



Social Presence

A media psychology perspective

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SPRING SCHOOL SOCIAL XR, March 4 - 7, 2024

CWI

RESEARCH
SEMESTER
PROGRAMME

Distributed and
Interactive Systems

Spring School
on Social XR

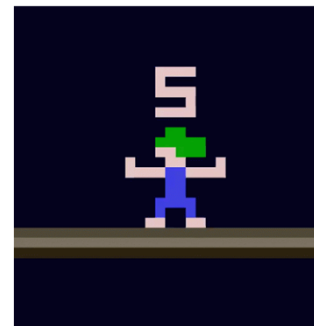




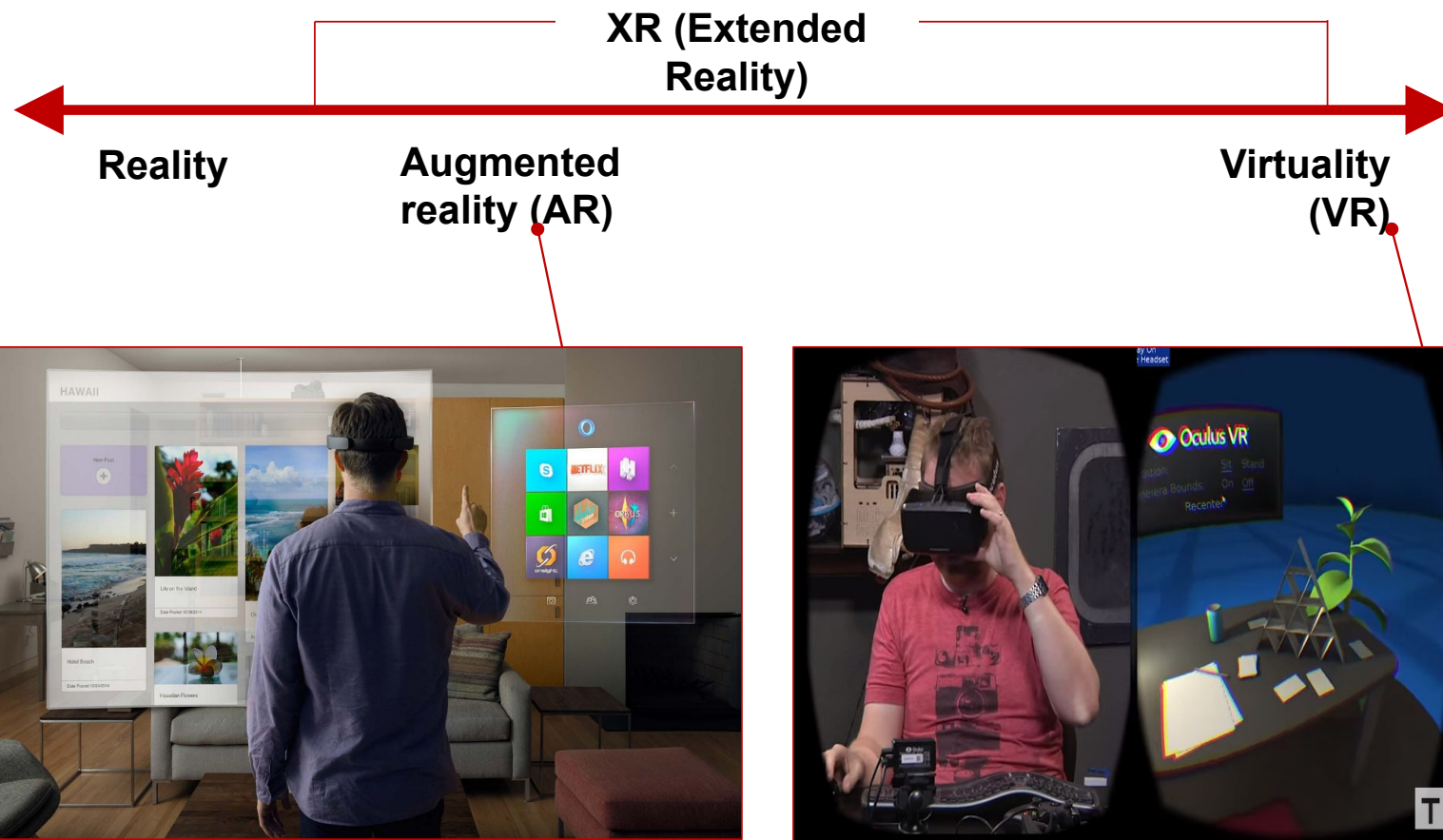
That's me (t.hartmann@vu.nl)



- Tilo Hartmann
- Prof. Virtual Reality
- Communication Science
- Core interest: Perceptual (social) illusions triggered by media technology



XR Immersive technology Milgram & Kishino (1994)



