Abstracts
of the Psychonomic Society

Volume 21 • November 2016

57TH ANNUAL MEETING

Sheraton Boston Hotel
Boston, Massachusetts
Thursday, November 17-Sunday, November 20, 2016

REGISTRATION

Grand Ballroom Foyer, Sheraton Boston Hotel
Thursday, November 17..... 10:00 a.m.-8:00 p.m.
Friday, November 18..... 7:30 a.m.-6:00 p.m.
Saturday, November 19..... 7:30 a.m.-5:00 p.m.

OPENING SESSION/KEYNOTE ADDRESS

Grand Ballroom, Sheraton Boston Hotel
Thursday, November 17..... 8:00 p.m.-9:30 p.m.

- **Psychonomic Society 2016 Early Career Awards**
- **Psychonomic Society/Women in Cognitive Science Travel and Networking Award for Junior Scientists**
- **Perception and Action in the Wild**
  Roberta Klatzky, Carnegie Mellon University

SYMPOSIA

Grand Ballroom, Sheraton Boston
Friday, November 18..... 10:00 a.m.-12:05 p.m.
Model-Based Cognitive Neuroscience

Friday, November 18..... 1:30 p.m.-3:30 p.m.
Motivated Memory: Considering the Functional Role of Memory

Saturday, November 19... 10:00 a.m.-12:00 noon
Language by Mouth and by Hand

Saturday, November 19..... 1:30 p.m.-3:30 p.m.
The Evolutionary and Psychological Significance of Play
From the Psychonomic Society's Leading Edge Workshop initiative
In honor of Stanley J. Kuczaj, II

POSTER SESSIONS

Hynes Ballroom B, Hynes Convention Center
Session I
Thursday, November 17..... 6:00 p.m.-7:30 p.m.
Session II
Friday, November 18..... 12:00 noon-1:30 p.m.
Session III
Friday, November 18..... 6:00 p.m.-7:30 p.m.
Session IV
Saturday, November 19..... 12:00 noon-1:30 p.m.
Session V
Saturday, November 19..... 6:00 p.m.-7:30 p.m.

BUSINESS MEETING

Liberty Ballroom B, Sheraton Boston Hotel
Saturday, November 19..... 5:10 p.m.-6:00 p.m.

- **Presentation of the Psychonomic Society 2016 Clifford T. Morgan Best Article Awards**
- **Business of the Psychonomic Society**

FUTURE MEETINGS

2017 – Vancouver, BC – November 9-12
2018 – New Orleans, LA – November 15-18
2019 – Montréal, QC – November 14-17
2020 – Austin, TX – November 19-22
2021 – San Diego, CA – November 18-21
2022 – Washington, DC – November 17-20

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that might not be successful. Is it possible to make retrieval practice easier without decreasing learning? In Experiment 1, participants attempted retrieval with no hint (e.g., idea: _____), a 2-letter hint (e.g., idea: s____r), or a 4-letter hint (e.g., idea: se__er). Effort during practice varied, but performance on the final test did not. (Learning was worse in a restudy control condition, e.g., idea: seeker.) These results contradict the hypothesis that during retrieval, more effort causes more learning. In Experiment 2, each trial asked participants to choose one of the four conditions from Experiment 1. They chose the 4-letter hint condition almost five times as often as the two other test conditions combined. In short, hints motivated people to self-test, thus improving their self-regulated study, without any downside for learning.
Email: Nate Kornell, nkornell@gmail.com

10:20-10:35 (325)

Central Stage-Specific Mechanisms of Desirable Difficulty Effects. SCOTT WATTER and MELISSA J. PTOK, *McMaster University*, SANDRA J. THOMSON, *St. Thomas University*, KARIN R. HUMPHREYS, *McMaster University* — The "desirable difficulty" effect is described where increased difficulty during initial task performance leads to better later memory. Most studies have conceptualized "difficulty" as a task-general property. From stage processing models of single and dual-task performance, we propose that memory-enhancing difficulty manipulations should strongly depend on inducing additional selective attention/cognitive control at particular processing stages, relative to what the later memory test is testing for. Across several experiments, we demonstrate priming and interference effects using congruency prime manipulations at different stages of information processing. Inducing difficulty via semantic incongruency priming (semantic categorization stage) improves later memory for these stimuli (the "desirable difficulty" effect). In contrast, inducing difficulty via response incongruency priming (response selection stage) produces worse memory (typical dual task interference effect). We discuss a single simple model of limited-capacity cognitive control allocation that accounts for and predicts where and when desirable difficulty effects will occur.
Email: Scott Watter, watter@mcmaster.ca

10:40-10:55 (326)

Spacing and Adaptive Learning: Common Principles Across Item Learning and Perceptual Learning. PHILIP J. KELLMAN, CHRISTINE M. MASSEY and EVERETT METTLER, *University of California, Los Angeles* — Adaptive methods that tend to optimize spacing in item learning also tend to do so in perceptual category learning (Mettler & Kellman, 2014). Given that underlying mechanisms likely differ, this is puzzling. We propose that 1) despite differing mechanisms, in both domains an underlying variable of learning strength is decisive for optimal spacing. We also suggest 2) a "successful effort hypothesis" that generalizes the "retrieval difficulty hypothesis" (Bjork, 1994; Pyc & Rawson, 2009), such that successful responding with low learning strength most benefits learning. We describe experiments with adaptive methods that use accuracy and RT in ongoing assessments of learning strength. Results suggest that performance generated by adaptive spacing in the successful effort framework is unlikely to be matched by any predetermined spacing scheme. The successful effort hypothesis may be general in that 1) it pools the effects of numerous learning variables, and 2) it applies across different mechanisms of learning.
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11:00-11:15 (327)

Automatic Effects of Instructions Do Not Necessarily Reflect the Implementation of an Action Plan. BAPTIST LIEFOOGHE and JAN DE HOUWER, *Ghent University* — In recent years an increasing amount of research focused on the dynamics underlying the translation of (verbal) instructions into actions. This issue has in part been investigated by focusing on automatic effects of instructions, which supposedly offer an index of the processes underlying the implementation of novel instructions. It is a well-replicated finding that newly instructed Stimulus-Response (S–R) mappings, which have never been executed overtly before, can lead to automatic response-congruency effects. Overall, instruction-based congruency effects have been taken as evidence for the hypothesis that merely instructed S-R mappings can be implemented into an action plan and this without any form of overt practice. The present study challenges this hypothesis by demonstrating that instruction-based congruency effects can be induced even in the absence of an action plan. A series of experiments shows that maintaining instructed S-R mappings for future recall, rather than for future application also leads to instruction-based congruency effects. The implications for current accounts on the implementation of instructions is discussed.
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11:20-11:35 (328)

Learning and Transfer of Calorie Information. ERICA L. WOHLDMANN and KATIE ALEGRIA, *California State University, Northridge* — Seeding improves learning and transfer of quantitative information (Brown & Siegler, 1996). Contrary to the generation effect, Wohldmann (2013; 2015) found no advantage of seeding over viewing calories, but both resulted in greater learning and transfer than a no-calorie control condition. The present study explored forgetting. During familiarization, participants were shown food items, one at a time, and made calorie estimates. During training, those in the seeding condition generated estimates before receiving feedback. Participants in the viewing condition were provided with calorie information. Those in the no-calorie condition were shown only the name of each item. During immediate testing, participants estimated calories for both old and new items, then returned one week later to repeat the test. The seeding and viewing conditions performed significantly better on both tests than the control condition, with no advantage for seeding, even after a 1-week delay. The applications to policy will be discussed.
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