1. **Training & Professional Development**

This project has produced training and professional development opportunities for many individuals involved. As our lab's first neuroimaging study, it has been the means by which myself and my sponsor have trained all of our undergraduate research assistants in fMRI research techniques. This has most often taken the form of one-on-one instruction with research assistants as they both shadow and complete study tasks under observation. However, opportunities for experience extended beyond directly collecting MRI data to include recruitment, data maintenance, and analysis as well. For example, I worked very closely with one former research assistant, Tiara Bounyarith, to outline a full fMRI study pipeline, teaching her bash for file management, how to convert DICOM files to NiFTi files using heudiconv, BIDs formatting, how to use fMRIPrep in Docker, and how to analyze the data in both Python and R. Tiara used this to lead an independent project examining associations between OCD-related symptoms and responses to ambiguity using our data, which she presented as her honors thesis. She used those skills to acquire a lab manager job in an fMRI / EEG lab at Drexel University upon graduating. A second research assistant, Caroline George, had won a grant to conduct independent research and wished to use some of the naturalistic fMRI analytic techniques I had been using to study fear responses to threatening stimuli. We worked together to identify cerebellar and limbic structures which differentially activated in response to personal space violations and then again once more to identify trends in the free recalls of subjects who participated in our study. In total, approximately twelve or more graduate and undergraduate students received training in conducting fMRI research because of this project.

My sponsorship team also provided insight and direction to me during this period. Drs. Helion and Chein had been invaluable in instructing my use of fMRI hardware available in our facilities, but also in the application of statistics techniques for which I previously had no experience with, including dynamic sliding window analysis (See Section F.2 Challenges & Delays), using Fourier transforms to assess stimulus quality, generalized estimating equations, etc. as needed. Dr. Smith has also contributed significantly to my understanding and use of the program *FSL* during this funding period. I sought his guidance often while attempting to model any univariate analyses and he provided thorough instruction regarding many of the "under-the-hood" options that *FSL* offers. During this period, there were also several instances in which I relied upon publicly accessible information to self-train on new tools for which no expertise was readily available. This includes the use of *OpenAI's Whisper* and the Python libraries *face_recognition*, *librosa, cv2,* and *nilearn*. I used these to create tools that will automate transcriptions of free recall and annotation stimuli. These tools will be included in the release of my library relevant for study design and analysis of studies using video fMRI (See B.6 Future Plans).

I had ample opportunities for professional development over this period, which included being awarded fellowships in 2023 to attend both the Summer Institute for Social and Personality Psychology (SISSP) and Methods in Neuroscience at Dartmouth (MIND) Computational Summer School. Both are approximately 2-week long summer programs dedicated to teaching specific skills, techniques, and findings relevant to social and emotion psychology and neuroscience and attended by many promising graduate students. These fellowships also included a substantial training component. For example, at MIND I worked on a project incorporating supervised machine learning to classify facial expressions in dynamic video stimuli. Additional opportunities for professional development included attending and presenting at the SPSP and SANS conferences in 2024. At SPSP, I had completed a computational psychology pre-conference attended by many leading figures in social neuroscience and expanded my network via connections that I had made as SISSP. At SANS, I had also participated in an early career meet-and-greet in which graduate attendees were paired by interests with specific faculty to discuss goals and acquire advice. This conference is also well attended by organizers and attendees of MIND, so I was able to expand my network here due to that fellowship as well. I had also been a part of an APS symposium in 2024 but had to present remotely due to a lack of available funds. During this period, my research had been promoted by Ipsos in connection with their award and because of this, I met other decision researchers inside and outside of academic involved in the competition. Lastly, I served as our department's colloquium series coordinator. In this role, I identified and communicated with acclaimed researchers in the world of social neuroscience, including Carolyn Parkinson and Luke Chang, to organize talks at Temple about their research.