

Exponent®
Engineering & Scientific Consulting

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Professional Profile

Ben Lester, Ph.D., is a principal scientist in the Human Factors practice at Exponent. He has over 10 years of experience in technical litigation support and the application of human factors to accident analysis and product liability, specializing in consumer decision-making, product labeling and warning evaluations, driver behavior, pedestrian safety, and distracted driving investigations across consumer products and transportation industries.

Human Factors Expert Witness Support and Testimony Experience

Dr. Lester has been qualified as a human factors expert and offered testimony in state and federal courts on various human factors topics including, but not limited to, visibility and conspicuity, inattention and distraction, driver behavior, heavy trucking, industrial equipment operation, pedestrian safety and behavior, micromobility technologies, premises liability, warnings and product liability, and class action certification and merits.

Product Liability and Class Action Litigation

Dr. Lester's product liability expertise focuses on an approach to class action litigation that examines consumer decision-making processes through the cognitive mechanisms that drive consumers to make purchase decisions in the marketplace. Dr. Lester has applied this method to matters related to automobiles, financial services, agricultural products, food and beverage, cosmetics, tools and hardware, and cleaning products.

Consumer Product Labels and Warnings Analysis

Dr. Lester has investigated allegations involving the adequacy of warnings, instructions, and safety communications for consumer, commercial, and industrial products in the context of product liability litigation. He has assessed whether warning design, content, placement, and communication were likely to influence user decision-making and reduce the probability of misuse or injury. Dr. Lester has also developed warnings and instructions for numerous consumer products, including user testing of warning comprehension using surveys, focus groups, and real-world product interactions.

Transportation Research and Consulting

Dr. Lester conducts human-subject testing to assess product use and user opinions for various products in automotive environments. He incorporates elements of experimental design, state-of-the-art data acquisition and analysis techniques, psychophysics, questionnaires, and observational techniques to conduct comprehensive evaluations of automotive environments and vehicle technologies. This includes

research on behalf of the U.S. Department of Transportation (DOT) and the National Highway Traffic Safety Administration (NHTSA).

Education and Prior Experience

Dr. Lester completed his Ph.D. at the University of Oregon, where he studied visual perception, attention, and spatial processing. Following graduate school, he completed postdoctoral training at the University of Iowa Hospitals and Clinics, in the Division of Neuroergonomics in the Department of Neurology, where he studied aging, vision and attention, and driver behavior in simulated and naturalistic environments.

Academic Credentials & Professional Honors

Ph.D., Psychology, University of Oregon, 2013

M.S., Psychology, University of Oregon, 2009

B.A., Psychology, University of Iowa, 2007

Post-doctoral Research Scholar, Department of Neurology, University of Iowa Hospitals & Clinics, 2013-2015

Graduate Fellowship, Institute of Neuroscience: Systems Physiology Training Program #5 (T32 GM007257-33), National Institutes of Health, 2009-2010

Professional Affiliations

Human Factors and Ergonomics Society

The Psychonomic Society

Publications

Nave-Blodgett, J. E., Evans, M. J., Colling, K. M., & Lester, B. D. "Drivers' Perceptions, Understanding, and Real-World Use of Regenerative Braking and One-Pedal Driving in Electric Vehicles." In Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Sage CA: Los Angeles, CA: SAGE Publications.

Colling KM, Nave-Blodgett JE, Yerkes BD, Lester BD. (2025). Organic and non-organic consumer knowledge, values, and information seeking behavior. Proceedings of the 69th HFES International Annual Meeting

Monk C, Sall R, Lester BD, Higgins JS. (2023). Visual and cognitive demands of manual and Voice-based driving mode implementations on smartphones. Accident Analysis & Prevention, 187, 107033.

Lester B, Larson R, Dosch I, Fowler G, Rauschenberger R. (2020, July). Perception of Terrain Slope in Real and Virtual Environments. In International Conference on Applied Human Factors and Ergonomics (pp. 197-203). Springer, Cham.

Krake A, Jonas R, Hoyos C, Crump C, Lester B, Cades D, Harrington R. (2020). Effects of Training on Learning and Use of an Adaptive Cruise Control System (No. 2020-01-1033). SAE Technical Paper.

