SUMMARY STATEMENT

PROGRAM CONTACT:
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(Privileged Communication)

Release Date: **03/06/2023**
Revised Date:

Application Number: **1 F99 NS134208-01**

MITCHELL,WILLIAM
Temple University - Of The Commonwealth System of
1701 N. 13th Street, Weiss Hall
Philadelphia, PA 191226085

Review Group:	**ZNS1 SRB-L (80) National Institute of Neurological Disorders and Stroke Special Emphasis Panel F99, K99 & K01 Review**
Meeting Date:	**02/13/2023**
Council:	**MAY 2023** ***PCC:*** **JONESMWD**
Requested Start:	**07/01/2023**
	Dual IC(s): **NB**
Project Title:	**Neural and Behavioral Representations of Social Ambiguity Among Adolescents and Adults**
	***Requested*:**
Sponsor:	
Department:	**CLA:PSYCHOLOGY (18110)**
Organization:	**TEMPLE UNIV OF THE COMMONWEALTH**
City, State:	**PHILADELPHIA PENNSYLVANIA**
SRG Action:	**++**
Next Steps:	**Visit https://grants.nih.gov/grants/next_steps.htm**
Human Subjects:	**30-Human subjects involved - Certified, no SRG concerns**
Animal Subjects:	**10-No live vertebrate animals involved for competing appl.**

++NOTE TO APPLICANT: Members of the Scientific Review Group (SRG) were asked to identify those applications with the highest scientific merit, generally the top half. Written comments, criterion scores, and preliminary impact scores were submitted by the assigned reviewers prior to the SRG meeting. At the meeting, the more meritorious applications were discussed and given final impact scores; by concurrence of the full SRG, the remaining applications, including this application, were not discussed or scored. The reviewers' comments (largely unedited by NIH staff) and criterion scores for this application are provided below. Because applications deemed by the SRG to have the highest scientific merit generally are considered for funding first, it is highly unlikely that an application with an ND recommendation will be funded. Each applicant should read the written critiques carefully and, if there are questions about the review or future options for the project, discuss them with the Program Contact listed above.

1F99NS134208-01 Mitchell, William

DESCRIPTION (provided by applicant): 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.

PUBLIC HEALTH RELEVANCE

This project will combine computational and neuroimaging methods to explore how certainty judgments form during adolescent development using a unique task design that mirrors important characteristics of a social world. The F99 phase will identify how certainty judgment formations differ between adolescence and adulthood across social and non-social domains by identifying patterns in how different information is assessed. The K00 phase will investigate the use and effectiveness of age-robust self-regulation strategies to manage negative responses to social ambiguity and reduce the severity of negative downstream consequences, such as anxiety and depression.

CRITIQUES: *Please note that the critiques and criterion scores from individual reviewers are provided below in an essentially unedited form. These were prepared prior to the review meeting and may not have been updated or revised after the review meeting.*

CRITIQUE 1

Fellowship Applicant: 4
Sponsors, Collaborators, and Consultants: 4
Research Training Plan: 5
Training Potential: 5
Institutional Environment & Commitment to Training: 4

Overall Impact:

Mr. Billy Mitchell has written a strong proposal for human subjects research using behavioral and functional neuroimaging methods to untangle the development of uncertainty in ambiguous social situations, and how possible behavioral manipulations such as asking children to “take a role” in an upcoming story may influence strategy and brain response for young children. The candidate focuses on naturalistic stimuli and experimental plan, including for one experiment watching 2, 21-minute movie clips about a mystery and constantly gauging the likelihood that any one character is the guilty party. Mr. Mitchell is described by letter writers as an ambitious scientist whose work ethic, creativity, and willingness to learn new things allows him to accomplish everything he sets his mind to. The proposal is for a three-phase plan as a doctoral student, post-doc, and young faculty member with separate experiments designed for each phase as the candidate learns new techniques.

