Ece Yüksel

eceyuksel@ufl.edu | website | linkedin | github Department of Psychology, Gainesville, FL 32610

I study how humans represent, remember, and navigate space across real and virtual environments. My research integrates behavioral, qualitative, and virtual-reality methods to understand how age, technology, and environmental scale shape spatial cognition. I use immersive VR, mixed-methods design, and advanced analytics to bridge cognitive science and real-world applications.

research interests

- Spatial cognition and navigation across the lifespan
- Age-related differences in spatial memory and orientation
- Virtual reality as a tool for studying real-world navigation
- Mixed-method approaches to spatial cognition (behavioral + qualitative)

education

Ph.D. in Psychology *May 2026*

SCANN Lab, Department of Psychology, University of Florida
Program: Behavioral and Cognitive Neuroscience
Mentor: Steven M. Weisberg, PhD

M.S. in Psychology *May 2024*

Program: Behavioral and Cognitive Neuroscience
Thesis: *"Navigating the Metaverse: The Relation between Scale and Expertise in Spatial Knowledge of Immersive and Desktop Virtual Reality"* (Read here)
Mentor: Steven M. Weisberg, PhD

Bachelor of Science in Psychology *2020*

TOBB University of Economics and Technology, Ankara, Turkey

Bachelor of Architecture *2020*

TOBB University of Economics and Technology, Ankara, Turkey

Erasmus+ Exchange Student *2017*

Politechnika Gdańska, Gdańsk, Poland

awards & scholarships

Graduate Conference Award ($750), Psychonomic Society for 66th annual Meeting in Denver, CO *2025*
Graduate Student Travel Award ($750), Department of Psychology, UF *2025*
The Balkhi Experiential Learning Award ($500), Department of Psychology, UF *2025*
The Jacquelin Goldman Spring Scholarship ($8000), Department of Psychology, UF *2025*
Graduate Student Travel Award ($750), Department of Psychology, UF *2024*
The Jacquelin Goldman Spring Scholarship ($6000), Department of Psychology, UF *2024*

Departmental Nomination for Teaching Assistant Award, Department of Psychology, UF *2024*
Foundation Scholarship ($3000), Department of Psychology, UF *2021 - 2024*
Graduate Conference Award ($750), Psychonomic Society for 64th annual Meeting in San Francisco *2023*
Full Scholarship for ANFA - Moving Boundaries Course ($1,800), in Venice and Umbria, Italy *2023*
Graduate Student Travel Award ($750), Department of Psychology, UF *2023*
Certificate of Outstanding Merit, International Student Achievement Awards, UF *2022*
Merit-Based Scholarship, TOBB University of Economics and Technology, Ankara, Turkey *2015 - 2020*

professional appointments & research experience

Ph.D Candidate *2024 - Present*
Advisor: Steven M. Weisberg, Ph.D
Spatial Cognition and Navigational Neuroscience Lab
University of Florida, Gainesville, FL

Selected Projects

- **Ph.D. Dissertation Project** – "*Age differences in spatial navigation across real and virtual worlds: A mixed-methods approach*"
  Designed and conducted a mixed-methods study comparing spatial navigation across immersive and desktop VR; integrated behavioral performance, qualitative interviews, and self-report measures to examine age-related differences in spatial learning.
- **Qualifying Exam** – Review Paper titled "*Lost in (Virtual) Space? Age Differences in Spatial Navigation in Real-World and Virtual Reality*"
  Explored how the shift from real-world to virtual navigation impacts our understanding of spatial memory and age-related differences in navigation ability. The paper reviews evidence on when and why VR may amplify or attenuate age-related differences, emphasizing the theoretical and methodological implications of using VR to study human navigation.

Research Assistant *2020 - 2022*
PI: Didem Kadihasanoglu, Ph.D.
Perception & Action Dynamics Lab
TOBB University of Economics and Technology, Ankara, Turkey

Research Intern *2019*
PI: Başak Şahin-Acar, Ph.D.
Child & Adolescent Development Laboratory
Middle East Technical University (METU), Ankara, Turkey

Research Assistant *2019*
PI: Münire Özlem Çevik, Ph.D.
Behavioral Neurobiology Laboratory
TOBB University of Economics and Technology, Ankara, Turkey

publications

Yüksel, E., Boogaart, Z. & Weisberg, S.M. (2025) This is not the way: global directional cues do not improve spatial learning in an immersive virtual environment. *Cogn. Research 10*, 48. https://doi.org/10.1186/s41235-025-00654-1

Zheng L., Boogaart Z., McAvan A., Garren J., Doner S., Wilkes B. J., Groves W., **Yüksel E**., Cherep L., Ekstrom A.D., Weisberg S.M. (2025) Newly trained navigation and verbal memory skills elicit changes in task-related networks but not brain structure *eLife 14*:RP106873 DOI

Weisberg, S. M., Barnas, A. J., Abid, H., Kumar, S., Sahoo, A., & **Yüksel, E.** (2025). *Drawing down: The structure of spatial direction representations in drawing and categorization.* Manuscript submitted for publication, *Neuropsychologia.*

Yüksel, E., & Weisberg, S. M. (in preparation). *Navigating the metaverse: The relation between scale and expertise in spatial knowledge of immersive and desktop virtual reality.*

Yüksel, E. & Kadihasanoglu, D. (2021, August). *Affordance for sitting: Perception of preferred and maximum sitting heights in a virtual reality environment.* Abstract presented at the 43rd European Conference on Visual Perception (ECVP), *Perception*, 50(Suppl. 1), 87. DOI

(In preparation and under review manuscripts available upon request.)

science communication & outreach

Yüksel, E., & Weisberg, S.M. (2025, July–August). *Beyond one-size-fits-all: Tailoring navigation support for varied people and varied environments*. *Navigation News*, Royal Institute of Navigation.

talks

Yüksel, E., Boogart, Z., & Weisberg, S. M. (2022, May). *This is not the way: A global directional cue does not improve spatial navigation in an immersive virtual environment.* Data blitz talk presented at the Florida Consortium on the Neurobiology of Cognition (virtual).

conference presentations

Yüksel, E., & Weisberg, S. M. (2025, September). *Age differences in spatial navigation across real and virtual worlds: A mixed-methods approach.* Poster presented at the ANFA Conference (virtual).

