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Engineering & Scientific Consulting

Shane Davis, Ph.D.

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Professional Profile

Dr. Davis is an experimental psychologist with expertise in attention, decision making, and visual and auditory perception. Their work focuses on understanding factors that can impact decision making in safety-critical contexts, including distraction and perceptual impairment.

Dr. Davis has over eight years of experience conducting rigorous empirical human subjects research using diverse methodologies to address complex research questions about human behavior, cognition, and perception. In addition to designing and carrying out empirical studies, their skillset also includes analysis and presentation of results to diverse audiences both academic and professional. Since joining Exponent, they have applied their expertise to projects involving driver distraction, vehicle automation, product safety, and warning compliance.

Prior to joining Exponent, Dr. Davis earned their Ph.D. in Experimental Psychology, with an emphasis in Human Factors, from the University of Idaho. Their research work was focused on injury prevention and how people make decisions in safety-critical contexts such as pedestrian crossings. They spearheaded development of a state-of-the-art virtual reality pedestrian crossing simulator for conducting controlled laboratory studies of human behavior in road crossing scenarios, an apparatus they used for their dissertation research which focused on how conditions of visual impairment affect pedestrian decision making. In addition to their primary doctoral research, they also worked on projects examining human performance in domains including low-altitude flight and power plant process control.

Academic Credentials & Professional Honors

Ph.D., Experimental Psychology, University of Idaho, 2021

M.S., Experimental Psychology, University of Idaho, 2016

B.S., Psychology, Southern Oregon University, 2013

Academic Appointments

Lecturer, Psychology, Washington State University, 2020-2021

Prior Experience

Lecturer, Psychology, Washington State University, 2020-2021

Graduate Research Assistant, Palouse Injury Research Laboratory, 2014-2021

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Graduate Research Assistant, Idaho Visual Performance Laboratory, 2014-2016

Professional Affiliations

American Society of Safety Professionals, 2021-present

Human Factors and Ergonomics Society, 2021-present

Publications

Davis SJ, Scully ID, Hoyos C, Denga R, Cades D. Human Factors of Automated Vehicles. In: Forensic Aspects of Driver Perception and Response. 5th Edition. Krauss D (ed), Tucson, AZ: Lawyers and Judges Publishing Company, Inc., 2025.

Scully ID, Davis, SJ, Shlanta, P., Yanes, J.A., Michaelis, K., Cades, D.M. Looking back on forward collision warnings: A review of perception response time from empirical studies. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. 2024: Advance Online Publication.

Davis SJ, Denga R, Shlanta P, Cades DM. Understanding overdriving: Human factors considerations in heavy vehicle headlight visibility and stopping distance. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. 2023 Oct; 67(1):1316-1321. doi:10.1177/21695067231194340

Davis SJ, Barton BK, Pugliese BJ, Lopez G. The Influences of Listening and Speaking on Pedestrians' Assessments of Approaching Vehicles. Transportation Research Part F: Traffic Psychology and Behaviour. 2021; 82:348-358.

Barton BK, Davis SJ, Pugliese BJ. A Risk Appraisal Framework for Injury Etiology. Health Promotion Practice. 2021.

Pugliese BJ, Barton BK, Davis SJ, Lopez G. Assessing Pedestrian Safety Across Modalities Via a Simulated Vehicle Time-to-Arrival Task. Accident Analysis & Prevention. 2020; 134:105344.

Davis SJ, Pugliese BJ, Barton BK. The Intersection of Pedestrian Safety and Multimodal Perception. Transportation Research Part F: Traffic Psychology and Behaviour. 2019; 67:205-216.

Barton BK, Shen J, Stavrinos D, Davis SJ. Developmental Aspects of Unintentional Injury Prevention Among Youth: Implications For Practice. American Journal of Lifestyle Medicine. 2019; 13(6):565-73.

Davis SJ, Barton BK. Effects of Secondary Tasks on Auditory Detection and Crossing Thresholds in Relation to Approaching Vehicle Noises. Accident Analysis and Prevention. 2017; 98:287-294.

Smith D, Cooke JD, Couch C, Davis SJ. Anger Management During Adolescence. In Gullotta, T. P., & Bloom, M. (Eds.). Encyclopedia of Primary Prevention and Health Promotion. 2014; Springer Publisher.

Presentations

Davis SJ, Lopez G, Neff S, Barton BK. Effects of Secondary Task Processing Stage on Auditory Detection and Crossing Thresholds in Relation to Approaching Vehicle Noises. Presented at the Human Factors and Ergonomics Society's 2017 International Annual Meeting, Austin, TX, 2017.

Wilson AG, Davis SJ, Krause M. Hemispheric Lateralization Underlying Cognitive Mechanisms in Paranormal Belief, Presented at the 93rd Annual Convention of the Western Psychological Association, Reno, NV, 2013.