Hoyos C, Lester BD, Crump C, Cades DM, Young, D. 2018. Consumer perceptions, understanding, and expectations of Advanced Driver Assistance Systems (ADAS) and vehicle automation. In Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2018 Sept; 62(1):1888-1892, Sage CA: Los Angeles, CA: SAGE Publications.

Lester BD, Vatterott DB, Vecera SP. Attention and Processing Speed. The Wiley Handbook on the Aging Mind and Brain 2018; 337-361.

Lester BD, Vecera SP. Active Listening delays attentional disengagement and saccadic eye movements. Psychonomic Bulletin & Review 2017; 1-7.

Hashish R, Toney-Bolger ME, Sharpe SS, Lester BD, Mulliken A. Texting during stair negotiation and implications for fall risk. Gait & Posture 2017; 58:409-414.

Cades DM, Crump C, Lester BD, Young D. Driver distraction and advanced vehicle assistive systems (ADAS): Investigating effects on driver behavior. 7th International Conference on Applied Human Factors and Ergonomics (AHFE 2016) and Affiliated Conferences; 4th International Conference on Human Factors in Transportation. 2016.

Moorman HG, Niles A, Crump C, Krake A, Lester BD, Milan L, Cloninger C, Cades DM, Young D. Lane-keeping behavior and cognitive load with use of lane departure warning. SAE Technical Paper 2017-01-1407, 2017, doi:10.4271/2017-01-1407.

Crump C, Krake A, Lester BD, Moorman HG, Cades DM, Young D. Driver behavior with passive and active vehicle safety system. Proceedings of the Transportation Review Board 2017 Annual Meeting.

Cades DM, Crump C, Lester BD, Reed S, Barakat B, Milan L, Young D. Differing perceptions of advanced driver assistance systems (ADAS). Proceedings of the Human Factors and Ergonomics Society Annual Meeting 2016 Sept; 58(1):265-269.

Kim R, Lester BD, Schwark J, Cades D, Hashish R, Moorman H, Young D. Gaze behavior during curb approach: the effect of mobile device use while walking. Human Factors & Ergonomics Society, 2016.

Lester BD, Hashish R, Kim R, Moorman H, Hildebrand E, Schwark J, Rauschenberger R, Young D. Mobile device usage influences gaze patterns to obstacles during locomotion. The Industrial & Systems Engineering Research Conference, 2016.

Lester BD, Sager LN, Dawson J, Hacker SD, Aksan N, Rizzo M, Kitazaki S. Pilot results on forward collision warning system effectiveness in older drivers. 8th International Driving Symposium on Human Factors in Driving Assessment, Training and Vehicle Design, 2015.

Lester BD, Hacker SD, Vecera S, Rizzo M. Serialization of behavior during car following in aging drivers. 8th International Driving Symposium on Human Factors in Driving Assessment, Training and Vehicle Design, 2015.

Aksan N, Sager L, Lester BD, Hacker S, Dawson J, Anderson SW, Rizzo M. Effectiveness of a heads-up adaptive lane deviation warning system for middle-aged and older adults. 8th International Driving Symposium on Human Factors in Driving Assessment, Training and Vehicle Design, 2015.

Dassonvile P, Lester BD, Reed SA. An allocentric exception confirms an egocentric rule: A comment on Taghizadeh and Gail (2014). Frontiers in Human Neuroscience 2014; 8:942. doi: 10.3389/fnhum.2014.000942.

Lester BD, Dassonville P. The role of the right superior parietal lobule in processing visual context for the establishment of the egocentric reference frame. Journal of Cognitive Neuroscience 2014; 26:2201-2209. doi: 10.1162/jocn_a_00636.

Lester BD, Dassonville P. Shifts of visuospatial attention do not cause the spatial distortions of the Roelofs effect. Journal of Vision 2013; 13:1-15. doi: 10.1167/13.12.4.

Lester BD, Dassonville P. Attentional control settings modulate susceptibility to the induced Roelofs effect. Attention, Perception & Psychophysics 2011; 73:1398-1406. doi: 10.3758/s13414-011-0123-9.