That said, his mentor notes that there are quite a few aspects of his proposed plan that he does not yet know how to do, and there will be a steep learning curve for analysis techniques and the pragmatic skills necessary to recruit and successfully run studies with young children. The lack of continuity from one experiment / phase to the other is concerning – they tangentially all relate to social ambiguity and degree of corresponding cognitive uncertainty, but they are different in scope, technique, and desired outcomes. A more focused approach that builds from one experiment to the next without branching to a new area is more likely to be successful. There are a lot of missing details on the experiment plan including full description of the stimuli and the participant experience. RSA (representation similarity Analysis) is repeatedly referred to as innovative and appropriate for the study, but it’s never fully explained, a big gap in the proposal. The mentor is successful but new without experience mentoring at this level and difficulties obtaining appropriate support for the applicant writing this section will be important. The applicant is commendably committed to mentoring and research sharing but may be overcommitted. As he writes, “I intend to spend much of my time improving my mentoring as a postdoctoral fellow.’ The concern is that too much time spent here will not add to his chances of obtaining a faculty position.

Mr. Mitchell’s letter writers describe him as “Exactly the kind of person you want in this job” and the type of trainees that we need in Academia”. There is no doubt the participant has a great future ahead of him. But this proposal needs more detail and more focus to provide confidence that it will breed success for a faculty appointment.

1. Applicant:

Strengths

- Strong letters of support from mentor; letters highlight his work ethic, creativity, and willingness to share
- Applicant did well in college and has made a good impressing in grad school

- 1 first author paper published in good journal (SCAN) and another under review
- Strong commitment to the field is evident
- Good at building tools to share problems
- Excellent work as a mentor/example/training

Weaknesses

- Lacks experience in many of the new techniques he is proposing to undertake including any experience with recruiting and running developmental studies
- Overemphasis on mentoring as a career goal, while laudable, is unlikely to add to potential for faculty hire; can develop on his own but more focus on science will likely make more headway

Strengths

- Good match between candidate interests and mentors'
- Both mentors provide needed expertise

Weaknesses

- Mentors are new – applicant is the first trainee for primary mentor
- Training plan seems still informal to meet development needs

3. Research Training Plan:

Strengths

- Interesting research topics that can support an independent career
- High clinical relevance to address anxiety development in children and teens
- Takes advantage of emerging capacity for naturalistic social interactions including pioneering analysis methods developed my applicant

Weaknesses

- The research plan is both ambitious and underspecified
- It is good to stretch the applicants' skills, and applicant has shown previously that he is capable of learning as needed and even beyond. But this series of projects are only somewhat related, including modifications to task and technique at each step; if applicant is interested in development in younger children it may be beneficial to trial the experiment with the teens, then drop down to younger rather than create a new task; while both tasks are related to uncertainty they are much different in style and scope
- The child task is interventional in nature but without clinical advisory / mentors. The analysis plan is rich but attention to the intervention and outcomes seems superficial and lacks clinical depth.
- Details are still lacking. There is a lot of repetition of the same ideas throughout the proposal and I kept waiting for the details to back it up: more about the task details, more about why this will work better than others. The power analysis was inadequate – what are anticipated effect sizes, why were those parameters chosen. How will children be able to do the task
- Pitfalls section is not covered well. What really might go wrong, and what really will be done about it?

- RSA is talked about repeatedly but never fully explained. The same general principles are repeated several times but never the details on how RSA works and matches the design.

4. Training Potential:

Strengths

- Thinking well to do a series of projects
- Mentors will train in computational analysis and in pragmatics of running developmental studies.

Weaknesses

- What if one of the earlier projects goes astray? What if recruiting is a problem or there are null results? There is a lot of excellent focus on learning the process throughout this proposal but needs to be better packaged for training outcomes

Strengths

- Strong environment with faculty support, facilities, and department backing.

Weaknesses

- Training is lacking and does not seem adequate. There is worry that applicant did not receive enough mentoring support in writing the application as shown in sections like this.

