April 14, 2022

Division of Receipt and Referral

National Institutes of Health

9000 Rockville Pike

Bethesda, Maryland 20892

**Introduction to the Proposal Resubmission**

To Whom It May Concern:

The reviewers of my initial submission provided thoughtful critiques of my proposal which were incorporated into this revision. These critiques warranted substantial changes to my research strategy and training plan and have yielded a far improved proposal. Most notably:

* I addressed concerns of F99/K00 discontinuity by using the same feature-rich, video paradigm in both phases to explore adult (F99) and adolescent (K00) representations of uncertainty. This will allow me to not only identify areas of common neural activation in response to social and non-social sources of uncertainty, but to then *extend this examination into a developmentally vulnerable population for which social stimuli and uncertainty is highly relevant.*
* I addressed concerns that the project was overly-ambitious by separating adult and adolescent recruitment to separate phases, requiring a smaller sample size to achieve sufficient power, and revising my target analysis to a relatively less complex computational neuroscience method, *intersubject correlational analysis* (ISC). Though I have experience with applying computational neuroscience methods that demonstrate my fittedness for pursuing these skills, ISCs represent a new challenge for me and I will have the assistance of my revised mentorship team to guide me through this process. *An ISC approach will highlight areas commonly involved in uncertainty related processing and how this processing is associated with behavioral indicators of uncertainty across different developmental periods*.
* I addressed concerns regarding mentorship team experience by *adding consultants Drs. David Smith and Laurence Steinberg* to guide my application of computational methods and comprehension of relevant social adolescent neurodevelopment literature, respectively. They will ensure that I develop the skills I need in the F99 phase to transition to the K00 phase smoothly.
* I addressed concerns about lack of methodological detail by describing the philosophy behind ISC, how it is calculated, the tools I will use to calculate it, my statistical approach to infer significance, the challenges associated with my data, and contingency plans should my results deviate.
* I addressed concerns about training plan fit by focusing my training on gaining methodological skill, building developmental theory literature fluency, and professional development. I have reduced the amount of time/effort that I will devote towards mentorship to better focus on research activity, as per recommendations. *This will prepare me for my K00 phase in which I will develop adolescent neuroimaging skills and techniques.*
* I addressed concerns about mentor contributions by clearly delineating who will be assisting me with each aspect of the proposal and incorporating each’s statements in the sponsor statement or application.
* I addressed concerns about my Responsible Conduct of Research training by *incorporating an additional formal faculty-led training* on ethical research practice conducted at Temple University.

As such, I appreciate your reconsideration and look forward to your future feedback.

Sincerely,

William J. Mitchell

