RAC/WARDEN APPLICATION FOR RESEARCH SUPPORT

Name: **Catie Brown** Date: **9/12/2019**

Are you a Clinical Student? (Y/N) **N** Your e-mail: **catherinebrown@huskers.unl.edu**

Title of Project: **Ambiguous Words Validation**

Is this a project for your MERP or Dissertation (circle one). Other projects may be funded but if funds are limited, MERPs and dissertations will be given priority. **No**

Research compliance (IRB or IACUC) approval status (give date of approval and project number if approval has been completed)* **Approved 1/16/2015. Project #14791**

*Research funds cannot be used for *conducting* research until research compliance has been approved, but proposals can be reviewed while IRB or IACUC approval is pending. In some rare catch-22 cases (e.g., where the IRB will not approve a proposal without seeing a copyrighted test instrument that is to be purchased with requested funds) permission can be granted for reimbursement for such a purchase.

Total Amount Requested ($500 max depending on availability of funds) **$485.10**

List all other funding sources to which you have applied to support this project and indicate the amount, if any, you have been awarded:

Nick Harp received RAC/Warden Spring 2019 - $500 used for pilot study

Please attach a 1-2 page description of the research project that includes a **budget** and a **description and justification of each item in that budget**. Please refer to the documentation of RAC/Warden funding policies for information about items that are not likely to be reimbursed or require specific detailed justification as outlined in the Graduate Handbook

Faculty Sponsor's Signature _____ Your Signature _____

PLEASE SUBMIT *ONE* COPY OF THIS COMPLETED AND SIGNED FORM AND ATTACHMENTS TO JAMIE IN THE PSYCHOLOGY DEPARTMENT OFFICE, 238 BURNETT. WHILE APPLICATIONS FOR RESEARCH SUPPORT MAY BE SUBMITTED AT ANY TIME DURING A FUNDING PERIOD, SUBMISSION BY TRAVEL FORM DEADLINES (Sept 15th, Jan 30th and June 1st) WILL FACILITATE TIMELY CONSIDERATION. NOTE THAT PER WARDEN POLICY, STUDENTS MAY NOT RECEIVE RESEARCH AND TRAVEL FUNDING IN THE SAME PERIOD (e.g., receive both for Sept-Jan) BUT THIS DOES NOT APPLY TO RAC.

Introduction

Emotionally ambiguous stimuli (e.g., surprised facial expressions) are a powerful tool for quantifying emotional biases towards either positivity or negativity; this measurement is known as valence bias. Surprised expressions, like other ambiguous stimuli, predict both positive (e.g., birthday party) and negative (e.g., car accident) events. Previous work shows that individuals differ in their tendency to interpret ambiguous faces (Neta, Norris, & Whalen, 2009), and that this is positively correlated with their interpretations of ambiguous scenes as well (Neta, Kelley, & Whalen, 2013). Differences in interpretation biases are linked to psychopathology, including depression and anxiety (Matthews & MacLeods, 2005), making these a valuable tool for evaluating behavioral variation in healthy populations that may be related to pathological behavior. In the present research, we intend to compare ratings of our newly developed set of ambiguous words (e.g., jam, patient) to ratings of ambiguous scenes and ambiguous facial expressions (e.g., surprise). We predict that valence bias, as measured with faces and scenes, will correlate with biases in the interpretation of ambiguous words.

Completed Pilot Study – Identifying Ambiguous Words

Participants recruited from Amazon's Mechanical Turk (MTurk) were shown a pilot list of 59 ambiguous, 267 positive, and 303 negative words as positive or negative. All words were drawn from existing word banks (Balota et al., 2007; Warriner, Kuperman, & Brysbaert, 2013) and were matched on relevant lexical characteristics. Participants rated each word as positive or negative by pressing either A or L on their keyboard. The resulting data (reaction time and % negative rating) revealed 16 clearly positive words, 16 clearly negative words, and 32 words which were rated as positive by some participants but as negative by others.

Present Study – Validating Ambiguous Words

The present study will compare valence bias (% negative ratings of ambiguity) across stimuli types: faces, scenes, and words. A new group of participants will rate each set of stimuli in a forced-choice paradigm (positive, negative). We predict that those who rate ambiguous faces and scenes more negatively will also interpret ambiguous words more negatively. Additionally, participants will complete the Implicit Positive and Negative Affect Test (IPANAT; Quirin, Kazen, & Kuhl, 2009). This measure asks participants to rate non-words (e.g., tunba, volkov) on both positive and negative dimensions. Including both non-words will allow for us to test the effects of valence bias on ambiguous stimuli with and without prior connotations. Together, these findings will establish the usefulness of ambiguous words as a measure of individuals' biases toward negativity.

Budget

130 complete participants × ($2.59 MTurk payment + $1.08 Gorilla fee) = $477.10
40 ineligible participants (estimate) × $0.20 MTurk payment = $8.00
Total = $485.10

Participants will receive $2.25 for participating in the entire task. Amazon charges a 15% fee for Mturk participants, so the actual cost per participant will be $2.59. We will host the task on an online platform called Gorilla (gorilla.sc), which charges $1.08 per participant. Participants who complete an eligibility screener but are not eligible will receive $0.20 compensation. In our pilot study, 42 out of 145 participants only completed the eligibility screener. We would like to maximize our sample size in order to achieve sufficient power to detect these effects, but also to gather a diverse and representative sample since these stimuli will be used in many future studies.

References

Balota, D. A., Yap, M. J., Hutchison, K. A., Cortese, M. J., Kessler, B., Loftis, B., ... & Treiman, R. (2007). The English lexicon project. *Behavior Research Methods*, *39*(3), 445-459.

Matthews, M., & MacLeod, C. (2005). Cognitive vulnerability to emotional disorders. *Annual Review of Clinical Psychology, 1*(1), 167-195. doi: 10.1146/annurev.clinpsy.1.102803.143916

Neta, M., Kelley, W. M., & Whalen, P. J. (2013). Neural responses to ambiguity involve domain-general and domain-specific emotion processing systems. *Journal of Cognitive Neuroscience*, *25*(4), 547-557.

Neta, M., Norris, C. J., & Whalen, P. J. (2009). Corrugator muscle responses are associated with individual differences in positivity-negativity bias. *Emotion, 9*(5), 640-648. doi: 10.1037/a0016819\

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Warriner, Amy Beth, Victor Kuperman, and Marc Brysbaert. "Norms of valence, arousal, and dominance for 13,915 English lemmas." *Behavior Research Methods* 45.4 (2013): 1191-1207.