

SOAR Research Proposal Summer 2016

Project Proposal

Title of the Project: Stereotype Analysis of Alternative Medicine Practices

Faculty Mentor Information: Dr. Sarah Johnson, Associate Professor of Psychology

Student Information: Micaela Wilson, Psychology Major

Start Date: 5/16/16- 07/15/16 – Earlier start given a prior commitment of the student to a family vacation spanning from mid-July to the end of August

Length: 10 weeks

Project motivation and description:

The proposed project reflects a shift in my research focus, one that coordinates very well with my student, Micaela's interests. Throughout my time at Moravian, my research has focused on different aspects of semantic memory, aka memory for general knowledge, including inhibitory mechanisms and flexible searching within semantic memory for categories, age differences in associations across pieces of knowledge, and automatic associations, in particular in memory for music. This project will take my research in a new direction, looking at semantic associations that relate to stereotyping—i.e., the connections between pieces of information that underlie our categorization of particular groups of people.

During the time when I was considering making this shift in focus, I met Micaela. She has been a stellar student in three of my Psychology courses, including Cognitive Psychology. She served as student advisor to my FYS course this past fall, which was focused on music, memory, and language. One of the key topics within my FYS, and for the current In-Focus year at Moravian, has been inequality, with particularly strong emphasis on stereotypes (e.g., in the first-year reading, *Twilight*, by Anna Deavere Smith). Through this convergence, I developed an idea that would allow me to begin this shift in my own research, incorporate a substantial opportunity for pedagogical development, and simultaneously appeal to Micaela's academic and professional interests in pursuing a career in Eastern medicine. Her background with me, as described above, makes her a perfect fit for this project, with the following three main goals:

- 1) Begin a program of research using computerized techniques to study reaction times as an implicit measure of the associations in semantic memory that underlie stereotypes.
- 2) Use the techniques above, as well as survey measures, to look at the implicit and explicit attitudes of individuals living in the United States toward Eastern medicine practices such as acupuncture, dermal friction (gua sha), cupping, herbal medicine, etc.
- 3) Explore the possibility of using SuperLab, a computer program for experiment presentation and data collection, as a way of bringing computerized experiment options into a flipped Cognitive Psychology classroom.

Background on the research topic: Stereotyped attitudes can be and are measured via surveys, but these self-report methods can be biased or lack sensitivity due to participants' desire not to be seen as prejudiced (or due to their true lack of awareness of their unconscious biases). For this reason, researchers have for many years worked to refine ways to uncover unconscious (i.e., implicit) attitudes that reflect bias or prejudice. One such measure is the Implicit Association Test (IAT), developed by Greenwald (e.g., Greenwald, McGhee, & Schwartz, 1998). This test uses reaction times to pairs of words and pictures to determine whether the participant has, for example, a stronger association between black individuals and words that relate to "bad" and white individuals and words that relate to "good." Other examples of pairings that the IAT explores are obese individuals with "lazy," older individuals with "incompetent," and males with work-related words/females with family-related words.

This work with the IAT and other similar measures makes use of the general paradigm of semantic priming. The semantic priming effect reveals that reaction times to make decisions about words will be faster if they are preceded by (or co-presented with) words that are strongly associated in the networks that make up semantic memory. Just as in my own research showing that songs within a genre are associatively linked in memory, a widely held theory about stereotypes is that they reflect associatively linked concepts in memory. While this has been supported in research on negative associations based on race (e.g., Todd et al., 2016), gender (e.g., Blair & Banaji, 1996), and even attitudes about health-related behaviors such as smoking (Sherman et al., 2003), there has been no work to date looking at implicit attitudes toward medical practices.

It makes sense to explore these associations for two reasons. First, the building of associations reflects a person's exposure to pairings of concepts. Therefore, stronger associations between concepts results from the extent to which they are presented together in society (e.g., associating women with family/home). Similarly, our society reflects attitudes about medical practices, e.g., through advertisements and news articles. These attitudes that we are exposed to everyday may well support the development of specific associations with Eastern medicine practices, perhaps favoring them as greatly effective or labeling them as fraudulent. The second reason to explore these associations is the relatively recent increase in interest for alternative treatments and practices in modern society (Xue, Zhang, Lin, Da Costa, & Story, 2007). More people are exploring practices like yoga (Clarke et al., 2015) and this mainstreaming may affect attitudes about other alternative practices.

The proposed research will explore attitudes toward Eastern and Western medical practices of young adults, possibly teenagers (pending access for recruitment), older adults, and individuals who already use alternative medical treatments like acupuncture. We will look at both explicit attitudes via self-report survey measures and implicit attitudes via computerized testing, as with the IAT. As part of this latter goal, we will test the feasibility of using a computerized program (SuperLab) via MacBook for a student to create and carry out a research design in a reasonable time frame (as would be necessary to use this in the classroom).

