VALIDATION OF “NEUTRAL” VERSUS ANGER PRODUCING SENTENCES IN A NOVEL PEDIATRIC EMOTION PROVOCATION TASK

Hillary M. Groff, Delnaaz P. Daruwala, Alisha D. Baker, Annemarie K. Loth (Leslie A. Hulvershorn), Department of Psychiatry, Child and Adolescent Psychiatry Clinic, Riley Hospital for Children, Indianapolis, IN 46202

The neurobiology of anger processing in the brain of children and adolescents is best addressed with functional magnetic resonance imaging (fMRI) studies. Despite the potential to uncover knowledge about a range of child psychiatric conditions involving anger, few fMRI tasks have been designed for use in children and adolescents. The visual presentation of statements from the Children’s Inventory of Anger (Nelson & Finch, 1993) can be used to determine the changes that occur in the brain when a child encounters an anger-provoking situation. However, all fMRI tasks require “control” tasks that allow for subtraction analyses to determine which regions of the brain are active during specific tasks. Thus, a series of neutral “control” sentences are needed as fMRI stimuli. Before such sentences can be used in an fMRI task, empirical validation of the sentences’ neutrality must first be established in a sample of typically developing children in the community. “Neutral” control sentences were developed and presented, along with anger inducing sentences, to 150 children ages 10-14. Each child completed a ten-minute paper and pencil survey rating of their emotional response to each statement on a Likert scale of 1-4 (1=provoking no emotion through 4=causing serious anger). Preliminary data point to a trend (p<0.28) that children rate the anger provoking sentences (total score=378) as more upsetting than neutral sentences (total score=178). In conclusion, normally developing children experience low rates of anger provocation, when exposed to neutral sentences. These data
highlight the distinction between neutral vs. emotion provoking fMRI stimuli.

**Acknowledgements:** This work was funded by the IUPUI Center for Research and Learning’s Multidisciplinary Undergraduate Research Institute (MURI), AACAP/NIDA Physician Scientist Program in Substance Abuse K12 (2 K12 DA000357-11) and a Biomedical Research Grant from the Psychiatry Research Committee of the IU Department of Psychiatry.