

## SPRINT-Grant Report August 2017

### ***Incidence and Effects of Toxic Stress on Neurodevelopmental, Cognitive, and Socioemotional Outcomes in Children and Adolescents: A Cross-National Comparative Collaboration***

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#### **Papers (In-Progress)**

- Trejos-Castillo, E., Jackowski, A.P., & Mastergeorge, A. *SES and Toxic Stress: Effects on Brain Structure and Externalizing- Internalizing Behaviors in Children and Adolescents.*
- Jackowski A.P., \*Zugman, A., Trejos-Castillo, E., & Mastergeorge, A. *Brain-behavior Correlation in a High Risk for Psychiatric Disorders Brazilian Cohort: A Replication Study.*

\*Graduate Student

#### **Proposals Submitted**

- Doutorado Sanduiche (Doctoral Dissertation Internship Grant)-Conselho Nacional de Desenvolvimento Científico e Tecnológico CNPq (Brazilian National Council for Scientific and Technological Development). Doctoral student (Thabata Bueno de Araújo) in the School of Medicine Doctoral Program in Psychiatry and Medical Psychology at Federal University of São Paulo-Brazil. Grant Title: *"The impact of trauma on the White matter development of children and adolescents at high-risk for psychopatology"* (*"O impacto do trauma no desenvolvimento da substância branca em crianças e adolescentes com risco aumentado para psicopatologia"*) Internship to be completed at TTU- Department of Human Development & Family Studies June-December 2018.

#### **Additional Proposals (In-Progress)**

- *Partnerships for International Research and Education (PIRE) NSF 16-571 / Brazil: The Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)*: The primary goal of PIRE is to support high quality projects in which advances in research and education could not occur without international collaboration. PIRE seeks to catalyze a higher level of international engagement in the U.S. science community. Due date: Early Spring 2018
- *International Research Experiences for Students (IRES) NSF 12-551*: this program supports development of globally-engaged U.S. students capable of performing in an international research environment. Due date: Early Spring 2018

### Conference Presentations Completed

- Jackowski A.P., \*Zugman, A., Trejos-Castillo, E., & Mastergeorge, A. (June, 2017-Completed). Brain-behavior Correlation in a High Risk for Psychiatric Disorders Brazilian Cohort: A Replication Study. 13th World Congress of Biological Psychiatry-World Federation of Societies of Biological Psychiatry (WFSBP), Copenhagen, Denmark.
- Trejos-Castillo, E., Jackowski, A.P., & Mastergeorge, A. (April, 2017-Completed). *SES and Toxic Stress: Effects on Brain Structure and Externalizing- Internalizing Behaviors in Children and Adolescents*. Biennial Meetings of the Society for Research in Child Development, Austin, Texas.

\*Graduate Student

### Additional Conference Presentations (in-progress)

- Mastergeorge, A.; Jackowski A.P., Trejos-Castillo, E., & Cogo-Moreira, H. (April 2018, under review). Early Life Stress Effects on Cortical Development, White Matter & Hippocampus in Brazilian Youth: Baseline / 3-Year Follow-up. Biennial Meetings of the Society for Research on Adolescence, Minneapolis, MN.
- Cogo-Moreira, H., Jackowski, A.P., Trejos-Castillo, E., Mastergeorge, A., & Ploubidis, G. (April 2018, under review). Behavior Problems during the Transition from Childhood to Adolescence: Data from *The National Child Development Study Cohort*. Biennial Meetings of the Society for Research on Adolescence, Minneapolis, MN.

