Exponent®
Engineering & Scientific Consulting

Allegra Ayala, Ph.D.

Senior Scientist | Human Factors
Washington DC
+1-202-772-4935 | aayala@exponent.com

Professional Profile

Dr. Ayala is a Human Factors Psychologist with a background in driver perception and behavior. Her expertise allows for analysis covering a wide range of human factors issues, such as driver perception and behavior, visual perception, safety information, and warnings. She has experience with a variety of classic psychology experimental techniques, as well as driving simulation, eye tracking, and physiological measures (e.g., heart rate). Prior to joining Exponent, Dr. Ayala received her Ph.D. from George Mason University's Human Factors & Applied Cognition program. Her prior research has covered areas such as driver interaction with autonomous vehicles, driver-monitoring systems, distracted driving, drowsy driving, and driver vigilance. During this time, she was awarded the Dwight D. Eisenhower Transportation Fellowship Program as well as a university Summer Research Fellowship. Dr. Ayala also taught courses in Human Factors and Cognitive Psychology at the undergraduate level.

Academic Credentials & Professional Honors

Ph.D., Human Factors & Applied Cognition, George Mason University, 2024

M.A., Human Factors & Applied Cognition, George Mason University, 2022

B.S., Psychology, Old Dominion University, 2019

George Mason University Summer Research Fellowship, 2024

George Mason University Outstanding Graduate Student Instructor, 2024

Dwight D. Eisenhower Transportation Fellowship Program, 2021

Academic Appointments

Lecturer, Psychology, George Mason University, 2022-2024

Prior Experience

Graduate Research Assistant, George Mason University, 2019-2024

Professional Affiliations

Human Factors and Ergonomics Society

© 2026 Exponent, Inc. All Rights Reserved

Publications

Monk C, Ayala A, Yu CSP, Fitch GM, Gruber D. (2026) Visual and cognitive demands of a large language model-powered in-vehicle conversational agent. arXiv preprint arXiv:2601.15034.

Ayala, A. M. & Lee, Y.-C. (2022). Parent opinions of automated vehicles and young driver mobility. In A. Sarwat, A. Khalid, & AKhan (Eds.), Smart Mobility - Recent Advances, New Perspectives and Applications. IntechOpen. https://doi.org/10.5772/intechopen.105531

Presentations

Ayala, A. M. & Lee, Y.-C. (2024, January). Early findings of a meta-analysis on the effectiveness of cell phone law. Presentation, Discussions Advancing Research in Transportation Safety, Washington, D.C.

Ayala, A. M., Hickerson, K., Lettie, H., & Lee, Y.-C. (2022). The impact of peer influence on parent willingness to transport children in autonomous vehicles. Poster presentation, Proceedings of the 2022 International Annual Meeting of Human Factors and Ergonomics Society, Atlanta, GA.

Ayala, A. M. & Lee, Y.-C. (2021). The effect of emotion and vehicle-to-infrastructure communication on driver perception of autonomous vehicles. Poster presentation, Proceedings of the 2021 International Annual Meeting of Human Factors and Ergonomics Society, Baltimore, MD.

Ayala, A.M., & Lee, Y.-C. (2021). Autonomous vehicles, children's mobility, and family perspective. Poster presentation, Proceedings of the 2021 International Annual Meeting of Human Factors and Ergonomics Society, Baltimore, MD.

Andersson, L., Ayala, A. M., Chan, S., Hickerson, K., Kettle, L., Malcein, L. A., and Lee, Y.-C. (2021). User experience and analysis of an autonomous shuttle service. Poster presentation, Proceedings of 7th International Conference on Vehicle Technology and Intelligent Transport Systems.

Ayala, A. M. & Lee, Y.-C. (2020). Parent's willingness to transport children in autonomous vehicles based on seating requirements. Poster presentation, Proceedings of the Transportation Research Board, 100th Annual Meeting.