

GRACE TEO

12312 Golden Knight Cir, Apt 303, Orlando, FL 32817 | (H) 407-247-0596 | grace.wl.teo@gmail.com

Professional Summary

- Possesses a strong theoretical foundation as well as practical experience in the fields of Human Factors Psychology and Industrial/Organizational Psychology.
- Has over 10 years' experience in the assessment of various psychological constructs (e.g., workload and stress, usability, engagement, individual differences, abilities, competencies), and the analyses of tasks and job positions.
- Demonstrated competence in research methods and experimental design, statistical analyses, and report writing.
- A detailed-oriented and an analytical thinker familiar with both theory- and data-driven approaches to understanding human behavior.
- A self-motivated learner who is proficient in a variety of statistical and data mining software, with some experience in programming.
- A result-oriented project lead and a team player with strong communication skills who has worked effectively in multi-disciplinary teams.

Work History

Graduate Researcher

2008 to present

Institute for Simulation & Training, University of Central Florida, USA

Major Research Projects:

A. Understanding human performance and workload in human-robot teams.

Led a project to develop a closed-loop system based on physiological measures to manage workload in a human-robot team using a computer-based simulation. Used theory-driven and data-mining methodologies to model workload to derive a physiological index to drive adaptive aiding in the context of human-robot teaming.

B. Decision making processes and measures

Led a project to develop a "serious game" to assess decision making using virtual simulation. Conceptualized a new decision making measure using a dynamic game platform involving simulated scenarios. Conducted a study on the psychometric qualities and validity of the assessment instrument.

C. Vigilance performance

Co-designed a research study funded by the Air Force Research Laboratory (AFRL) to investigate the individual differences in vigilance, as well as a study funded by the Army Research Institute (ARI) on vigilance training using a video-game platform. Collected data and worked with the principal investigator to analyze data and interpret the results. Co-wrote project updates and technical reports.

D. Physiological markers of perceived workload, performance, and stress

Was in the core research team working with a variety of physiological measures, including electroencephalogram (EEG), electrocardiogram (ECG), functional near-infrared imaging (fNIR), transcranial doppler ultrasonography (TCD) and eye-tracking in the assessment of perceived workload in a variety of tasks.

Graduate Intern

Summer 2013

Commercial Training Solutions, Orlando, USA

Contributed to consultancy activities by conducting literature reviews for client presentations by senior management. Areas of review involved:

- Principles in designing user interfaces
- Using simulations in training
- How fatal incidents occur
- The role of simulations and serious games in managing stress and fatigue

Graduate Teaching Assistant/Associate

2008 to 2012

University of Central Florida, USA

Classes Taught:

- Statistical Methods in Psychology
- Research Methods in Psychology
- Advanced Research Methods
- Cognitive Psychology
- Psychology of Aging
- History and Systems of Psychology

Research Scientist

2005 to 2008

Defence Science Organization, Singapore

Major Research Projects:

A. Effects of repeated caffeine dosing on cognition during sleep deprivation

Led a S\$500,000 project funded by the Ministry of Defence that examined the use of caffeine as a nutraceutical aid to enhance vigilance during a 64-hour period of sleep deprivation. Co-designed the study and performance metrics, organized and conducted the trials. Analyzed the data and co-wrote the technical reports which were submitted to the Republic of Singapore Army.

B. Effects of new technology on cognitive performance

Was in the core team that conceptualized and conducted a study that investigated the usability of a head-mounted, monocular device for Soldiers, and its effects on attention and cognitive performance.

C. Cybersecurity and the mental processes of systems administrators

Was a key contributor in a team that examined computer security and cyber warfare. Analyzed the tasks of a system administrator and assessed the mental models, decision making styles and risk-taking behaviors associated with cybersecurity.