Lester BD, Vecera, S. Visual prior entry for foreground figures. Psychonomic Bulletin & Review 2009; 16:654-659. doi: 37.3758/PBR16.4.654.

Presentations

Lester BD. Defining the role of the driver with increasing vehicle autonomy. Autonomous Vehicle Safety Regulation World Congress, Novi, MI, 2016.

Hashish R, Lester BD, Koehring J, Mulliken AD, Perlmutter S, Young D. Texting affects gait metrics associated with slips, trips, and falls. The Industrial & Systems Engineering Research Conference, 2016.

Lester BD, Vecera S, Rizzo M. Brain aging increases the "stickiness" of attention. Annual Meeting of the American Neurological Association, 2014.

Lester BD, Vecera S. Attentional disengagement becomes "sticky" during active listening. Object Perception, Attention, and Memory, 2014.

Lester BD, Vecera S, Rizzo M. Executive functioning can mediate age-related changes in oculomotor attentional disengagement. Vision Sciences Society Annual Meeting, 2014.

Lester BD, Reed S, Dassonville P. Susceptibility to surround suppression is modulated by a single factor the systemizing trait of autism. Vision Science Society Annual Meeting, 2012.

Lester BD, Hacker SD, Vecera S, Rizzo M. Increasing attentional adhesion - occupying executive working memory delays visuospatial attentional disengagement. Object Perception, Attention, and Memory, 2013.

Lester BD, Dassonville P. TMS reveals a right parietal role in processing visuospatial contextual information in a perceptual illusion. Cognitive Science Association for Interdisciplinary Learning, 2011.

Lester BD, Dassonville P. The modulation of illusion susceptibility by TMS in right SPL demonstrates its role in the processing of global, but not local, contextual information. Vision Science Society Annual Meeting, 2011.

Lester BD, Dassonville. TMS reveals a right parietal role in processing visuospatial contextual information in a perceptual illusion. University of Oregon Graduate Research Forum, 2011.

Lester BD, Drew T, Vogel EK. Electrophysiological evidence of suppression of irrelevant information in visual working memory. Vision Science Society Annual Meeting, 2010.

Lester BD, Dassonville P. TMS reveals a right parietal role in processing visuospatial contextual information in a perceptual illusion. Society for Neuroscience Annual Meeting, 2010.

Lester BD, Dassonville P. Asymmetric visual displays cause the induced Roelofs illusion, not spatial shifts of attention. Cognitive Science Association for Interactive Learning Annual Meeting 2009.

Lester BD, Dassonville P. Attentional filtering modulates the induced Roelofs effect, but shifts of attention do not cause it. Vision Science Society Annual Meeting, 2009.

Lester BD, Dassonville P. Attentional capture modulates the induced Roelofs effect. Cognitive Science Association for Interactive Learning Annual Meeting, 2008.

Lester BD, Hecht LN, Vecera SP. Visual prior entry for foreground figures. Object Perception, Attention, and Memory, 2007.

Project Experience

Consumer Understanding and Decision-Making

- Investigated consumer understanding of food labeling claims and motivations for purchase.
- Assessed consumer understanding and perceptions of vehicle automation and in-vehicle safety systems.
- Examined the impact of various types of information disclosures on vehicle purchase behavior and consumer understanding.

Driver Behavior Research

- Investigated driver understanding and behavior with one-pedal driving and regenerative braking technologies.
- Tested driver behavior across numerous vehicle control domains including gear shifting, steering and braking, and transmission performance.
- Performed large-scale study examining driver monitoring assistance technologies in passenger vehicles.
- Evaluated driver behavior and understanding of several advanced driver assistance systems (ADAS) using naturalistic on-road testing.

Pedestrian Behavior

- Examined the impact of mobile device use, inattention, and distraction on human gait, locomotion, and eye movements.
- Analyzed the impact of distraction on pedestrian navigation of various types of obstacles in the environment.

Peer Reviews

Attention, Perception & Psychophysics

Psychological Science

Consciousness & Cognition

Journal of Clinical and Experimental Neuropsychology

Neuroscience Letters

Journal of Alzheimer's Disease

Traffic Injury Prevention