



Course program and reading list

Semester 0 Year 2023

School: Baruch Ivcher School of Psychology

Avatar psychology

Lecturer:

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Teaching Assistant:

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Course No.:	Course Type :	Weekly Hours :	Credit:
8957	Seminar	4	4

Course Requirements :	Group Code :	Language:
Final Paper	230895701	English

Prerequisites

Prerequisite:

- 8000 - Introduction To Psychology
 - 8014 - Research and Measurement Methods
 - 8910 - Introduction To Statistics A
 - 8911 - Introduction To Statistics B
 - 8924 - Multivariate Statistics A
 - 8925 - Multivariate Statistics B
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 Course Description

Avatars and virtual environments are no longer science fiction. Virtual reality (VR) has become a mainstream medium with millions of users world-wide. Social scientists have

begun to use VR and avatars as a new research tool to simulate and study human social behavior. VR is particularly interesting for psychological research as it enables us to experimentally manipulate and measure a range of psychological variables (high experimental control) in a naturalistic, close-to-real-life environment (high ecological realism). But VR can go beyond simulating reality and allows for transformations of our body representation, the environment in which we interact or the actions we perform in ways that are not possible in real life. This new methodological paradigm makes it possible to study psychological questions that could not have been investigated before, such as how does being in a dark-skinned virtual body change light-skinned people's racial prejudice, or how can experiencing harassment from a victim's perspective change gender-related attitudes?

This seminar introduces virtual reality as a new psychological methodological research method and illustrates how it can overcome limitations of traditional psychological methods. In Semester B, the students will conduct a seminar research project using virtual reality.

Weekly Course Topics:

Semester A:

Week 1: Introduction to VR

Week 2: Presence in immersive virtual environments

Week 3: VR experience (VR lab visit)

Week 4: Reality simulation and ecological validity (article presentations)

Week 5: VR interventions and virtual self-transformations (article presentations)

Week 6-7: VR projects (lab meeting)

Week 8-12: VR research project preparation (individual meetings with project teams)

Week 13: Research proposal presentations

Semester B:

Semester B will be dedicated to conducting the VR experiments and analyzing the data.

Individual meetings will be held

with the project teams for guidance along the process. In the last two weeks of the

semester, students will present the

findings of their VR experiment in class.



Course Goals

In this seminar students will learn about the concepts and theoretical models of virtual reality, and how it can be applied as a tool in psychological research



Grading

Assignments and Requirements:

Constructive participation in class discussion
Reading the bibliographical material as preparation for class
Presentation of an article in class (in pairs)
Submission of a research proposal (Semester A) and research report (seminar paper in Semester B) (in pairs)

Grade Composition:

Semester A: Research proposal (30%)

Semester B: Research report (70%)

Deadlines:

Semester A: Research proposal: April 1, 2023

Semester B: Seminar paper: August 31, 2023



Reading List

VR as a tool for psychological research:

Blascovich, J., Loomis, J., Beall, A. C., Swinth, K. R., Hoyt, C. L., & Bailenson, J. N. (2002). Immersive virtual environment technology as a methodological tool for social psychology. *Psychological Inquiry*, 13(2), 103-124.

Pan, X., & Hamilton, A. F. D. C. (2018). Why and how to use virtual reality to study human social interaction: The challenges of exploring a new research landscape. *British Journal of Psychology*, 109(3), 395-417

Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing our lives with immersive virtual reality. *Frontiers in Robotics and AI*, 3, 74.

Vasser, M., & Aru, J. (2020). Guidelines for immersive virtual reality in psychological research. *Current Opinion in Psychology*, 36, 71-76.

Yaremych, H. E., & Persky, S. (2019). Tracing physical behavior in virtual reality: A narrative review of applications to social psychology. *Journal of Experimental Social Psychology*, 85, 103845.

Presence:

Diemer, J., Alpers, G. W., Peperkorn, H. M., Shiban, Y., & Mühlberger, A. (2015). The impact of perception and presence on emotional reactions: a review of research in virtual reality. *Frontiers in Psychology*, 6, 26.

