

10-14-13

Dr. Ji Hong  
Department of Educational Psychology  
Jeannine Rainbolt College of Education  
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Dear Dr. Ji Hong and Search Committee Members,

Please accept this letter and accompanying materials as my application for the tenure-track Assistant Professor of educational psychology position at University of Oklahoma. I am currently a Ph.D. candidate in the Rossier School of Education at the University of Southern California, specializing in educational psychology with my advisor Gale M. Sinatra. I have an active research agenda that focuses on the impact that facilitating out-of-school engagement has on perceived task-value and interest development for diverse students in both K-12 and college contexts. Given your stated needs, I believe my unique knowledge and skills are well matched to this position. For instance, as required I have a demonstrated expertise in teaching educational psychology, experience mentoring graduate students, desire to seek extramural funding, and experience providing service to my university and profession. Further, as preferred in your advertisement, I have an integrative perspective that blends educational psychology, instructional design and technology, experience teaching and developing college level courses, a record of publications and presentations, grant writing experience, and I conduct research in K-12 contexts. Below I outline my research, teaching, and service experience, which I think will match what you are searching for in a colleague.

### **Research Program**

My earliest research endeavors focused on students' understanding of cognitively challenging topics, such as biological evolution. My interest in evolution relates to the motivational and emotional challenges with learning this topic. I have published two studies in *Evolution: Education and Outreach* (Heddy & Nadelson, 2012; 2013) in which I utilized secondary data analysis to explore how variables such as school-life expectancy, GDP per capita, and science literacy impact acceptance and understanding of evolution. This research was very fruitful and I realized that the process of accepting challenging concepts is dynamic and complex. After conducting this research my interest began to focus more specifically. That is, I wanted to explore methods to assist students in navigating the complex process of understanding challenging concepts.

I began to investigate the Teaching for Transformative Experience in Science (TTES) model. TTES is a motivation intervention. The goal of TTES is to implement social cognitive pedagogical techniques to facilitate out-of-school engagement and perceived value with science concepts. My colleagues and I conducted a design-based research study where we developed the TTES model and tested its effectiveness in a middle school science course, which is under review for publication in *Cognition and Instruction* (Pugh, Schmidt, Koski, & Heddy, in revision). I recognized the usefulness of TTES and decided to conduct a study with the intention of exploring its effectiveness for facilitating conceptual change and positive academic emotions when learning a challenging science concept, biological evolution. Indeed, I found that TTES effectively promoted out-of-school engagement, conceptual

change, and enjoyment. This study was published in the highly ranked journal *Science Education* (Heddy & Sinatra, 2013).

I have applied what I have learned from my research on the impact of facilitating out-of-school engagement to educational psychology topics taught in a college success course (Heddy, Sinatra, & Seli, 2013). The course is designed for students who are at risk of failing out of college due to poor academic performance. I found that students in the treatment condition engaged with educational psychology content in their everyday life, experienced increased positive academic emotions, decreased negative emotions, and reported higher levels of interest in the content. I am currently writing this manuscript and will submit it to *College Teaching*. I conducted a follow-up to this study, where I implemented the same instructional technique with the intention of exploring its effect on the development of topic interest and transfer of class content to other classes (Heddy, Sinatra, Seli, & Mukhopadhyay, manuscript in progress). Again, I found that when students engage with content in their everyday experience reported interest increased. Further, students not only transferred content to their everyday experience but to other classes, which is an important goal of college success courses. I am currently writing this manuscript and plan to submit it to *Teaching Educational Psychology*.

