Citizenship Project Proposal

Name, Ph.D.

1. Goal to reach before Feb. 2018:
   a. Get on a department committee
   b. Be on 2 more dissertation committees
   c. Become more involved in the Sleep Research Society or Society of Behavioral Sleep Medicine

Name, Ph.D.

1. **Course Development Project:** PSYCH 381 - Behavioral Neurobiology.
2. **Meet with CTL Consultant:** I met with Tyler Halverson during the Spring Seminar and the following week. I have sent him the material I have constructed for his feedback.
3.
    a. **Study purpose:** To provide upper-level knowledge and experience on the principles of behavioral neurobiology and to encourage students to take the next step by beginning to think about how integrating knowledge across units of analysis can be used to improve the human condition.
    b. **Evidence of learning:** Exams, pop quizzes, experiential learning (neuroimaging assignment and a written report of a self-selected article from the scientific literature).
    c. **Learning objectives are assigned for this course by the department:**
       1. The brain, experience, and behavior -All Sections
       Students will develop their understanding of how the brain influences one's experience of the world and one's behavior in it.
       2. Scientific methods and behavioral neurobiology -All Sections
       Students will identify scientific methods, especially those of cognitive neuroscience, that are valuable in behavioral neurobiology.
       3. Diseases, trauma, drug usage, hormones, and genes -All Sections
       Students will extend concepts and research findings to diseases, trauma, drug usage, hormones, and genes.
    d. **Feedback:** Feedback will be provided by giving students their scores on exams, quizzes, and experiential learning assignments. Written feedback will be given on their experiential learning assignments
    e. **Learning activities:** The type and sequence of learning activities can be observed in the attached syllabus. The neuroimaging assignment will occur in the first half of the semester while we are covering neuroanatomy and neuroimaging methods. The research writing assignment will occur in the second half of the semester when the students will have more experience with behavioral neurobiology topics. This will allow them to select an article that is most relevant to their interests.
    f. **Semester schedule:** I have assigned the exams, quizzes, and experiential learning assignments such that students' effort will be evenly distributed across the semester.
    g. **Syllabus:** See attached
4. I will invite Dr. Higley to attend a lecture during the semester and provide his feedback on the course, I will do the mid-semester and end of semester evaluations.
5. The syllabus for this course is attached.

Course Development Project Grant: PSYCH 381 - Behavioral Neurobiology.

Name, Ph.D.

This proposal is to provide the rationale and justification for funds to develop my course, PSYCH 381 - Behavioral Neurobiology. The ultimate aim of this course are to provide upper-level knowledge on the principles of behavioral neurobiology. One of the most important research tools used to study behavioral neurobiology is magnetic resonance imaging (MRI). At BYU we have a 3 tesla scanner that student have an opportunity to work with and learn from. In my course, each student will need to attend a MRI scan conducted by Dr. Name at the MR Facility. Each student will be provided with a copy of the scan to answer questions, identify the x,y,z coordinates for specific brain regions, and make brain images that highlight specific brain regions.

I am seeking $300 to fund and experiential learning experience involving the MRI scanner. Students will be split into two groups and required to observe 1 of 2 scanning sessions. Two scanning sessions are needed due to limited space in the MRI room. To reserve the scanner for the needed 30 minutes will cost $125 for each scanning session. Funds are also requested to compensate a graduate assistant for the time required to conduct and pre-processes the scans ($50).

These funds will help my student successfully obtain the course outcome objectives to (1) develop their understanding of how the brain influences one's experience of the world and one's behavior in it and (2) identify scientific methods, especially those of cognitive neuroscience, that are valuable in behavioral neurobiology.

Faculty Development Plan-Name, Ph.D.

Scholarship
My research aims to discover the pathophysiology of insomnia and the role of sleep disturbance in risk for psychiatric disorders. To reach these aims, I will conduct secondary analyses on data collected in 4 previously conducted projects:

(1) *The LIFE study.* This project is a multi-site study in older adults who received an assessment of their sleep, cognition, and brain functioning. Magnetic resonance imaging (MRI) scans were conducted using the 7 tesla scanner at the University of Pittsburgh. I previous analyzed these data and found an association between insomnia symptoms and altered functional connectivity in the default mode network. I presented the results of that analysis at the SLEEP 2016 meeting. This is the next manuscript in my lab that will be submitted (by the end of Summer 2017).

(2) *Neuroimaging Insomnia and Insomnia Interventions Study (The N3 Study).* This project is to analyze the positron emission tomography (PET) data collected from patients with insomnia and good sleeper controls over the past 20 years at the University of Pittsburgh. This is a unique dataset. I have obtained a data transfer agreement, signed by the University of Pittsburgh and Brigham Young University, to analyze these data. I have published 1 manuscript in the past year using these data. Another manuscript is currently in revise and resubmit at the journal of Sleep. I am mentoring one undergraduate student on this project. We hope to have many more publications from this project. Our next study will be to determine whether patients with insomnia have different regional metabolic rate for glucose following sleep deprivation than good sleeper controls. I am waiting on data managers at the University of Pittsburgh to transfer the data.