Protections for Human Subjects: Acceptable Risks and Adequate Protections

- adequate

Data and Safety Monitoring Plan (Applicable for Clinical Trials Only): Not Applicable (No Clinical Trials)

Inclusion of Women, Minorities, and Ages Across the Lifespan:

- **Sex Gender**: Distribution justified scientifically
- **Race/Ethnicity**: Distribution justified scientifically
- **For NIH-Defined Phase III trials, plans for valid design and analysis:** Not applicable
- **Inclusion/Exclusion Based on Age:** Distribution justified scientifically
  - adequate, including teens and children

Vertebrate Animals: Not Applicable (No Vertebrate Animals)

Training in the Responsible Conduct of Research: Unacceptable

Comments on Format (Required):

- more is needed including formal training led by faculty and a mix of formats

Comments on Subject Matter (Required):

- more is needed to cover all required elements

Comments on Faculty Participation (Required):

- applicant refers to informal meetings with mentor, but this refers to needed formal workshops/courses by faculty members

Comments on Duration (Required):

- not enough planned

Comments on Frequency (Required):

- see above

Biohazards: Not Applicable (No Biohazards)

Resubmission: Not Applicable (Not a Resubmission)

Select Agents: Not Applicable (No Select Agents)

Resource Sharing Plans: Not Applicable (No Relevant Resources)

Budget and Period of Support: Recommend as Requested

Additional Comments to Applicant (Optional)

- The ideas in this application are important and interesting. You as the applicant have been able to achieve a great deal in a short amount of time and your commitment to making resources available to all is commendable. When thinking about how to get a faculty position, you will benefit from a narrower focus where you can build from one success to another, rather than reinventing yourself at each phase of this proposal. Your proposal sounds like a 10–15-year development plan and you need a shorter time frame. Many ideas are repeated 3, 4 or 5 times; use that space to provide more details about how you will accomplish goals including drilled down specifics on the experiment plan including stimuli and presentation, and participant experience.

CRITIQUE 2

Fellowship Applicant: 1
Sponsors, Collaborators, and Consultants: 1
Research Training Plan: 3
Training Potential: 3
Institutional Environment & Commitment to Training: 2

Overall Impact: This is a very well written proposal from an applicant that has a demonstrated commitment to the proposed career focus. The rationale for the training and research plans mesh nicely and, for the most part, will jive well for developing the applicant's skills and prepare the applicant for a career in Neuroscience. The experimental milestones are clear, and the details of the proposed experiments are well laid out. Similarly, clear endpoints for the experiments and alternative solutions to potential experimental problems are described in detail. Overall, this is a very good application with only minor concerns leading to a high level of enthusiasm from this reviewer. The main problem with this application is that despite the relatively well described methodological steps, there was a mismatch in productivity. Also, I think that their enrollment plans are too optimistic, and they did not lay out a credible strategy to solve potential problems in this front.

1. Applicant:

Strengths

- Very well acquainted with the methodology for completing the work proposed in both the F99 and K00 part of the award

Weaknesses

- There is a mismatch between the applicant's command of the methodology and the relatively low productivity in terms of first author publications at this stage of his pre-doctoral training career.

2. Sponsors, Collaborators and Consultants:

Strengths

- Skills, expertise, and resources committed to this proposal are on par with the expectations of the program.
- There is also clear evidence of continuous interaction and guidance between the sponsors and the applicant.

Weaknesses

- None noted

3. Research Training Plan:

Strengths

- Clearly outline milestones for both the F99 and K00 components of the proposal
- The methodological details of the research plan are well-argued for and outline in very good detail.
- Given the applicant's "fluency" with the technology at hand there is no doubt that the proposed experiments could be carried out within the expected time frame

Weaknesses

- Technical Success Rate for this patient population could be lower than desired. Proposed subject pool might prove to be too small.
- Alternative methods for addressing target enrollment rate appear to be poorly developed.

4. Training Potential:

Strengths

- Clearly outlined list of competencies to be pursued
- Most skills sought as part of the training plan will help the applicant become an established, early-career, investigator at the end of the award in a good position to pursue a faculty position at a top tier institution provided the publication record derived from the proposed experiments is better than that accomplished thus far.

Weaknesses

- Not clear that the proposed coding activities would add much to the skills needed to complete the work envisioned in the application. Could be a distraction.

5. Institutional Environment & Commitment to Training:

Strengths

- Excellent resources are available for completing the proposed work.

