

help inform conservation strategies to maximize breeding success and genetic health in the wild populations of this critically endangered species at AENP and throughout southern Africa.

SIBLING SPECIES OR SUBSPECIES? MOLECULAR PHYLOGENETICS OF *NEOTOMA MEXICANA* FOUND SOUTH OF THE ISTHMUS OF TEHUANTEPEC. M. K. Unkefer<sup>1</sup>, R. D. Bradley<sup>2,3</sup>, N. Ordonez-Garza<sup>2</sup>, & C. W. Edwards<sup>1</sup>, <sup>1</sup>College of Science, George Mason University, Fairfax VA 22030, <sup>2</sup>Department of Biological Sciences, Texas Tech University, Lubbock TX, 79409 and <sup>3</sup>Natural Science Research Laboratory, The Museum, Texas Tech University, Lubbock TX 79409. Phylogenetic relationships between members of *Neotoma mexicana* were investigated using standard molecular techniques. Mitochondrial DNA was isolated from tissue samples from 11 woodrat specimens collected from locations south of the Isthmus of Tehuantepec in southern Mexico. Sequences from the mitochondrial DNA cytochrome-*b* gene were amplified and used to elucidate the phylogenetic relationships among select *N. mexicana* subspecies and to verify the subspecific integrity of *N. mexicana* found south of the Isthmus of Tehuantepec. In the future, results from this study will be used to examine phylogenetics of the *N. mexicana* clade and to describe the historical role of the Isthmus of Tehuantepec in the evolution of rodents in North and South America.

### Psychology

ANALYSIS OF EYE TRACKING PATTERNS DURING A SIMULATED LUGGAGE-SCREENING TASK. Ivory B. Miller & Molly Liechty. Dept. of Psychology, Old Dominion University, Norfolk, VA 23508. This study assessed the impact of context in the visual scene on decision-making through a luggage-screening task. It was hypothesized that the participants would implicitly associate the distractor with the target and apply it to their visual search resulting in biased decision-making. 40 undergraduate participants performed a luggage-screening task in which spatial context was manipulated. First, participants were trained using 25 luggage images, each of which contained a target (i.e., knife) and a specific distractor (i.e., iPod). During the post-training session, participants screened 100 bags with a target base rate set at 50%. The bags contained either the distractor and the target (25 bags), the target only (25 bags), the distractor only (25 bags), or neither the distractor nor the target (25 bags). The visual search pattern was investigated through the Eyelink 1000 eye tracking system that recorded dwell time, fixation count, saccade count, saccade amplitude, and scan paths. It was found that when the spatial context of the distractor and target were relatively close, participants appeared to encode the objects together, thereby improving search efficiency. The results suggest that participants utilized relationship between objects in the visual scene to simplify the visual scene.

DOES SIMULATION STYLE MATTER? INFLUENCES OF SIMULATION STYLE ON LUGGAGE SCREENING PERFORMANCE. Rachel R. Phillips, Chelsea Nash & Poornima Madhavan, Dept. of Psychology, Old Dominion University, Norfolk VA 23529. Movement captures attention and, when incorporated into visual presentations, results in altered search patterns. Luggage-screening displays incorporate movement; however, many luggage-screening simulations rely on static image display.

Additionally, luggage-screening simulations tend to differ between research labs. In order to evaluate the impact of simulation style on performance, participants completed a luggage-screening task in which the stimuli were presented for 3 seconds, 9 seconds, or moving across the screen. A series of 2 (block) x 3 (condition) mixed ANOVAs revealed that participants were more likely to detect the target when image presentation times were longer (9 seconds or scrolling) and that participant perceptions of performance ability differed between conditions. These results suggest that simulation style may impact performance outcomes and should, therefore, be considered when designing experiments or comparing results between labs.

THE EFFECTS OF EMOTIONAL AND RACIAL PRIMING ON VISUAL THREAT DETECTION. Michael Padgett, Kimberly E. Culley & Poornima Madhavan, Department of Psychology, Old Dominion University, Norfolk, VA. Previous research has demonstrated that decision-making in risky situations is influenced by affect and biases associated with particular racial or ethnic groups and gender. The present study examined their combined influence in a simulate luggage-screening paradigm. The task was for participants to detect the presence of dangerous objects in x-ray images of passenger luggage. Participants were primed with one of 3 emotions — anger, fear, or sadness,— then viewed a photo of the passenger to whom each luggage item purportedly belonged before making the decision to stop or pass each of 100 bags. The results of the study revealed a significant main effect of affect for both hit rate and false alarm rate. There were no significant differences in hit rate across passengers of different races. However, there was a significant main effect of passenger race on false alarm rate. These findings indicate that affect-based heuristics exert a stronger influence on correct detections than do racial or gender biases, though decision-making performance may be degraded by both affect-based heuristics and social-cognitive biases in terms of false alarms. Generally, the results of this study indicate that affect-based heuristics and biases exert a greater influence on the decision-making processes than do social-cognitive biases relating to race or gender. Training luggage screeners to attend to task-irrelevant emotions may prevent catastrophic failures in hazard detection or chronic hindrance of security processes due to unnecessary detention of passengers.