Based on my previous research findings I am currently attempting to utilize TTES to generate interest and engagement in STEM in K-12 students. For my dissertation, I am collaborating with a diverse all-girl middle school in Los Angeles to facilitate interest in science through a year long intervention designed to encourage out-of-school engagement. Women are underrepresented in the STEM fields. Furthermore, obtaining STEM degrees has been found to increase upward mobility and socioeconomic status (Melguizo & Wolniak, 2012). To increase interest I have designed and conducted a professional development with three teachers in an attempt to facilitate their effectiveness in promoting out-of-school engagement in their students based on the findings of my previous research (Heddy, Sinatra, & Seli, 2013). Further, I have developed an online platform that allows students to engage in instructor scaffolded discussions related to out-of-school engagement. Parents play an important role in students out-of-school activities. Therefore, working collaboratively with the school's faculty, I have developed a technologically enhanced intervention with the goal of facilitating parental involvement based on prior research (Harackiewicz, Rozek, Hulleman, & Hyde, 2012). In a quasi-experimental study I will explore the impact of out-of-school engagement and parental involvement on interest and identity development related to STEM topics in diverse urban middle school girls.

My future research will include continuing to generate and develop motivation interventions for facilitating diverse and underrepresented student interest in STEM through promoting out-of-school engagement. I believe my research objectives in broadening access to STEM, promoting career interest and identification with STEM in urban youth, well position me to seek extramural funding from NSF and IES. In fact, Dr. Jennifer Husman (Arizona State University), Dr. Gale Sinatra (University of Southern California), and I are in the preliminary stages of conceptualizing an NSF grant on the topic of generating student interest in pursuing STEM careers that we are targeting for NSF's REAL solicitation for 2014. Further, I want to continue to explore and understand the process of engagement as it occurs in everyday life. To achieve this goal I will use methodologies such as experience sampling using technology such as tablets and smart phones. Related, I want to initiate a research lab on the topic of motivation and engagement as it takes place in student's everyday life. The name of my lab will be known as MOVE, or Motivated Out-of-school Value and Engagement. My goal is to fund students to work in my lab with grants. I am passionate about research and will continue to make an impact on practice, policy, and our profession.

## Teaching Experience

The career path that I have followed, as a behavioral instructor in diverse contexts to educational psychology, has strengthened my ability to design effective education programs. I am committed to fostering diverse and culturally-rich environments. For example, I worked as an instructor at an urban residential treatment center for elementary aged students with behavioral and emotional disorders; a position that required me to teach academic content and social skills. I then worked as an after school instructor in inner city Las Vegas where I taught academic content to behaviorally challenged K-12 students. These positions allowed me to pursue my goal of improving the lives of economically and ethnically diverse students.

I have also taught extensively at the collegiate level in positions where I had the opportunity to teach and mentor students in teacher education programs. Further, I taught educational psychology courses in face-to-face and online formats, which adds to my versatility as an instructor. I have also served as a teaching assistant for several doctoral courses including Motivation and Learning Theories. To inform my teaching philosophy I draw on social cognitive theory, constructivism, and expectancy-value theory. My goal as an instructor is to motivate students to become active agents in their own learning by making connections between classroom concepts and out-of-school experience. I truly have the “call to teach” and I would not consider taking a research position that did not afford me the opportunity to teach.

Beyond teaching children and college students, I design and implement professional development (PD) courses for K-12 instructors. For the past two years, I have worked with two middle schools and a high school in Los Angeles. In my professional developments I teach instructors effective methods for motivating their students, particularly in the area of STEM. Social cognitive theory guides the design of my PD in that I model effective instruction and scaffold the teacher’s instruction through structured observations. I have empirically tested the effectiveness of my professional development model and plan to submit it to *The Science Teacher*.

## Service

An important aspect of being an engaged intellectual in an academic career is to provide service. I have provided service to my university as an AERA campus liaison. For this position, I disseminated information about AERA to students in my department. I currently provide service to my community as a member of the I Am Mentor program at the University of Southern California. My task as a member of this program is to help underprivileged inner city high school seniors apply for college. Last, I was elected Chair of the AERA Division C Graduate Student Committee. This position affords me the opportunity to engage in tasks such as design conference sessions, operate social media, and in turn provide service to my profession. As a scholar, I will continue to provide service to my university, community, and profession.

I would welcome the opportunity to further discuss my qualifications for this position. Thank you very much for considering my application. Please feel free to contact me via email at [heddy@usc.edu](mailto:heddy@usc.edu) or phone at 702-466-6255. I look forward to hearing from you.

Sincerely,