Weaknesses

- None noted

Protections for Human Subjects: Acceptable Risks and Adequate Protections

- Most common risks associated with the proposed studies have been clearly outlined. One notable, though not widely known omission, was the exclusion of subjects with body art (tattoos) as the ink used can in some instances lead to skin burns.

Data and Safety Monitoring Plan (Applicable for Clinical Trials Only): Not Applicable (No Clinical Trials)

Inclusion of Women, Minorities, and Ages Across the Lifespan:

- **Sex/Gender**: Distribution justified scientifically
- **Race/Ethnicity**: Distribution not justified scientifically
- **For NIH-Defined Phase III trials, plans for valid design and analysis:** Not Applicable.
- **Inclusion/Exclusion Based on Age:** Distribution justified scientifically

Vertebrate Animals: Not Applicable (No Vertebrate Animals)

Training in the Responsible Conduct of Research: Acceptable

Comments on Format (Required):

- Face to face with one of the mentors as well as standard online training (e.g., CITI)

Comments on Subject Matter (Required):

- HIPPA compliance, HSR, COI, IC, research with vulnerable populations.

Comments on Faculty Participation (Required):

- One of the mentors will be the primary faculty guiding the applicant and advising on content gaps.

Comments on Duration (Required):

- More than 30 hours

Comments on Frequency (Required):

- Twice per week on average.

Biohazards: Not Applicable (No Biohazards)

Resubmission: Not Applicable (Not a Resubmission)

Select Agents: Not Applicable (No Select Agents)

Resource Sharing Plans: Not Applicable (No Relevant Resources)

Budget and Period of Support:

- Not clear why the requested level of support is as stated

CRITIQUE 3

Fellowship Applicant: 2
Sponsors, Collaborators, and Consultants: 5
Research Training Plan: 4
Training Potential: 5
Institutional Environment & Commitment to Training: 1

Overall Impact: The applicant is a 4th year doctoral student at Temple University in Cognition & Neuroscience and is a first-generation college graduate with a B.S. from Loyola University Maryland in Psychology. He spent several years as an RA and working in publishing and research coordination prior to entering graduate school. The applicant has received several awards and has 2 first authored manuscripts, 1 under review, and multiple presentations. The sponsor, Dr. Helion, is an expert in social and affective neuroscience but has a limited history of training of independent scientists. The addition of Dr. Chien as a co-sponsor partially mitigates this concern, but no explicit training plan or statement from the co-sponsor was provided. The research training plan is ambitious, and it is unclear if the proposed timeline is feasible based on the amount of work left to be done in Aim 1. Given the amount of work left to be done, the percent effort towards research seems low. The training plan is well articulated in terms of structure of meetings and the usage of workshops. There is some ambiguity in the training milestones to be achieved. The environment and resources at Temple University are appropriate for the applicant and his goals. Overall, this application is from an excellent candidate with some minor to moderate weaknesses that can be addressed in revision.

1. Applicant:

Strengths

- Has a long-term goal to be a PI studying social affective phenomena using computational methods and multimodal stimuli.
- Several poster awards
- 2 first authorships, 1 under review, multiple presentations
- Excellent letters
- Plays a critical role in the lab's mentoring team
- Co-directs a new student-run organization, the Coding Outreach Group.

Weaknesses

- None noted.

2. Sponsors, Collaborators and Consultants:

Strengths

- The sponsor, Dr. Helion, has funding through 2025. Statement of support for the applicant's research and training expenses. Dr. Helion is an expert in social and affective neuroscience.
- The co-sponsor, Dr. Chein, has funding through 2026. Dr. Chein is an expert in brain imaging methods and self-regulatory control processes in decision making.
- The applicant and the sponsors are well-matched in their interests.

Weaknesses

- The sponsor is an assistant professor with limited history of training of independent scientists. The applicant is the most senior pre-doctoral trainee.
- Though the addition of a more senior co-sponsor helps mitigate the concern regarding a relatively junior sponsor, an explicit co-sponsor statement is absent. There is no record of previous trainees and their placements for the co-sponsor.
- The role of the co-sponsor is ill-defined. This is a moderate weakness. More details regarding the co-sponsor's training plan would greatly benefit the application.

3. Research Training Plan:

Strengths

- Dissertation data (F99) has been collected from 26 adult participants using a novel task.
- Clearly defined procedures for data collection and analysis.

