**Project Summary**

Although ambiguity (i.e., unknown probabilities for unclear outcomes) is a common, often aversive hallmark of our social world, we know little about how we form judgments of certainty in ambiguous social contexts. Extant literature suggests adolescents find non-social ambiguity significantly less aversive than adults, but whether adults and adolescents form and resolve uncertainty judgments differently remains unclear, especially in the social domain. Ambiguous social stressors in adolescence predict long-term susceptibility to and severity of anxiety and depression, which does suggest some degree of social ambiguity aversion among adolescents. This could be due to intense attention towards social others during this stage. To better understand the relationship between ambiguity and development across domains, we aim to identify differences in adult and adolescent certainty judgments over time using memory data, behavioral responses, and neural representations.

**F99 Phase:** The proposed project uses a novel fMRI paradigm which tasks participants to watch a video (e.g., crime drama) while continuously rating how certain they are of a given social outcome (e.g., a character’s innocence or guilt). This yields a time-locked time course of their approximate judgments, the inflections of which are used to identify which stimulus features inform certainty assessments. By using the same stimulus but changing the target outcome (e.g., frame luminance), we can also identify differences in the formation of social and non-social ambiguity judgements. Furthermore, using surprise free-recall, we can better understand how experiencing uncertainty influences memory and subjective assessments of an event. I have used this paradigm in adult participants to identify regions underlying uncertainty judgement formation, including the anterior insula and dorsomedial prefrontal cortex. The goal of the proposed research would expand our scope to include normative adolescent development. The training plan for this proposal includes instruction in computational methodology related to social decision-making in affective neuroscience and in affective neurodevelopmental theory. By applying intersubject representational similarity analytic approaches, I will use multimodal computational models to explore how different components of uncertainty contribute to its global representation, and how those representations differ as individuals mature beyond adolescence.

**K00 Phase**:Uncertainty intolerance predicts anxiety, emotion dysregulation and peer-pressure susceptibility. However, children are disadvantaged in deploying traditional regulation strategies to manage these reactions. Extant literature suggests perspective-taking techniques may constitute an effective, age-robust alternative for managing uncertainty, but this has not been explicitly tested. During the K00 phase, I aim to compare the efficacy of, and mechanisms behind, different regulatory strategies to manage uncertainty. The training plan in this phase of the proposal will focus on computational methods to examine the development of self-regulation in uncertainty contexts and developing mentorship skills to establish a diverse, inclusive independent research lab.