mechanisms through which childhood trauma affects health. Using survey and biomarker data from college students, our group aimed to better understand how childhood trauma “gets under the skin”. Our findings support our initial hypotheses that students with a history of adverse childhood experiences are more likely to experience depression and anxiety than students without these experiences. In addition, we find that poorer neuronal health (BDNF) and inflammation (CRP) characterize depression and anxiety, but only for students who have a history of complex trauma, not for students with depression and anxiety who have not had these types of experiences. In addition, we find that female students with trauma histories were more vulnerable to inflammation than males. These findings suggest that mental health disorders that emerge from traumatic experiences are fundamentally different than those that do not come from adverse childhoods. The implications for mental health intervention include, 1) screening for childhood trauma, inflammation, and neuronal health and, 2) referral to treatments which are theoretically and empirically tied to the root causes of mental disorders rather than those designed merely to suppress their symptoms.

**Additional MIRG Activity**

During the grant year, we primarily engaged in data collection. We completed our data collection in August of 2018. Our final data set contains survey and blood sample data from 110 participants and survey data from over 400 participants. We began analyzing our biomarker and survey data in the latter part of 2018 and are still mining the data. We were able to analyze some of our pilot data in the middle of the grant year (in Spring of 2018) and used these preliminary findings to submit a LOI to the Russell Sage Foundation. Unfortunately, we were not invited to submit a full proposal. However, since then we have focused on analyzing the results from our full data set. Our team has one manuscript accepted for publication (at the journal of Stress and Health) and a revise and resubmit for another manuscript (Journal of Child and Adolescent Trauma). We also have four other papers in progress. This year we expect to build a solid body

of published research surrounding these issues and with that foundation, search for external funding in 2019-2020 to extend the most promising lines of inquiry identified from our pilot study. We are grateful to the University for providing our team with MIRG funding. The MIRG program allowed us to make significant progress in our study of toxic stress and helped us to develop valuable collaborative partnerships for future investigations.