



Exponent[®]
Engineering & Scientific Consulting

Emily Skow, Ph.D.

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Professional Profile

Dr. Skow specializes in work related to human cognition and information processing, perception, attention, memory, and child development. She has done work examining the relevant cognitive, attentional, and perceptual factors in safety-related surveillance tasks; this expertise can be applied to tasks such as lifeguarding, medical image reading, driving, aviation, and military/security intelligence gathering. She has studied and published on the visual search demands and limitations associated with lifeguarding specifically. She also has expertise in perceptual organization, particularly with respect to the optimal layout of a computer display or on-product information. This knowledge has been applied to investigate human factors issues relating to the conspicuity of visually presented information, consumer product instructions, and warning effectiveness. She has developed and evaluated the adequacy of warnings, instructions, and safety information across a variety of consumer products.

Dr. Skow also applies expertise in perception and memory to issues surrounding eyewitness testimony and memory distortion.

Dr. Skow has more than 15 years of experience as a researcher specializing in the design, execution, and analysis of human subject studies and has employed a variety of empirical methods and statistical techniques; for example, utilizing instrumented equipment to measure eye gaze and techniques to appropriately document visibility under nighttime conditions. She has performed product usability studies and examined the interactions of both children and adult users with a variety of products in a range of environments in order to understand those interactions in terms of human capabilities and limitations and the implications on product design. A significant portion of her work addresses issues surround children's safety, including supervision-related practices, the unique contribution of development to specific accident patterns, and the regulations associated with children's products. She utilizes large-scale injury and accident databases collected by governmental agencies to help identify injury patterns and perform hazard and risk analysis for products.

Prior to joining Exponent, Dr. Skow earned her Ph.D. at the University of Arizona, with a focus on cognition and neural systems. Her dissertation work investigated the role of learning and memory in visual search tasks. After graduate school, Dr. Skow accepted an academic appointment at Simpson College where she taught courses and supervised research in cognition, cognitive neuroscience, memory, perception, and research methodology and statistics. She also served on the steering committee for the Iowa Teachers of Psychology.

Since joining Exponent, Dr. Skow has performed human factors analyses and product development evaluations for a variety of consumer products. She has investigated human factors issues in accidents, including motor vehicle, slips/trips and falls, consumer product usage, and aquatics.

Academic Credentials & Professional Honors

Ph.D., Psychology, University of Arizona, 2007

M.A., Psychology, University of Arizona, 2003

B.A., Psychology and Theology, University of Notre Dame, magna cum laude, 2000

Injury Prevention Research Center Grant, Development of a Validated Video Library for Studying Perceptual Challenges of Lifeguard Surveillance, 2011

American Postdoctoral Fellow, American Association of University Women, University of Iowa, 2012

APA Dissertation Award, 2007

Licenses and Certifications

PADI Certified Open Water Scuba Diver

Certified Playground Safety Inspector

Academic Appointments

Assistant Professor, Psychology, Simpson College, 2008-2012

Professional Affiliations

Vision Sciences Society

American Psychological Society

Human Factors Ergonomics Society

Publications

Lanagan-Leitzel L, Skow E, Moore C. Great expectations: Perceptual challenges of visual surveillance in lifeguarding. *Applied Cognitive Psychology* 2015; 29:425-435.

Peterson MA, Skow E. Inhibitory competition between shape properties in figure-ground perception. *Journal of Experimental Psychology: Human Perception and Performance* 2008; 34:251-267.

Peterson MA, Skow-Grant E. Memory and learning in figure-ground perception. In: *Cognitive Vision: Psychology of Learning and Motivation*. Ross B, Irwin D (eds) 2003; 42:1-34.

Gibson B, Li L, Skow E, Brown K, Cooke L. Searching for one versus two identical targets: When visual search has a memory. *Psychological Science* 2000; 11:324-327.

Presentations and Published Abstracts

Lanagan-Leitzel LK, Skow E, Moore CM. Great expectations: Perceptual challenges of visual surveillance in lifeguarding. Paper presented at the Annual Psychonomics Society Meeting, abstract 1007, November 2012.

Skow E, Moore CM. Visual surveillance: The effect of delayed target onset in a change detection task.

Paper presented at the Annual Vision Sciences Society Meeting, Naples FL, May 2012. Abstract published in Journal of Vision 2012; 12:730.

Moore CM, Skow E, Lanagan-Leitzel LK, Attarha M. Severe loss of instantaneous information in a dynamic visual surveillance task. Paper presented at the Annual Psychonomics Society Meeting, abstract 105, November 2011.

Skow E. The limits of intuition: Monty hall and probability. Paper presented at the Iowa Teaching of Psychology Meeting, Pella, IA, November 2009.

Skow E, Peterson MA. Identity, location, and direction can be learned quickly in repeated search. Paper presented at the Annual Vision Sciences Society Meeting, Sarasota, FL. Abstract published in Journal of Vision 2007; 7:1058.

Skow E, Peterson MA. Competing action memories can produce the appearance of memoryfree visual search. Paper presented at the Annual Vision Sciences Society Meeting, Sarasota, FL. Abstract published in Journal of Vision 2005; 5:418.

Peterson MA, Skow E. Intermediate level medium-span configurations can mediate past experience effects on figure assignment. Paper presented at the Annual Vision Sciences Society Meeting. Abstract published in Journal of Vision 2005; 5:217.

Skow-Grant E, Peterson MA. Past experience in figural assignment: Partial configurations are sufficient. Paper presented at the Annual Vision Sciences Society Meeting, Sarasota, FL. Abstract published in Journal of Vision 2004; 4:725.

Skow-Grant E, Rauschenberger R, Peterson MA. Attention, not inhibition of return, tracks objects. Paper presented at the 11th Annual Workshop on Object Perception, Attention, and Memory, Vancouver, Canada, November 2003.

Skow-Grant E, Peterson MA. Where has object-based IOR gone? Paper presented at the Annual Vision Sciences Society Meeting, Sarasota, FL. Abstract published in Journal of Vision 2003; 3:FR131.

Skow Grant E, Lampignano DW, Kim JH, Peterson MA. Tests of a competitive interactive model of figure assignment. Paper presented at the Annual Vision Sciences Society Meeting, Sarasota, FL. Abstract published in Journal of Vision 2002; 2:475.

Other Articles

Cades DM, Skow E, Brinkerhoff RS. Understanding the effects of mobile technology on walking and driving. Article in the Michigan Defense Trial Counsel E-Letter; Volume 7, No. 2. 2016.

Cades DM, Brinkerhoff RS, Skow E. Understanding the changing nature of walking and driving. Feature Article in the Iowa Defense Counsel Association Defense Update Summer 2016; Volume XVIII, No. 3.

Cades DM, Arndt, SR, Sala, JB, Krauss, DA. What you need to know about the distracted driver. Feature Article in The Illinois Association of Defense Trial Counsel Quarterly 2013; 23(4).

Peer Reviewer

Reviewer for Psychological Science

Reviewer for Attention, Perception & Psychophysics

Reviewer for Psychonomic Bulletin & Review

Reviewer for Perception

Reviewer for Human Factors Ergonomic Society

Reviewer for Quarterly Journal of Experimental Psychology

Text Book Consultant

Oxford University Press, Cognition

Worth Publishers, Sensation and Perception by Steven Yantis