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Engineering & Scientific Consulting

Phillip Jasper, Ph.D.

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Professional Profile

Dr. Jasper has a degree in Human Factors Psychology with a background in attention, information processing, human performance, and behavioral science. Dr. Jasper applies his expertise to the research and development of consumer products, as well as the analysis of human factors issues related to premises liability, consumer product usage and warnings, and motor vehicle incidents.

Dr. Jasper specializes in product development with an emphasis on product design, user testing, health and safety, and evaluation of marketing claims. He has in-depth knowledge of user experience research methodologies and human factors principles, with applications in domains such as wearable health and activity monitors, user interfaces (e.g., websites and mobile devices), head mounted displays (e.g., virtual/mixed/augmented reality devices), and personal grooming and hygiene products. He has considerable experience conducting usability testing and investigations of device use and adoption ranging from small- to large-scale evaluations.

Dr. Jasper received a Ph.D. in Human Factors Psychology and an M.S. in Applied Psychology from Clemson University. During his graduate work, Dr. Jasper conducted research using psychophysiological recordings and eye tracking to assess workload and attention among unmanned aerial vehicle operators, providing insights to inform the design of command-and-control stations and optimize team role organization. Additionally, he evaluated the effectiveness of a wearable energy intake monitor and visual environmental cues supporting behavior change.

Academic Credentials & Professional Honors

Ph.D., Human Factors Psychology, Clemson University, 2017

M.S., Applied Psychology, Clemson University, 2014

B.A., Psychology, Clemson University, 2012

Academic Appointments

Graduate Instructor of Record, Psychology, Clemson University, 2012-2014

Prior Experience

Graduate Research Assistant, Clemson University, 2012-2017

Professional Affiliations

Human Factors Ergonomics Society

Publications

Jasper, P. W., James, M. T., Hoover, A. W., & Muth, E. R. (2015). Effects of bite count feedback from a wearable device and goal setting on consumption in young adults. Journal of the Academy of Nutrition and Dietetics. Vol. 116, 1785-1793.

Sharma, S., Jasper, P., Muth, E., & Hoover, A. (2016). Automatic detection of periods of eating using wrist motion tracking. IEEE First Conference on Connected Health: Applications, Systems and Engineering Technologies.

Sibley, C. M.., Coyne, J. T., Doddi, A., & Jasper, P. W. (2015). Pupillary response as an indicator of processing demands within a supervisory control simulation environment. Proceedings of the 18th International Symposium on Aviation Psychology, Dayton, OH.

Jasper, P. W., Hoover, A., & Muth, E. R. (2015). Determining the utility of a laboratory eating paradigm to explore social eating. Proceedings of the Human Factors Ergonomics Society, Los Angeles, CA.

Jasper, P. W., Sibley, C. M., & Coyne, J. T. (2015). Using heart rate variability to assess operator mental workload in a command and control simulation of multiple unmanned aerial vehicles. Proceedings of the Human Factors Ergonomics Society, Los Angeles, CA.

Presentations

An Evaluation of a Wrist Motion Tracking Algorithm to Detect Eating Activities on 408 People. Poster presentation, IEEE International Conference on Biomedical and Health Informatics, 2018.

Using Heart Rate Variability to Asses Operator Mental Workload in a Command and Control Simulation of Multiple Unmanned Aerial Vehicles. Poster presentation, Human Factors and Ergonomics Society, Los Angeles, 2015.

Determining the Utility of a Laboratory Eating Paradigm to Explore Social Eating. Post presentation, Human Factors and Ergonomics Society, Los Angeles, 2015.

Exploration into Human Factors. Invited Speaker, Dr. Gilles O. Einstein, Furman University, Greenville, SC, 2015.

Invited Presenter, Clemson Biomedical Design Expo, Greenville, SC, 2015.

The Effect of Target Bite Count and Plate Size on Food Intake. Poster presentation, Psychosomatic Society, Savannah, GA, 2015.

Using the Bite Counter to Overcome the Effect of Plate Size on Food Intake. Poster presentation, The Obesity Society, Boston, MA, 2014.

Compliance with Wearing and Using a Wrist Worn Eating Activity Monitor during a Twelve Week Study. Poster presentation, The Obesity Society, Atlanta, GA, 2013.

Using the Bite Counter Device to Measure Energy Intake in Overweight African Americans. Poster presentation, American College of Sports Medicine Conference, San Francisco, CA, 2012.

Project Experience

Designed and executed multiple studies examining the usability and user experience of virtual reality systems. Collected quantitative and qualitative data and provided findings and design considerations to clients.
Designed and executed a multiphase study of fire extinguisher usage. Collected biometric and naturalistic behavioral data to inform the design of future products with the aim of leveraging users' physical capabilities while mitigating costly, unnecessary behaviors.
Designed and built a command and control platform for unmanned aerial vehicles to assess operator performance during a supervisory control task. Analyzed performance outcomes and physiological data (heart rate variability, pupillary response, and respiration) and presented findings to commanding officers and program managers at Department of Defense (DoD).

Lead study designer and coordinator for multiple eHealth and mHealth projects, including a National Institutes of Health (NIH) funded study of 500 free-living humans wearing activity monitors to create an algorithm for automated detection of eating activity to be used in a wearable energy intake monitor. Responsible for each phase of applied research including literature reviews, institutional review board application, study design, data acquisition, analysis, and write-up and publication.

Lead user experience (UX) designer for a start-up company. Responsible for mission development and market identification. Identified needs via user interviews. Led product design and ideation sessions. Conducted focus groups and user testing sessions. Continually presented findings and design recommendations to founding partners.

Peer Reviews

Perception and Performance Technical Group, Human Factors Ergonomics Society Conference