(3) *Sleep, Aging, and Parkinson's Disease: Impact On Cognition and Mood.* This was my dissertation project. I have obtained a data transfer agreement, signed by the University of Florida and Brigham Young University, to analyze and publish these data. My laboratory is currently in the process of reanalyzing the data and preparing manuscripts for publication.

(4) *Sleep in Infant Rhesus Macaques.* These data were collected from infant rhesus monkeys from 1994-2005 at the NIH Primate Research Facility. As a graduate student, I published 1 manuscript with these data on the factor structure of rhesus infant monkeys. I am working with an undergraduate student and Dr. Dee Higley to publish a follow up study on how the serotonergic system relates to daytime sleep in these monkeys. The next step will be to investigate the association between sleep development and temperament in rhesus infants.

I am also collecting new data at Brigham Young University through two projects:

(1) *Multimodal Neuroimaging of Insomnia in Relation to Research Domain Criteria (MNI_RDoC).* I am currently collecting data on an Institution Review Board (IRB) approved study that aims to investigate the pathophysiology of insomnia and its associations with transdiagnostic symptoms of psychiatric disorders.

(2) *Multimodal Neuroimaging of Insomnia during Non-Rapid Eye Movement Sleep (MNI_NREM).* I have obtained a Mentoring Environment Grant Award from Brigham

Young University. This project has been approved by the IRB and we will be collecting data on this project for the next 18 months.

Self-assessment
Strengths:
- Creative
- Intrinsically driven to uncover the mystery of sleep and its role in mental health
- Independent program of research
- Strong mentorship skills

Areas to improve:
- Being able to do research and teach during the semester
- Ability to finish writing up projects more quickly
- Ability to collaborate more effectively with my peers

Goals
- Dedicate at least 1 h per day (Mon-Fri) for writing research papers.
- Produce at least 1 research related document per month (papers, grant, IRB application, etc.)
- Submit 3-6 peer-reviewed papers per year
- Attend the SLEEP conference each year and have at least 1 student present research from my lab.
- Apply for funding, both internally and externally (i.e., Gerontology Grant, Young Investigator Research Grant through the Sleep Research Society, and an NIH research grant) 1 time per year.
- Read one book on how to write more research articles
- Revisit scholarship goals and plan at least once per year

Teaching
I have developed 2 courses during my first year at BYU: PSYCH 111 and PSYCH 310. My student ratings from my first semester of PSYCH 111 were within the average range for the department. During the winter semester my student rating were solidly in the average range of the department and improved .4 points for PSYCH 111 relative to the previous semester. Comments were much more positive too. My goal is to maintain this trend.

Self-assessment
Strengths:
- Ability to connect with and engage students
- Ability to design courses
- Enthusiasm for teaching

Areas to improve:
- Develop thicker skin for negative comments and disrespectful behavior of students
- Incorporate additional activities into lecture classes to enhance student learning

Goals:
- Visit 1 class of my peers per year

- Invite 1 peer to visit my course per year and prove me feedback
- Develop more in-class activities
- Help students feel more comfortable with critical thinking
- Rely less on power point during my lectures
- Read a book on teaching

Citizenship
Self-assessment
So far, I have been on 2 dissertation committees, served as a judge for the Mary Lou Fulton conference, and was the reviewer of the graduate student fellowship applications.
Strengths:
- Consistent attendance at faculty meetings
Areas to improve:
- Getting more involved in the department and college
- Getting involved on the National/International Stage

Goals:
- Get on a department committee
- Be on 4 dissertation committees per year
- Obtain a graduate student
- Peer-review at least 2 manuscripts for every 1 I submit
- Join a sleep-related committee at the national level

Scholarship Strategies Project Proposal

Name, Ph.D.

1. My research aims to discover the pathophysiology of insomnia and the role of sleep disturbance in risk for psychiatric disorders. To reach these aims, I will conduct secondary analyses on data collected in 4 previously conducted projects. I will also reach this goal through my ongoing studies conducted at Brigham Young University.
2. Goal to reach before Feb. 2018
    a. Submit three peer-reviewed manuscripts as the first author from the following projects: (1) The Life Study, (2) Sleep, Aging, and Parkinson's Disease: Impact On Cognition and Mood, and (3) (4) Sleep in Infant Rhesus Macaques.
    b. Submit a session proposal or at least an abstract to the SLEEP meeting (deadline December 2017)
    c. Submit a grant application (i.e., Sleep Research Society or the Gerontology Program)
    d. Read a book on how to write more in research articles
    e. Collect half of the participants for the currently approved projects.
    f. Forge a collaboration with at least 1 new faculty member in the department
3. Strategies:
    a. Daily scheduled writing
    b. Find ways I can more effectively help colleagues use sleep research to answer their research questions
4. My mentor and chair reviewed this project proposal and approve
5. The success of my proposal will be determined by whether I reach the above goals or not.