TESTING THE VALIDITY OF THE ANTICIPATED DSM-5 INHALANT USE DISORDER DIAGNOSIS: AN ITEM RESPONSE THEORY ANALYSIS. Amanda E. Halliburton<sup>1</sup>, Bethany C. Bray<sup>1</sup> & Ty A. Ridenour<sup>2</sup>, <sup>1</sup>Virginia Tech, Department of Psychology and <sup>2</sup>University of Pittsburgh, School of Pharmacy. Inhalants, which usually take the form of legal, inexpensive household chemicals and other substances, are a prevalent substance of misuse in America's preteens and teenagers. Consequences of inhalant use include cardiovascular complications, neurological damage, and kidney or liver failure. However, inhalants have not received the same attention in prevention and treatment efforts as other substances like alcohol, tobacco, and marijuana. The present study sought to compare diagnostic agreement between two measures of inhalant use disorders, the Substance Abuse Module and Schedules for Clinical Assessment in Neuropsychiatry, and to evaluate differences in the DSM-IV inhalant abuse and dependence syndromes versus the proposed DSM-5's inhalant use disorder. The community sample of 162 adolescents and young adults from St. Louis, Missouri

was 66.7% male and 83.3% Caucasian. Results indicated that diagnostic agreement between the two instruments was less than “good” based on weighted kappa. Item response theory analyses suggested that abuse and dependence diagnostic criteria lie on a single dimension, removal of the “legal problems” criterion would not alter item parameters of other criteria, and the proposed “craving” criterion is associated with severe inhalant use disorder. The findings also suggest that inhalant use is better conceptualized on one continuum (as proposed for DSM-5), than as separate abuse/dependence diagnoses (as in DSM-IV). This research was funded by grants from the National Institute on Drug Abuse (R01 15984; P50 10075; T32 017629).

EVALUATING INDIVIDUAL DIFFERENCES IN MOTION RESEARCH. Brittany N. Neilson, J. Christopher Brill, Jessica L. Habermehl & Monique S. Henderson, Department of Psychology, Old Dominion University, Norfolk VA 23529. The purpose of the present investigation is to address the importance of accounting for individual differences in susceptibility when conducting motion research. Motion sickness susceptibility is a multidimensional construct involving, but not limited to, initial sensitivity to motion, rate of adaptation to motion, and the ability to retain motion adaptation long-term (i.e., habituation or desensitization). Additionally, susceptibility to motion sickness presents differently across various forms of motion. Predictors of individual differences in susceptibility have also been identified: Women, greater than 6 years of age, Asian race, and more incidences of motion sickness among biological relatives. Previous research has assessed susceptibility factors using questionnaires to measure previous responses to sickening motion (i.e., motion sickness and simulator sickness/vection), previous responses to mild motion (i.e., sopite syndrome), and perceptual style. Another potential contributor to differences in susceptibility may be psychological processing. Individuals with high motion sickness susceptibility endorse significantly higher levels of trait anxiety. The relationship between trait anxiety and susceptibility to motion sickness should be explored further to determine if anxiety is a significant predictor. Furthermore, it is suggested that susceptibility be assessed in research using multiple measures to either categorize susceptibility groups or measure susceptibility as a covariate. If individual differences are not taken into account, then researchers may fail to find effects that are in fact present.

### **Structural Biology, Biochemistry and Biophysics**

SULFATIDES PARTITION DISABLED-2 IN RESPONSE TO PLATELET ACTIVATION. Karen E. Drahos<sup>1,2</sup>, John D. Welsh<sup>2</sup>, Julia L. Button<sup>2</sup>, Carla V. Finkelstein<sup>2</sup>, & Daniel G. S. Capelluto<sup>1</sup>. <sup>1</sup>Protein Signaling Domains Laboratory, Virginia Polytechnic Institute and State University and <sup>2</sup>Integrated Cellular Responses Laboratory, Virginia Polytechnic Institute and State University. Platelets contact each other at the site of vascular injury to stop bleeding. One negative regulator of platelet aggregation is Disabled-2 (Dab2), which is released to the extracellular surface upon platelet activation. Dab2 inhibits platelet aggregation through its phosphotyrosine-binding (PTB) domain by competing with fibrinogen for  $\alpha$ IIb $\beta$ 3 integrin receptor