Immersion

Enveloped senses

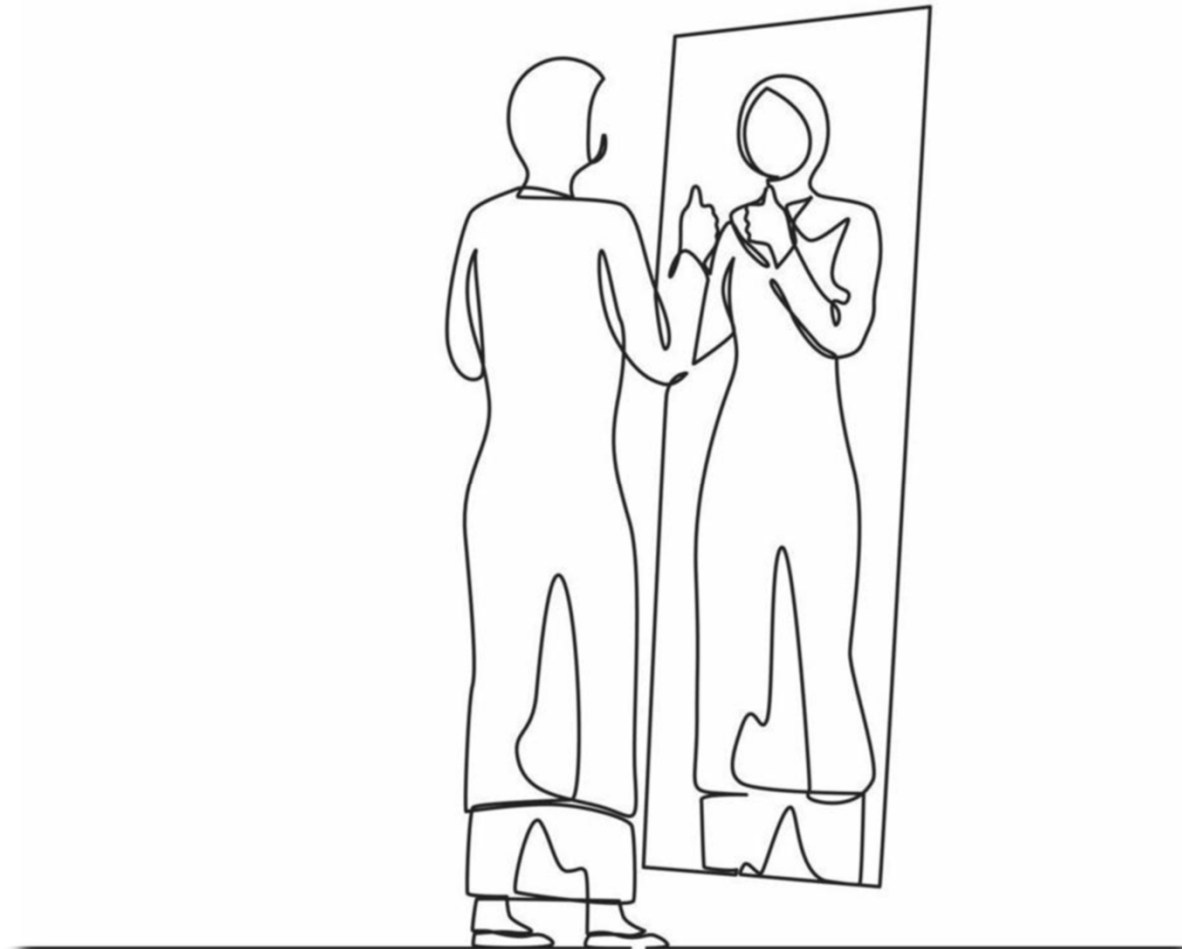
Tracking

Natural
input/output
mapping

