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News from the field

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ATTENTION

Attention Capture

Gaspelin, N., Leonard, C. J., & Luck, S. J. (2015). Direct evidence for active suppression of salient-but-irrelevant sensory inputs. *Psychological Science*, *26*(*11*), 1740–1750. doi: 10.1177/0956797615597913

The debate over whether visual singletons automatically capture attention or capture attention contingent on an observer's current goals has received considerable attention (no pun intended!) over the past 25 years. Part of the issue is the use of different paradigms, with some results consistent with stimulus-driven theories and others consistent with goal-driven theories. A possible resolution to the debate is: visual singletons generate a salience signal that **may** capture attention (consistent with stimulus-driven theories), which can be suppressed by current intentions (consistent with goal-driven theories). To examine this *signal-suppression hypothesis* (Sawaki & Luck, 2010; *AP&P*), Gaspelin et al. developed a capture-probe task, in which subjects searched for a target in a visual display that could include a color singleton distractor. On 70 % of trials subjects located the target and responded whether a dot was on the left or right. On the other 30 % of trials probe letters appeared on each object in the display and observers were asked to report as many letters as possible. The authors reasoned that if the color singleton captured attention, observers would report the letter in the singleton more accurately than letters in nonsingletons, but if observers suppressed the salience signal from the singleton, they would report the letter in the color singleton less accurately. When observers adopted a singleton search mode (Exp. 1), they found RTs were slower when the color singleton was present and found more probe letters at the color singleton were recalled than at nonsingleton locations. However, when observers adopted a feature search mode (Exps. 2–4), not only did the color singleton fail to slow responding, observers also recalled less letters at the color singleton than at nonsingleton locations, suggesting the singleton was suppressed. The results and the signal-suppression hypothesis may offer a resolution to the stimulus-driven/goal-driven debate that has persisted for so long.–Bryan R Burnham

CONFERENCES

Psychonomics in the Windy City

The Psychonomic Society Annual Meeting, 2015, Chicago, IL

The premier event of the year for members of the Psychonomic Society is our annual convention. This year's jam-packed conference took place in Chicago from November 19–22. It is worth noting, for readers who are not members of the society, that whereas one doesn't need to be a member to attend the annual meeting, an interested non-member attendee should probably join first. Registration and a conference program are both free for members and while the registration fee for this year's meeting was $75 for non-member PhDs and graduate students (free for undergrads) annual dues are less than $75 for almost everyone.

The scientific content of the annual meeting is typically about one quarter oral presentations and three quarters posters. Poster sessions take place on Thursday, Friday and Saturday evenings and Friday and Saturday at lunchtime. Talks (all 15 minutes plus 5 minutes for questions) begin Friday morning and run until about noon on Sunday. A scientific highlight of the event is the keynote which this year was given by Asher Koriat ("*On knowing that you know - and its foundations*"). Social events (both formal and informal) abound and there are several satellite conferences. The meeting covers a broad swath of topics in experimental psychology - if I listed them I would use up the word count allowed for this piece. The interested reader is referred to this year's program.

One thing that impressed me, as one who has been attending meetings for about 40 years, was the large number of presentations (~90) under the headings "Human Learning and Instruction," "Test-Potentiated (New) Learning" and a symposium entitled "Enhancing Education through Cognitive Psychology". In 2008 there were 7 presentations, all in one session entitled "Cognition and Education". Why the change? I wonder if we can attribute this in part to the exciting keynote given by Roddy Roediger at the Boston meeting in 2009. Entitled: "*The Critical Role of Retrieval in Enhancing Long-Term memory: From the Laboratory to the Classroom*" I believe Roediger's talk was a game changer. To be sure, it was also reflecting a growing interest among members of the society in this topic as in 2009 there were 41 presentations on the topic, a big increase from the year before. However, in the last 3 years that number has more than doubled to about 90. Time will tell if Koriat's illuminating discussion of meta-cognition will have a similar impact. Next year's meeting will return to Boston.—Raymond Klein

Koriat, A. (2015). *On knowing that you know - and its foundations*. Presentation at The Psychonomic Society Annual Meeting, Chicago, IL.

Roediger, H.L. (2009). *The critical role of retrieval in enhancing long-term memory: From the laboratory to the classroom.* Presentation at The Psychonomic Society Annual Meeting, Boston, MA.

Development

Developing Theory of Mind and Lying

Ding, X., Wellman, H.M., Wang, Y., Fu, G., & Lee, K. (2015). Theory-of-Mind training causes honest young children to lie. *Psychological Science*, 26(11), 1812–1821 DOI: 10.1177/0956797615604628

One of my favorite classroom demonstrations involving my children is in illustrating how theory of mind (ToM) develops as children age. To do so, I have one child stay in the classroom while the others are in the hallway. I show that child a box of microwave popcorn and ask them what they think is in the box. They of course guess popcorn. Then I show them that inside are actually marshmallows and they grin in surprise. Then I ask what their siblings in the hallway will think is in the box. If they have not yet developed ToM, and are thus not able to place themselves in their siblings' shoes, the will say marshmallows. I never considered that once they had developed the ability to realize their siblings would think it was popcorn, they were also pretty good liars.

A new study in Psych Science demonstrates a causal relationship between developing theory of mind (ToM) and lying. The authors divided a group of 3 year olds (who lack ToM due to their age) into one group that received ToM training and a control group. Before the six sessions of training all children were given a pretest to assess their ability and propensity to lie. This pretest required that children lie to the experimenter about where a piece of candy was hidden if they were going to get the candy. All the 3 year olds included in the study were unwilling or unable to lie and did not get the candy. During the ToM training the children learned to reason about various mental states across different situations. Two weeks later after ToM training, the 3 year olds lied in the same game on average 60 % of the time. This is compared to the control group, which lied less than 20 % of the time. Over one month following the last day of training, both the experimental and control group kids were lying more than in the initial posttest, but the experimental group was still lying significantly more than the control group. This study is an interesting causal manipulation of what was previously only a correlational relationship between the development of ToM and the beginning of young children's lying behavior. I'm headed home to do the popcorn task with our youngest son to see if he's still pure of heart. –Ashleigh Maxcey.