Psychologist/Senior Psychologist

1996 to 2005

Civil Service College/Public Service Division, Singapore

Major Areas:

A. Personnel selection and assessment

Conducted selection and assessment of personnel and government scholars through the use of different methodologies (e.g. psychometric assessment instruments, interviews and simulation exercises). Performed job analyses and competency profiling of various positions in the civil service. Assessed candidates in assessment center exercises, in-depth interviews, aptitude tests and personality inventories, and wrote candidate reports. Worked with a team to conceptualize and design assessment exercises for an assessment center for front-line-managers. Researched into norms, validity of instruments and effectiveness of selection processes.

B. People development and leadership research

Conducting one-to-one feedback sessions with 360-degree feedback, personality and emotional intelligence instruments targeted at senior, middle-managers, and executives. Delivered workshops (e.g. structured interview, stress management, self-awareness) to adults and students. Developed a student development program for college-bound students, as well as a competency gap instrument for use in self-development and training. Conducted research into leadership frameworks and measures.

C. Organizational surveys

Developed tools to assess innovation climate and general staff opinion for the diagnoses and evaluation of organizational climate and systems. Involved in the design, implementation, analyses and presentation of results to senior management.

Freelance Consultant/Assessor **2007**

BMW (Performance Motors), Singapore

Co-assessed customer service advisors' competencies in customer satisfaction, leadership, interpersonal communication etc., in an assessment center.

Part-time Tutor in Psychology **2000 - 2004**

Open University, Singapore Institute of Management, Singapore

Taught the Introduction to Psychology course to adult learners.

Education (selected classes listed)

Ph.D. - Applied Experimental & Human Factors Psychology **2013 to present**

University of Central Florida

- Human Factors I, II, III
- Human Performance
- Advanced Research Methods I, II, III
- Psychometrics

M.A. - Applied Experimental & Human Factors Psychology (GPA: 3.9) **2008 to 2013**

University of Central Florida

- Human Cognition and Learning
- Applied Research Methods
- Latent Variable Modeling
- Nonparametric Statistics

Grantsmanship certificate **2015**

University of Central Florida

- Research Funding and Sponsors
- Proposal Writing

- Collaboration
- Proposal and Budget Development

SAS Data Mining certificate

2011 to 2013

University of Central Florida

- Advanced Processing of Data
- Data Preparation
- Data Mining I & II
- Statistical Analyses

Design for Usability certificate

2012

University of Central Florida

- Usability Engineering
- Human-Computer Interaction
- Ergonomics
- Experimental Design & Taguchi Methods

Graduate Teaching certificate

2009

University of Central Florida

- Syllabus Development
- Pedagogy
- Assessment Methodologies
- Classroom Management

Bachelor of Science - Psychology (Honors)

1992 to 1996

National University of Singapore

Professional Activities

- Attended and presented at the Department of Defense Human Factors Engineering Technical Advisory Group (DoD HFE TAG) Meeting in Orlando (2015).
- Co-delivered a seminar on stress-coping mechanisms in the ACTIVE lab seminar series (2014).
- Delivered a seminar on data preparation and repeated measures ANOVA with SPSS in the ACTIVE lab seminar series (2013).
- Reviewer for the Human Factors and Ergonomics Society Annual Meeting. Individual Difference in Performance Technical Group (2012).
- Reviewer for the Human Factors and Ergonomics Society Annual Meeting. Individual Difference in Performance Technical Group (2011).
- Member of the Human Factors Ergonomics Society
- Member of the APA Graduate Student Society
- Attended and presented at the 58th Human Factors and Ergonomics Society Meeting, Chicago, IL (2014).
- Attended and presented at the 57th Human Factors and Ergonomics Society Meeting, San Diego, CA (2013).
- Attended and presented at the 56th Human Factors and Ergonomics Society Meeting, Boston, MA (2012).
- Attended and presented at the 55th Human Factors and Ergonomics Society Meeting, Las Vegas, NV (2011).
- Attended and presented at the 54th Human Factors and Ergonomics Society Meeting, San Francisco, CA (2010).