Weaknesses

- Data from adolescents for F99 section have yet to be collected. Thus, there are real questions as to the feasibility of the timeline proposed. This is a minor to moderate concern, but addressable.
- It is not clear that the training plan takes into proper account all the potential problems and pitfalls of the research training plan. This is a minor to moderate concern.

4. Training Potential:

Strengths

- Personalized research training plan has explicit structure for meetings and other learning training opportunities, such as workshops.

Weaknesses

- The % effort to research (75% in F99, 60% in K00) seems low given the work left to be done.
- Training milestones need to be more clearly defined. K00 goals are amorphous. The focus seems to be on training and mentorship of others in preparation of an independent position, but not much is offered in terms of acquisition of new technical or scientific skills during the K00 phase.

5. Institutional Environment & Commitment to Training:

Strengths

- The environment at Temple is excellent with the appropriate resources necessary to carry out the proposed project.

Weaknesses

- None noted.

Training in the Responsible Conduct of Research: Unacceptable

Comments on Format (Required):

- lack of faculty-based instruction

Comments on Subject Matter (Required):

- appropriate topics are addressed

Comments on Faculty Participation (Required):

- informal meetings with mentor

Comments on Duration (Required):

- poorly articulated and unclear due to the informal nature of meetings with mentor

Comments on Frequency (Required):

- one course a year is inconsistent with earlier statements

Protections for Human Subjects: Acceptable Risks and Adequate Protections

Data and Safety Monitoring Plan (Applicable for Clinical Trials Only): Not Applicable (No Clinical Trials)

- Sex/Gender: Distribution justified scientifically
- Race/Ethnicity: Distribution justified scientifically
- For NIH-Defined Phase III trials, Plans for valid design and analysis: Not applicable
- Inclusion/Exclusion Based on Age: Distribution justified scientifically
    - appropriate

Vertebrate Animals: Not Applicable (No Vertebrate Animals)

Biohazards: Not Applicable (No Biohazards)

Resubmission: Not Applicable (Not a Resubmission)

Select Agents: Not Applicable (No Select Agents)

Resource Sharing Plans: Not Applicable (No Relevant Resources)

Budget and Period of Support: Recommend as Requested

CRITIQUE 4

Fellowship Applicant: 2
Sponsors, Collaborators, and Consultants: 4
Research Training Plan: 5
Training Potential: 2
Institutional Environment & Commitment to Training: 2

Overall Impact: This initial application includes several strengths: a promising well-prepared PI with strong preparation and demonstrated accomplishment to date, a strong and complimentary team of sponsors and mentors, training goals are specified & matched to detailed training plan. At least two limitations of modest to moderate importance were noted: First, the PI is invited to critically review their timelines for project completion training associated activities to ensure these properly align with training plan. Second, the PI is also invited to carefully justify the relative-to-relative balance between teaching and research activities over the project period in relationship to their overall goals under this award."

1. Applicant:

Strengths

- Mr. William Mitchel is currently a 4th year PhD student in the Cognition and Neuroscience program at Temple University.
- This student is highly accomplished for career stage with 4 peer reviewed publications (1 as first author, 3 as co-author) and 1 first author under review. In addition to these several presentations are noted with at least one or two? as presented.
- This applicant has a sustained history of productive history in research engagement and has leveraged these opportunities to co-publish and gleam tools that prepare him for success in his quest to become an independent investigator.
- Scholastic preparation is of high quality with grades in graduate education strong and consistent with strong performance on the GRE – especially the verbal subscales.
- An initiative taker whose life journey makes him passionate about mentoring the next generation of scholars, Mr. Mitchel represents great promise with high probability of achieving his long-term career goal of being a principal investigator in his own lab focused on affective developmental neuroscience.

Weaknesses

- None noted.

2. Sponsors, Collaborators and Consultants:

Strengths

- Sponsors and members of mentoring team are exceptionally qualified with robust history of NIH funding, track record of mentoring successful students and peer reviewed publications in the topical areas representative of the expertise to be contributed to the applicant.