Students' roles and responsibilities: Micaela will be working closely with me, as well as having direct interaction with several specific populations as part of our data collection efforts. The specific objectives for her summer will be as follows:

- 1) Conduct background research in the attitudes of people in the U.S. toward Eastern medicine practices such as acupuncture, and explore measures of explicit attitudes for adaptation in order to study our participants' attitudes toward these medical practices.
- 2) Conduct background research into the use of controlled reaction time experiments for testing implicit attitudes, and learn the procedures for creating an experiment on a laptop via SuperLab (experiment presentation software) to test these implicit attitudes.
- 3) Develop informational materials, based on credible sources that explain several key Eastern medicine practices. These materials may need to be adapted for use with different populations (e.g., adolescents vs. older adults).
- 4) Recruit individuals from several distinct populations to test their attitudes, and to explore possible changes in attitudes following presentation of informational materials.
 - a. College students from summer courses/SOAR – test explicit attitudes via surveys and test implicit attitudes via computerized testing
 - b. Teens (pending a community partner who would provide access, such as a local school, community group, or summer program) – test via surveys only
 - c. Older adults in the community – surveys and possibly computerized testing
 - d. Adult members of the community (from Moravian or the local community) who were raised in countries that regularly employ Eastern medicine practices – surveys and possibly computerized testing
- 5) Prior to data collection, complete the ethical processes appropriate for conducting research with any of the above populations being included. This includes submitting a proposal for approval by the Moravian HSIRB, and as well as following ethical guidelines for approval by any IRBs of organizations involved in recruitment.
- 6) Analyze data for the following:
 - a. Positive changes in attitude following exposure to informational material compared to pre-test attitudes
 - b. Look for differences in attitudes across demographics (notably, country of birth, but potentially other factors as well, e.g., age)
 - c. Look at correlations between explicit (survey) and implicit (controlled reaction-time testing) attitudes toward Eastern medicine
- 7) Final product: In addition to preparing a poster or oral presentation for Scholars Day 2017, Micaela will write an experimental report summarizing her results, with a possible goal being the summary of this research in a magazine or newsletter for practitioners of acupuncture or other Eastern medicine practices. Lastly, she will write a brief lab guide for other students, for use in employing SuperLab in a classroom to allow students to conduct computerized experiments.

Rough timeline:

Week 1-3

- During this period, we will spend considerable time exploring background literature. Micaela will research survey instruments for adaptation for testing explicit attitudes. We will meet regularly to discuss readings and survey development. We hope to complete the survey during this period (note: one version of the survey may be prepared ahead of time for use with initial data collection).
- We will begin exploring the functions of SuperLab, with some simple starter activities as might be used in a classroom.
- We hope to have the IRB proposal for at least some portion of our work submitted prior to the start of our summer work, to allow for initial data collection during this period (potentially with adolescent individuals from the community, who will be easier to recruit prior to the end of their school year, or for interviewing of alternative medicine practitioners). Additional IRB proposals (e.g., for other demographic groups) will be prepared and submitted by the end of this period.
- Micaela will travel to recruit said individuals, as well as to meet with practitioners of alternative practices, such as acupuncture, in the area to hear about their experiences with client (or non-client) attitudes.

Weeks 4-8

- Background readings will continue, focusing on semantic priming and stereotypes, attitude formation and change.
- Micaela will begin programming her priming study using SuperLab, and concurrently will work on preparing the lab guide for use in classes.
- Data collection will primarily take place during this period, necessitating further travel in some cases, although some data collection will occur at Moravian.

Weeks 9-10

- Micaela will finish data collection and work on analysis of results and writing during this period.

Student Statement of Purpose

Title of Project: Stereotype Analysis of Alternative Medicine Practices

Student(s): Micaela Wilson, Psychology Major, stmbw02@moravian.edu

Expected Graduation: December 2016

Faculty: Dr. Sarah Johnson, Associate Professor of Psychology

On-campus housing requested? Yes

Stereotypes are a rampant, focal piece of society that leaves no concept, whether it be gender, race, or health care, untouched. Preconceived notions thus have the profound potential to influence behavior of humans in extreme ways. Alternative or complementary medicine is perhaps one of the most judged facets of health care and therefore, it is not immune to stereotypes.

When I began my undergraduate time at Moravian, I already had a concrete plan of what I wished to accomplish in regards to my career, but no idea what direction to follow for the necessary period spent as an undergrad. I was aiming for the holistic health track, a track that does not currently exist. Therefore, my career at Moravian has included decisions that integrate my studies into an alternative health care mindset. I chose to take yoga classes, biology health based classes, and to focus on psychology as my intended major. These focuses have blended the study of the mind, body, and spirit as efficiently as possible. SOAR thus provides the profound ability to integrate my psychology degree to alternative health care.