- Attended the Biennial Industrial and Organizational Psychology conference in Melbourne, Australia (1997).
- Collaborative Institutional Training Initiative (CITI) certification for the conducting of human research (2011 & 2014).
- Trained in the use and interpretation of occupational tests leading to a British Psychological Society (BPS) Level A certificate in Occupational Psychology.
- Trained in the use and interpretation of personality tests for leading to a British Psychological Society (BPS) Level B (intermediate) certificate in Occupational Testing.
- Trained by Saville and Holdsworth (SHL) in the use and interpretation of the Occupational Personality Questionnaire.
- Trained by ASE in the use and interpretation of the 1 Personality Factors Questionnaire.
- Trained in the use and interpretation of the NEO-PIR & NEO-Five Factor Inventory.

Publications, Presentations & Technical Reports

Teo, G., Szalma, J.L, Schmidt, T.N., & Hancock, P.A. (revised manuscript submitted). Training for vigilance on the move: The effects of feedback type and observer characteristics. *Journal of Experimental Psychology: Applied*.

Teo, G., Reinerman-Jones, L.E., Matthews, G., & Szalma, J.L. (2015). Comparison of measures used to assess the workload of monitoring an unmanned system in a simulation mission. Invited submission to the *6th International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences*, Las Vegas, NV.

Teo, G., Reinerman-Jones, L.E., Matthews, G. (2015). Augmenting robot behaviors using physiological measures of workload state. Invited address at the Department of Defense Human Factors Engineering Technical Advisory Group (DoD HFE TAG) Meeting.

Teo, G., Schmidt, T.N., Szalma, J.L, Hancock, G.M., & Hancock, P.A. (2014). The Effects of Feedback in Vigilance Training on Performance, Workload, Stress and Coping. *Proceedings of the 58th Human Factors and Ergonomics Society Meeting, Chicago, IL*.

Teo, G., Reinerman-Jones, L., Barber, D., Hudson, I. (2014). Determining Language for Human-to-Robot Navigational Commands. *Proceedings of the 58th Human Factors and Ergonomics Society Meeting, Chicago, IL*.

Teo, G., & Reinerman-Jones, L. (2014). Robot Behavior for Enhanced Human Performance and Workload. *Virtual, Augmented & Mixed Reality: Designing & Developing Virtual & Augmented Environments*, 117. doi:10.1007/978-3-319-07458-0_12

Szalma, J.L., Schmidt, T., **Teo, G.**, & Hancock, P.A. (2014). Vigilance on the move: Video-game-based measurement of sustained attention. *Ergonomics*, 57, 9, 1315-1336.

Szalma, J.L., **Teo, G.**, Schmidt, T., & Hancock, P.A. (2013). *Training for Vigilance in a Game-based Environment: A Test of a Vigilance Training Module for IED Detection*. Technical Report to the Army Research Institute for the Behavioral Sciences: Performance Research Laboratory, UCF.

Teo, G., Schmidt, T.N., Szalma, J.L., Hancock, G.M., Hancock, P.A. (2013) The effects of feedback in vigilance training on performance, workload, stress and coping. *Proceedings of the 57th Human Factors and Ergonomics Society Meeting, San Diego, CA*.

Teo, G., Hancock, G.M., Schmidt, T.N., Szalma, J.L., Hancock, P.A. (2012) The effects of knowledge of results on vigilance training. Presented at the *120th Annual Convention of the American Psychological Association, Orlando, FL*.

Teo, G., Schmidt, T.N., Szalma, J.L., Hancock, G.M., & Hancock, P.A. (2012.) The effect of knowledge of results for training vigilance in a video game-based environment. *Proceedings of the 56th Human Factors and Ergonomics Society Meeting, Boston, MA*.

Teo, G., Szalma, J.L, Schmidt, T.N., Hancock, G.M., & Hancock, P.A. (2012). Developing a dynamic vigilance task: methodological issues and proposals. *Proceedings of the 56th Human Factors and Ergonomics Society Meeting, Boston, MA*.