Weaknesses

- Applicants Biosketch shows expected graduation date of May 2024. If true, concerns about realistic timeline apply.

3. Research Training Plan:

Strengths

- Training goals are detailed, and the applicant has made use of an individual development plan tailored to his strengths and weaknesses.
- Qualities sought in a post doc mentor and the type of institution are well specified.
- All mentors are highly qualified. Unclear to this reviewer that the research proposed is distinct from the mentor's respective ongoing line of research.

Weaknesses

- Timeline for F99 of two years as in Figure 1 is reasonable and at odds with the applicant's expected graduation date per biosketch.
- To maximize the potential of this trainee, teaching/mentoring time ought to be less than 20% indicated with as much time as possible dedicated to research activity in both phases and especially the K00 phase.

4. Training Potential:

Strengths

- Training potential of this candidate is exceptional. Activities under award follow reasonably well from the IDP with milestones indicated for each phase of award.
- Plan is detailed and positions him on good trajectory for success in becoming an investigator.

Weaknesses

- None noted.

5. Institutional Environment & Commitment to Training:

Strengths

- Institutional environment as described is intellectually vibrant and strong. The institution and the mentors are committed to the applicant with one of the mentors indicating willingness to fund the F99 phase via startup funds if no success with DSPAN application.
- Letters of support are strong and highly supportive.

Weaknesses

- None noted.

Protections for Human Subjects: Acceptable Risks and Adequate Protections

- Typical risks possibilities for study type noted risks will be disclosed with adequate protections in place including consent/assent for study participation.

Data and Safety Monitoring Plan (Applicable for Clinical Trials Only): Not Applicable (No Clinical Trials)

Inclusion of Women, Minorities, and Ages Across the Lifespan:

- **Sex/Gender**: Distribution justified scientifically
- **Race/Ethnicity**: Distribution justified scientifically
- **For NIH-Defined Phase III trials, plans for valid design and analysis:** Not applicable
- **Inclusion/Exclusion Based on Age:** Distribution justified scientifically
    - 13 - 20 years old included with appropriate scientific rationale.

Vertebrate Animals: Not Applicable (No Vertebrate Animals)

Training in the Responsible Conduct of Research: Acceptable

Comments on Format (Required):

- Includes mentor led mentoring, CITI course work, and additional coursework every two years. Detailed and appropriate.

Comments on Subject Matter (Required):

- Scope is sufficiently detailed, meets guidelines, appropriate.

Comments on Faculty Participation (Required):

- Mentors are involved. Meets guidelines.

Comments on Duration (Required):

- Over 40 hours of instruction described of ethics work related activities. Meets guidelines.

Comments on Frequency (Required):

- Meets guidelines.

Biohazards: Not Applicable (No Biohazards)

Resubmission: Not Applicable (Not a Resubmission)

Select Agents: Not Applicable (No Select Agents)

Resource Sharing Plans: Not Applicable (No Relevant Resources)

Budget and Period of Support: Recommend as Requested

THE FOLLOWING SECTIONS WERE PREPARED BY THE SCIENTIFIC REVIEW OFFICER TO SUMMARIZE THE OUTCOME OF DISCUSSIONS OF THE REVIEW COMMITTEE, OR REVIEWERS' WRITTEN CRITIQUES, ON THE FOLLOWING ISSUES:

PROTECTIONS FOR HUMAN SUBJECTS: ACCEPTABLE RISKS AND ADEQUATE PROTECTIONS

- MOST COMMON RISKS ASSOCIATED WITH THE PROPOSED STUDIES HAVE BEEN CLEARLY OUTLINED. ONE NOTABLE, THOUGH NOT WIDELY KNOWN OMISSION, WAS THE EXCLUSION OF SUBJECTS WITH BODY ART (TATTOOS) AS THE INK USED CAN IN SOME INSTANCES LEAD TO SKIN BURNS.
- TYPICAL RISKS POSSIBILITIES FOR STUDY TYPE NOTED RISKS WILL BE DISCLOSED WITH ADEQUATE PROTECTIONS IN PLACE INCLUDING CONSENT/ASSENT FOR STUDY PARTICIPATION.