The design of the project will allow me to apply all knowledge acquired in my research-oriented under-graduate training to my future career as a licensed acupuncturist. I will be utilizing understanding of psychological statistics as well as maintaining precise research ethics to conduct this study. This research could represent a summative experience in my psychological degree, but also allow me to take a step towards the future as an alternative health care practitioner. The knowledge and understanding found through this specific research will be applied in my future health care practice because it will offer an acute understanding of the stereotypes that exist and what I can do as a practitioner to understand these preconceived notions. My future patients will have preconceived notions of alternative or complementary health care, thus the most efficient way for me to impact my patients is through understanding and acknowledgement of the existing stereotypes.

Additionally, as a future health care practitioner I will have the ability to serve as a representative of my field, whether this be to other academics, colleagues, or even future patients. This inherently means that I must be aware of the preconceived notions that exist. Therefore, to present my intended field to those who are perhaps unaware of the benefits or even dissuaded from the endeavor will require intimate knowledge of preconceived notions. This ability of understanding thus provides the ability for me as a practitioner to appeal to potential clients, but also reach a larger demographic for treatment. Health care is not limited to one particular demographic of people and therefore, alternative medicine should not be either.

As a new focal piece of culture and a growing trend, alternative medicine is often boasted as a complete cure or an option that is considered to be a placebo effect (Xue, Zhang, Lin, Da Costa, & Story, 2007). The extreme differences of understanding that exist in reference to alternative medicine thus beg for a research-based analysis. The stereotypes I expect to find will not simply collect in the negative end of the spectrum, but rather demonstrate an extremely bimodal distribution. Some people will assume that alternative medicine holds immediate cures for diseases and medical concerns that baffle western medicine philosophies. Others degrade alternate medicine as a false, unscientific route for medical treatment. While this research does not aim to assess the legitimacy of alternate types of health care, it does serve to understand what people believe about them.

The project design will also have the benefit of developing a computer program for analysis of stereotypes, a program that will be applied in future Cognitive Psychology classes run by Dr. Sarah Johnson. This program will be of use in her flipped classroom design. Given that I have taken the Cognitive Psychology flipped class I have the ability to not only develop the program from a student's perspective, but to also judge the feasibility against my own experience. As a First Year Seminar Advisor with Dr. Johnson, there was great emphasis of stereotypes in terms of a racial standpoint. The In-Focus theme of the current academic year, Poverty and Inequality, will be highlighted through the application of this research on stereotypes. However, the emphasis of our stereotype analysis this summer will have a different conceptual aim, an aim that holds great importance for the future of holistic healthcare.

Expense Proposal

Title of Project: Stereotype Analysis of Alternative Medicine Practices

Student: Micaela Wilson, Psychology Major, stmbw02@moravian.edu

Expected Graduation: December 2016

Faculty: Dr. Sarah Johnson, Professor of Psychology

We request \$500 dollars to offset various costs of travel and equipment as well as an aid to increase recruitment of participants.

Travel Costs- Travel costs are necessary for the researchers to obtain data from a variety of demographics. A variety of demographics provide the ability for comparison between demographics. This is essential because the comparison of high school students to older adults living in a retirement community could demonstrate the shifting acceptance of alternative medicine and shifting stereotypes. Each participant pool will enhance the understanding of stereotypes that exist, but also provide generalizability. The more demographics explored, the more instructive the data. Travel expenses are estimated based on \$0.54/mile. Potential places of travel are listed- therefore costs are estimates that could potentially increase with the addition of more research. Possible places of travel include Easton Area High School, Phoebe Nursing Home, Local Churches and various Acupuncturists offices. Total cost for site travel is estimated at \$25.00 in total.

SuperLab License – The software for stimulus presentation and response collection has a student license option. Dr. Johnson has her own license, but in order to be able to take the laptop to remote locations and collect data with members of the community, it would be ideal if Micaela had a copy on her laptop. We are going to request a MacBook loaner from CIT so that she is using the same equipment that future students in Cognitive Psychology would have. The student license is prohibitively expensive for Micaela to purchase on her own—if SOAR cannot grant funds, she will share Dr. Johnson's copy (and laptop), which could reduce her research efficiency (i.e., slowing down the data collection process). The total cost of the student software is \$199.00.

Participant Incentives- To encourage participation gift cards will be offered as compensation. According to certain demographics, gift card compensation could be offered as either a raffle option for a larger amount or individually based with a smaller amount. Raffle options for the gift card largely depend on the demographic group but would be approximately \$20 dollars each. Individual gift cards would amount to ~\$5 dollars each. We anticipate recruiting approximately 50-60 participants, with a cost of ~\$280 dollars, including both individual cards and raffled gift cards. This cost assumes that gift cards will be electronically based to eliminate physical fees.

References

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