### Student/Faculty Exchanges

- Trip to Brazil October 10-21, 2016: Drs. Trejos-Castillo & Mastergeorge visited their Brazilian research partner, Dr. Andrea Jackowski, at the Federal University of São Paulo (UNIFESP) and held multiple research and work meetings with UNIFESP professors and graduate students as well as professors from other universities:

#### Professors

- Dr. Prof. Hudson Carvalho, Universidade Federal de Pelotas
- Dr. Prof. Hugo Cogo-Moreira, Federal University of São Paulo
- Dr. Prof. Marcelo Feijo de Mello, Chair of Psychiatry Department, Federal University of São Paulo
- Dr. Prof. Sheila Caetano, Federal University of São Paulo
- Dr. Bernadete Machado, State University of Ponta Grossa

#### Graduate Students / Post-Docs

- Dr. Prof. Giovanni Abrahão Salum, Federal University of Rio Grande do Sul
- Dr. Clarice Madruga, Post-Doc Researcher, Director of the Alcohol and Drugs Unit, Federal University of São Paulo
- Célia Maria de Araújo, Federal University of São Paulo
- Andre Simioni, Federal University of São Paulo
- Thiago Fidalgo, Federal University of São Paulo
- Marcos Ribeiro, Federal University of São Paulo

While in Brazil, Drs. Trejos & Mastergeorge also visited the Alcohol and Drugs Facilities of the Federal University of São Paulo-City of São Paulo joint project located in a secluded area called “Cracolândia” (approx. 2,000 crack users live on 2-3 city blocks); see attached article. This harm reduction project aims to provide health (e.g., medical, mental, dental), hygiene (e.g., showers, clothes), leisure (e.g., gymnasium, board games) and other services for crack and other hard drug users right where they live as an alternative approach for recovery and societal reinsertion.

- Trip to Austin, Texas- April 5-7, 2017: Drs. Trejos-Castillo, Mastergeorge, and Jackowski presented at the Biennial Meetings of the Society for Research in Child Development, Austin, Texas.
- Trip to Copenhagen, Denmark, June 18-22, 2017: Drs. Trejos-Castillo, Mastergeorge, and Jackowski presented at the 13<sup>th</sup> World Congress of Biological Psychiatry-World Federation of Societies of Biological Psychiatry (WFSBP).
- Trip to Texas Tech University- Lubbock, TX. September 17-22, 2017: Drs. Andrea Jackowski and Hugo Cogo-Moreira from Federal University of São Paulo (UNIFESP) will be visiting the TTU campus. Their visit will include:
  - ✓ Meeting with Dr. Todd Little, Director of the Institute for Measurement, Methodology, Analysis, and Policy (IMMAP)
  - ✓ Visit to the TTU Neuroimaging Institute (TTNI) and meeting with Dr. Michael O’Boyle, Associate Dean for Research, College of Human Sciences
  - ✓ Open Lecture on Neurodevelopment, Toxic Stress, and Developmental Outcomes in Brazilian Children and Adolescents
  - ✓ Reception with Dean of Human Sciences, and colleagues from diverse departments across TTU/TTUHSC with similar research interests (e.g., Psychology, Pediatrics, HDFS, Psychiatry, etc).
  - ✓ Lunch meeting with HDFS Graduate Students
  - ✓ Attending the TTU/FAPESP – SPRINT “STEM Across Continents” Workshop and Conference Sept 21-22 hosted by TTU Office of International Affairs (OIA).

## Interviews

December 1st 2016 - Texas Tech, Brazilian researchers examine effects of toxic stress on children’s brain development (<http://today.ttu.edu/posts/2016/12/toxic-stress>);

December 21st 2016 - US and Brazilian researchers study toxic stress in children (<http://agencia.fapesp.br/us-and-brazilian-researchers-study-toxic-stress-in-children/24636>);

December 31st 2016 - Pesquisadores de SP e Texas estudam causas do estresse crônico em crianças (<http://agenciabrasil.ebc.com.br/pesquisa-e-inovacao/noticia/2016-12/pesquisadores-de-sp-e-texas-estudam-causas-do-estresse-cronico>);

April 12 2017 - Estresse Tóxico em Crianças e Adolescentes (<http://genmedicina.com.br/2017/04/12/estresse-toxico-em-criancas-e-adolescentes>).

### **Progress and Plans for Future Activities**

Our team of researchers is currently working on 2 research papers already presented at National/International Conferences, 2 additional conference presentations for spring 2018, and a research grant to be submitted early Spring 2018.