DATA AND SAFETY MONITORING PLAN (APPLICABLE FOR CLINICAL TRIALS ONLY): NOT APPLICABLE (NO CLINICAL TRIALS)

INCLUSION OF WOMEN, MINORITIES, AND AGES ACROSS THE LIFESPAN:

- **SEX GENDER: DISTRIBUTION JUSTIFIED SCIENTIFICALLY**
- **RACE/ETHNICITY: DISTRIBUTION JUSTIFIED SCIENTIFICALLY**
- **FOR NIH-DEFINED PHASE III TRIALS, PLANS FOR VALID DESIGN AND ANALYSIS: NOT APPLICABLE**
- **INCLUSION/EXCLUSION BASED ON AGE: DISTRIBUTION JUSTIFIED SCIENTIFICALLY**
  - **ADEQUATE, INCLUDING TEENS AND CHILDREN**
  - 13 - 20 years old included with appropriate scientific rationale.

VERTEBRATE ANIMALS: NOT APPLICABLE (NO VERTEBRATE ANIMALS)

BIOHAZARDS: NOT APPLICABLE (NO BIOHAZARDS)

RESUBMISSION: NOT APPLICABLE (NOT A RESUBMISSION)

SELECT AGENTS: NOT APPLICABLE (NO SELECT AGENTS)

RESOURCE SHARING PLANS: NOT APPLICABLE (NO RELEVANT RESOURCES)

BUDGET AND PERIOD OF SUPPORT: RECOMMEND AS REQUESTED

ADDITIONAL COMMENTS TO APPLICANT (OPTIONAL)

- **THE IDEAS IN THIS APPLICATION ARE IMPORTANT AND INTERESTING. YOU AS THE APPLICANT HAVE BEEN ABLE TO ACHIEVE A GREAT DEAL IN A SHORT AMOUNT OF TIME AND YOUR COMMITMENT TO MAKING RESOURCES AVAILABLE TO ALL IS COMMENDABLE. WHEN THINKING ABOUT HOW TO GET A FACULTY POSITION, YOU WILL BENEFIT FROM A NARROWER FOCUS WHERE YOU CAN BUILD FROM ONE SUCCESS TO ANOTHER, RATHER THAN REINVENTING YOURSELF AT EACH PHASE OF THIS PROPOSAL. YOUR PROPOSAL SOUNDS LIKE A 10–15-YEAR DEVELOPMENT PLAN AND YOU NEED A SHORTER TIME FRAME. MANY IDEAS ARE REPEATED 3, 4 OR 5 TIMES; USE THAT SPACE TO PROVIDE MORE DETAILS ABOUT HOW YOU WILL ACCOMPLISH GOALS INCLUDING DRILLED DOWN SPECIFICS ON THE EXPERIMENT PLAN INCLUDING STIMULI AND PRESENTATION, AND PARTICIPANT EXPERIENCE.**

Footnotes for 1 F99 NS134208-01; PI Name: Mitchell, William John

NIH has modified its policy regarding the receipt of resubmissions (amended applications).See Guide Notice NOT-OD-18-197 at https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-197.html. The impact/priority score is calculated after discussion of an application by averaging the overall scores (1-9) given by all voting reviewers on the committee and multiplying by 10. The criterion scores are submitted prior to the meeting by the individual reviewers assigned to an application, and are not discussed specifically at the review meeting or calculated into the overall impact score. Some applications also receive a percentile ranking. For details on the review process, see http://grants.nih.gov/grants/peer_review_process.htm#scoring.

MEETING ROSTER

National Institute of Neurological Disorders and Stroke Special Emphasis Panel
NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE
F99, K99 & K01 Review

ZNS1 SRB-L (80)
02/13/2023 - 02/14/2023

Notice of NIH Policy to All Applicants: Meeting rosters are provided for information purposes only. Applicant investigators and institutional officials must not communicate directly with study section members about an application before or after the review. Failure to observe this policy will create a serious breach of integrity in the peer review process, and may lead to actions outlined in NOT-OD-22-044 at https://grants.nih.gov/grants/guide/notice-files/NOT-OD-22-044.html, including removal of the application from immediate review.

CHAIRPERSON(S)

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