Schmidt, T.N., **Teo, G.**, Szalma, J.L., Hancock, G.M., & Hancock, P.A. (2012) The effect of video game play on performance in a vigilance task. *Proceedings of the 56th Human Factors and Ergonomics Society Meeting, Boston, MA*.

Szalma, J. L. & **Teo, G.W.L.** (2012). Spatial and temporal task characteristics as stress: A test of the dynamic adaptability theory of stress, workload, and performance. *Acta Psychologica*, 139, 3, 471-485.

Schmidt, T. N., **Teo, G. W. L.**, Hancock, G. M., Szalma, J. L., & Hancock, P. A. (2012). *IED detection under alerted conditions in a videogame based environment using a two-alternative forced choice task*. Poster session presented at the meeting of the American Psychological Association, Orlando, FL.

Schmidt, T. N., **Teo, G. W. L.**, Hancock, G. M., Szalma, J. L., & Hancock, P. A. (2012). *Event rate through a dynamic videogame environment in a vigilance task*. Poster session presented at the meeting of the American Psychological Association, Orlando, FL.

Szalma, J.L., **Teo, G.**, & Schmidt, T. (2011). *Individual differences in sustained attention: Identifying operators with superior vigilance*. Unpublished Report to Air Force Research Laboratory. Wright-Patterson AFB: Performance Research Laboratory, UCF.

Teo, G. & Szalma, J.L. (2011). The effects of task type and source complexity on vigilance performance, workload, and stress. *Proceedings of the 55th Human Factors and Ergonomics Society Meeting, Las Vegas, NV.*

Szalma, J.L., **Teo, G.W.L.**, Hancock, P.A., & Murphy, J.S. (2011). Knowledge of results and diagnostic power: implications for vigilance training to support improvised explosive device detection. *Proceedings of the 55th Human Factors and Ergonomics Society Meeting, Las Vegas, NV.*

Teo, G.W.L., Szalma, J.L. & Schmidt, T.N. (2011). The predicting performance, subjective states, and coping strategy in a vigilance task: the role of individual differences. *Proceedings of the 55th Human Factors and Ergonomics Society Meeting, Las Vegas, NV.*

Sawyer, B.D., **Teo, G.**, & Mouloua, M. (2011) NHTSA ESV Student Design Contest On-Site Presentation, Orlando, FL.

Sawyer, B.D., **Teo, G.**, & Mouloua, M. (2011) DriveID: NHTSA ESV Student Design Finalist Presentation, Washington DC.

Teo, G., & Szalma, J. (2010). The effect of spatial and temporal task characteristics on performance, workload and stress. *Proceedings of the 54th Human Factors and Ergonomics Society Meeting, San Francisco, CA.*

Szalma, J. **Teo, G.** (2010). The joint effect of task characteristics and neuroticism on the performance, workload and stress of signal detection. *Proceedings of the 54th Human Factors and Ergonomics Society Meeting, San Francisco, CA.*

Seng, K.Y., **Teo, G.**, Lim, F., Fun, D., & Law, L. (2010). Interrelations between plasma caffeine concentrations and neurobehavioural effects in healthy volunteers: model analysis using NONMEM. *Biopharmaceutics & Drug Disposition*, 31(5-6), 316-330.

Chang W.C., Wong W.K., **Teo G.**, Fam A. (1997). The Motivation to Achieve in Singapore: In Search of a Core Construct. *Personality and Individual Differences*, 23(5), 885-895.

Software/Application Experience

- Microsoft Office Suite
- SPSS
- SAS
- SAS Enterprise Miner
- R
- Python
- Minitab
- LISREL
- Superlab
- Qualtrics

- Survey Monkey
- Virtual Battle Space 2 (VBS2)

Language Proficiency

- Fluent in written and spoken English
- Moderately proficient in Mandarin

Service

- Volunteered at the Florida Children's Hospital/Ronald McDonald House
- Volunteered at Give Kids the World