Cummings, J. J., & Bailenson, J. N. (2016). How immersive is enough? A meta-analysis of the effect of immersive technology on user presence. *Media Psychology*, 19(2), 272-309.

Sanchez-Vives, M. V., & Slater, M. (2005). From presence to consciousness through virtual reality. *Nature Reviews Neuroscience*, 6(4), 332-339.

Reality simulations:

Navarrete, C. D., McDonald, M. M., Mott, M. L., & Asher, B. (2012). Virtual morality: Emotion and action in a simulated three-dimensional "trolley problem". *Emotion*, 12(2), 364.

Slater, M., Rovira, A., Southern, R., Swapp, D., Zhang, J. J., Campbell, C., & Levine, M. (2013).

Bystander responses to a violent incident in an immersive virtual environment. *PloS one*, 8(1), e52766.

Slater, M., Antley, A., Davison, A., Swapp, D., Guger, C., Barker, C., ... & Sanchez-Vives, M. V. (2006). A virtual reprise of the Stanley Milgram obedience experiments. *PloS one*, 1(1), e39.

Bailenson, J. N., Blascovich, J., Beall, A. C., & Loomis, J. M. (2001). Equilibrium theory revisited: Mutual gaze and personal space in virtual environments. *Presence: Teleoperators & Virtual Environments*, 10(6), 583–598.

Bailenson, J. N., & Yee, N. (2005). Digital chameleons: Automatic assimilation of nonverbal gestures in immersive virtual environments. *Psychological Science*, 16(10), 814–819.

Tarr, B., Slater, M., & Cohen, E. (2018). Synchrony and social connection in immersive virtual reality. *Scientific Reports*, 8(1), 1–8.

Chen, Y. R., Birnbaum, G. E., Giron, J., & Friedman, D. (2019, July). Individuals in a romantic relationship express guilt and devalue attractive alternatives after flirting with a virtual bartender. In *Proceedings of the 19th ACM International Conference on Intelligent Virtual Agents* (pp. 62–64).

Kassner, M. P., Wesselmann, E. D., Law, A. T., & Williams, K. D. (2012). Virtually ostracized: Studying ostracism in immersive virtual environments. *Cyberpsychology, Behavior, and Social Networking*, 15(8), 399–403.

VR interventions:

Rosenberg, R. S., Baughman, S. L., & Bailenson, J. N. (2013). Virtual superheroes: Using superpowers in virtual reality to encourage prosocial behavior. *PloS one*, 8(1), e55003.

Osimo, S. A., Pizarro, R., Spanlang, B., & Slater, M. (2015). Conversations between self and self as Sigmund Freud—A virtual body ownership paradigm for self counselling. *Scientific Reports*, 5(1), 1–14.

Seinfeld, S., Arroyo-Palacios, J., Iruretagoyena, G., Hortensius, R., Zapata, L. E., Borland, D., ... & Sanchez-Vives, M. V. (2018). Offenders become the victim in virtual reality: impact of changing perspective in domestic violence. *Scientific Reports*, 8(1), 1–11.

Hasler, B. S., Spanlang, B., & Slater, M. (2017). Virtual race transformation reverses racial in-group bias. *PloS one*, 12(4), e0174965.

Herrera, F., Bailenson, J., Weisz, E., Ogle, E., & Zaki, J. (2018). Building long-term empathy: A large-scale comparison of traditional and virtual reality perspective-taking. *PloS one*, 13(10), e0204494.

Takac, M., Collett, J., Blom, K. J., Conduit, R., Rehm, I., & De Foe, A. (2019). Public speaking anxiety decreases within repeated virtual reality training sessions. *PloS one*, 14(5), e0216288.

Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing saving behavior through age-progressed renderings of the future self. *Journal of Marketing Research*, 48(SPL), S23–S37.

Chirico, A., Ferrise, F., Cordella, L., & Gaggioli, A. (2018). Designing awe in virtual reality: An experimental study. *Frontiers in Psychology*, 8, 2351.