Yüksel, E., & Weisberg, S. M. (2025, May). *Age differences in spatial navigation across real and virtual worlds: A mixed-methods approach.* Poster presented at CRaNECon25, Atlanta, GA, United States.

Yüksel, E., & Weisberg, S. M. (2024, November). *Navigating the metaverse: The relation between scale and expertise in spatial knowledge of immersive and desktop virtual reality.* Poster presented at the 65th Annual Meeting of the Psychonomic Society, New York City, NY, United States.

Yüksel, E., Boogaart, Z., & Weisberg, S. M. (2023, November). *This is not the way: Global directional cues do not improve spatial navigation in an immersive virtual environment.* Poster presented at the 64th Annual Meeting of the Psychonomic Society, San Francisco, CA, United States.

Yüksel, E., & Weisberg, S. M. (2023, November). *Navigating the metaverse: The relation between scale and expertise in spatial knowledge of immersive and desktop virtual reality.* Poster presented at the Symposium for Individual Differences in Cognition, San Francisco, CA, United States.

Yüksel, E., Boogaart, Z., & Weisberg, S. M. (2023, February). *This is not the way: Global directional cues do not improve spatial navigation in an immersive virtual environment.* Poster presented at the 13th Annual North Central Florida Society for Neuroscience Chapter Conference, Gainesville, FL, United States.

Yüksel, E., Boogaart, Z., & Weisberg, S. M. (2022, June). *This is not the way: A global directional cue does not improve spatial navigation in an immersive virtual environment.* Talk presented at the 4th Interdisciplinary Navigation Symposium (virtual).

Yüksel, E., & Kadihasanoglu, D. (2021, August). *Affordance for sitting: Perception of preferred and maximum sitting heights in a virtual reality environment. Perception*, 50(Suppl. 1), 87. [Abstract presented at the European Conference on Visual Perception (virtual)]. https://journals.sagepub.com/pb-assets/ECVP%202021%200301006621059887-1641553299747.pdf

teaching experience

Graduate Instructor, University of Florida, Gainesville, FL *2025 - Present*
General Psychology – PSY 2012 (3 credits, 48 students), Spring 2026
General Psychology – PSY 2012 (3 credits, 48 students), Fall 2025

Graduate Teaching Assistant, University of Florida, Gainesville, FL *2021 - 2025*
Memory & Memory Improvement, Dr. Laura Shambaugh, Spring 2025
General Psychology, Dr. Laura Shambaugh, Fall 2024
Cognitive Psychology, Dr. Brian Odegaard, Spring 2023
Physiological Psychology, Dr. Ryan Mears, Fall 2023
Lab Sensory Processes, Dr. Brian Odegaard, Fall 2022
Cognitive Psychology, Dr. Brian Odegaard, Spring 2022
Physiological Psychology, Dr. Ryan Mears, Fall 2021

Guest Lectures
Virtual Reality for Research Experiments, 2024, University of Florida, Gainesville, FL
Cognitive Psychology (Visual Knowledge), 2022, University of Florida, Gainesville, FL

Mentorship & Supervision
- Supervised eight undergraduate research assistants in experimental design, data collection, transcription, and qualitative coding.
- Coordinated and trained teaching assistants for PSY2012, ensuring consistency in grading and student communication.

Undergraduate students supervised: Merrill Garlington, Karina LaRubbio, Kyle Wang, Hailey Love, Lachyn Almazova, Bailey Reeves, Liliana Roy, Lauryn Strom, Kalista Sayaf

professional memberships

Society for Neuroscience, American Psychological Association, Psychonomic Society

service

Mentored Journal Review, *Cognitive Research: Principles and Implications* *2022*

Secretary, Diversity Awareness and Affirmation Committee (DAAC), University of Florida *2023 - 2024*

Communications Team Member, Graduate Assistants United (GAU), University of Florida *2022 - 2024*

Social Media Coordinator, Turkish Student Association (TSA), University of Florida *2021 - 2022*

Editor, Journal of European Psychology Students (JEPS) *2020 - 2022*

skills

Quantitative Research & Data Analysis
Frequentist and Bayesian approaches
R/R Studio; Python; JASP

Qualitative Research
Semi-structured interviewing; transcription and thematic coding; triangulation of behavioral and self-report data.

Virtual Reality & Experimental Programming
Unity (environment modeling, task design, scripting in C#); HTC Vive; Virtuix Omni omnidirectional treadmill; SteamVR integration; virtual navigation task development.

Tools
Qualtrics; PsychoPy; Photoshop

Data Collection & Experiment Design
VR-based behavioral experiment implementation; spatial navigation task scripting; mixed-methods study design and implementation.

Languages
English (fluent), Turkish (native), Italian (beginner)

____future research directions____

Aging & Virtual Reality: Continue investigating how age-related differences influence spatial navigation and memory in real and virtual environments, using immersive VR and mixed-methods approaches to understand and support cognitive aging.

Human-Centered Spatial Design: Apply insights from spatial cognition to architectural and environmental design, developing evidence-based principles for creating navigation-friendly, human-centric spaces that enhance orientation and accessibility.