JOHN RICHARD SCHUMACHER

Phone ..... (952) 807 - 7145
Email ..... John.R.Schumacher@ttu.edu
Website ..... john-schumacher.github.io

OBJECTIVE

Passionate researcher with expertise in experimental design and causal statistical inference modeling seeking a quantitative researcher/scientist (e.g., Data, UX) internship/position.

EDUCATION

Ph.D. - Experimental Psychology: Cognition & Cognitive Neuroscience
Texas Tech University
Dissertation Topic: The effects of cognitions on self-paced reading of moral vignettes.
Advisor: Dr. Roman Taraban
GPA: 4.0

M.A. - Experimental Psychology: Cognition
Texas Tech University | 2014

B.S. - Psychology
Colorado State University | 2012

INTERNSHIP

TTU UX Research Internship

Application Development & Support | 2020 - Ongoing

Responsibilities: Collaboratively work with software engineers and other professionals on improving the TTU on-premise SharePoint user experience. Initial responsibilities are the discovery and exploration of areas of improvement. Later, I will work on the design and evaluation of usability improvements. Employed methods include expert reviews, cognitive

CONSULTING

TTU Research & Statistical Consultant

Psychological Sciences | 2017 - 2018

Graduate School | 2019 - Ongoing

Responsibilities: Assist graduate students and faculty with research questions pertaining to experimental design, procedures, statistical modeling, and interpretation of results.

RELEVANT COURSES TAUGHT

- **Experimental Design/ANOVA** (Graduate Lab)
- **Hierarchical Linear Modeling/ Multilevel Modeling** (Graduate Lab)
- **Categorical Data Analysis** (Graduate Lab)
- **Statistical Methods** (Undergraduate Course & Lab)
- **Research Methods** (Undergraduate Lab)

SELECTED PROJECTS

Using Cluster Analysis & ANOVA to Determine Types of NBA PLAYERS and Their Effectiveness

- Ran hierarchical cluster analysis on player stats. 5 groups were found. Players were then grouped into five categories using K-means cluster analysis. Small forwards and guards clustered together; point guards, centers, and power forwards formed distinct clusters; and cluster 5 consisted of players from all positions. Using these groups as the IV, an ANOVA was run on 0-1 Euclidean scores, derived from the game stats. From this, the power forward and point guard groups were found to be the most productive.

Determining Global Study Strategies and Their Effectiveness of Engineering Students

*Nominated for Best Paper at ASEE Conference

- Worked as the lead analyst on a multi-department study aimed at unearthing global study strategies of engineering students. Survey data that probed study strategy use of students in engineering courses was assessed. First, performed Categorical EFA on 1/2 of the data. This indicated 3 factors best described the data. Next, the results were confirmed with a CFA using the other 1/2 of the data. Last, path analyses and regressions were run to determine which of the 3 study strategy factors are predictive of course grades.

Refining the ESPN Mobile App Fantasy Football Free Agent Acquisition Process

- Determined strengths and pain points of ESPN's player transaction process, employing talk-aloud and surveys. From this, a prototype was created and tested against the original application using paper prototypes task analyses. Data included survey responses, recorded voices, # of errors, and completion time. Qualitative and quantitative (e.g., descriptive & inferential) methods were used to determine the benefits of the prototype over ESPN's original design.

SELECTED PUBLICATIONS & PRESENTATIONS

Schumacher, J.R., Akers, E., & Taraban, R. (2016, April 1). Unskilled and Unaware: A Metacognitive Bias [Web blog post]. https://www.improvewithmetacognition.com/unskilled-unaware-metacognitive-bias/

Schumacher, J. R., & Levulis, S. J. (2016, June). The Relationship between State-wide Handheld Cell Phone Bans and Fatal Motor Vehicle Accident Rates: An Epidemiological Study Using Hierarchical Linear Modelling. Poster presented at the annual Human Factors and Ergonomic Society meeting, Houston, TX.

Schumacher, J. R., & Taraban, R., (2017, April). Sound design and reliable implementation: Keys to worthwhile and generalizable research. Society of Clinical Research Associates (SoCRA). Texas Tech University Health Sciences Center. Lubbock, TX.

Taraban, R., **Schumacher, J. R.,** Dulli, H., Lamp, D., & Anderson, E. E. (2019). Assessing problem-solving strategy use by engineering undergraduates. Proceedings of the American Society of Engineering Education (ASEE) Annual Conference, Tampa, FL.

RELEVANT GRADUATE COURSES TAKEN

- Experimental Design/ ANOVA
- Advanced Correlation Methods & Factor Analysis/Regression
- Categorical Data Analysis
- Hierarchical Linear Modeling/ Multilevel Modeling
- Cognitive Ergonomics
- Multivariate Statistics
- Structural Equation Modeling
- Usability Testing & Research
- Psychometric Theories/ Information Response Theory

AWARDS

Helen Devit Jones Excellence in Graduate Teaching
Texas Tech University | 2016

Excellence in Teaching an Undergraduate Lab
Psychological Sciences Department at Texas Tech | 2016

Excellence in Teaching a Graduate Lab
Psychological Sciences Department at Texas Tech | 2019

REFERENCES

Roman Taraban, PhD
Research Advisor (Cognition)
roman.taraban@ttu.edu
(806) 834-0450

Martina Klein, PhD
Teaching Advisor (ANOVA)
martina.i.klein@ttu.edu
(806) 834-4745

Andrew Littlefield, PhD
Teaching Advisor (Categorical)
andrew.littlefield@ttu.edu
(806) 834-3746

Amelia Talley, PhD
Teaching Advisor (HLM)
amelia.Talley@ttu.edu
(806) 834-3937

DATA ANALYSIS - Proficient

- ANOVA/MANOVA
- Linear Regression
- Non-Linear Modeling
- Multilevel Modeling
- Categorical Analysis
- SEM
- Factor Analysis
- Non-Parametric Analyses
- Longitudinal Design
- IRT
- Cluster Analysis
- Power/Monte Carlo
- Missing Data Analysis
- Bootstrapping
- Permutation Testing
- Data Visualization

DESIGN/METHOD - Proficient

- Literature Review
- Experimental/Inferential
- Qualitative
- Survey
- Counterbalancing/ Randomizing
- Data Collection, Handling, & Prepping
- Cognitive Task Analysis
- Card Sorting
- Journey Mapping
- Iterative Testing

SOFTWARE - Proficient

- R
- SPSS
- Excel
- Qualtrics
- SAS
- MPlus
- GPower
- EPrime

SOFTWARE - Learning

- Python
- SQL