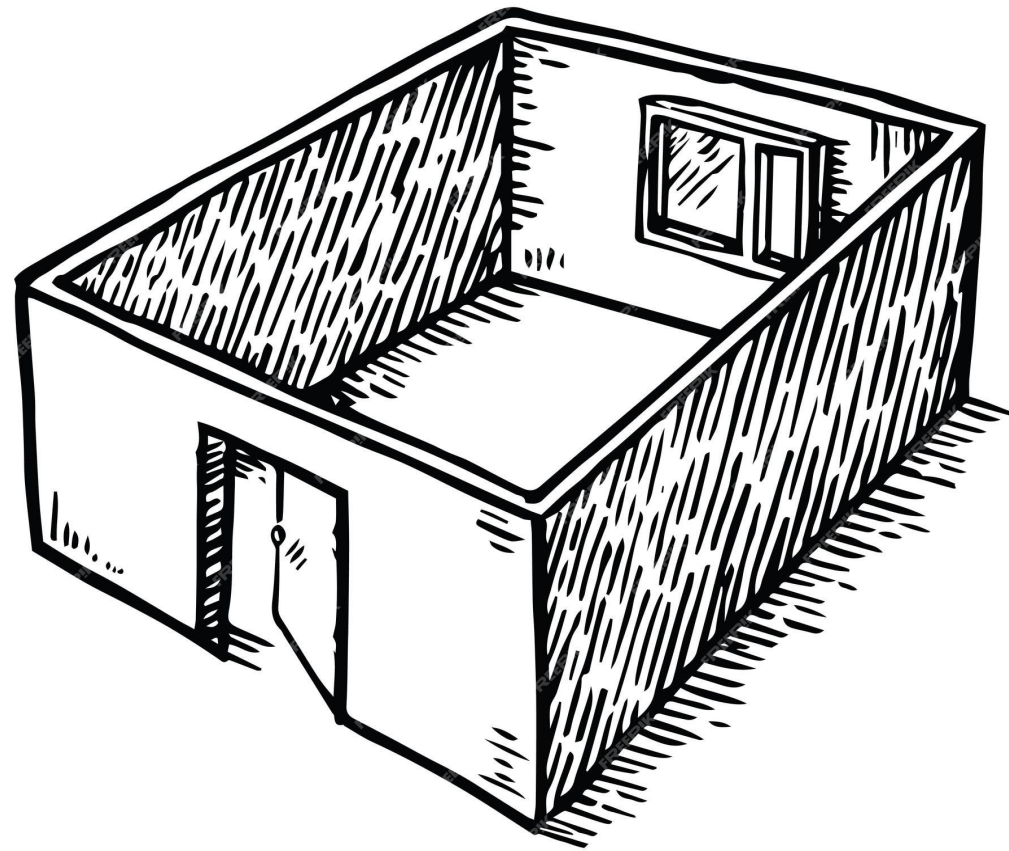
Invisible interface

Presence

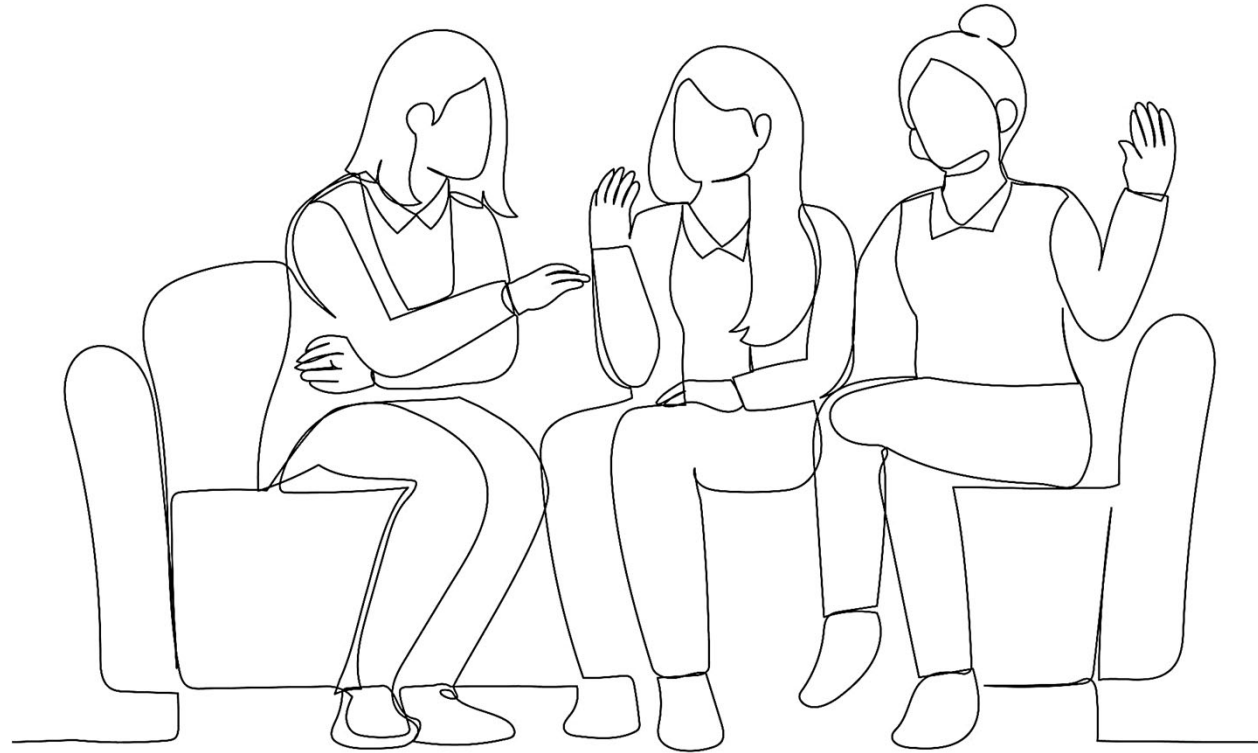




Self

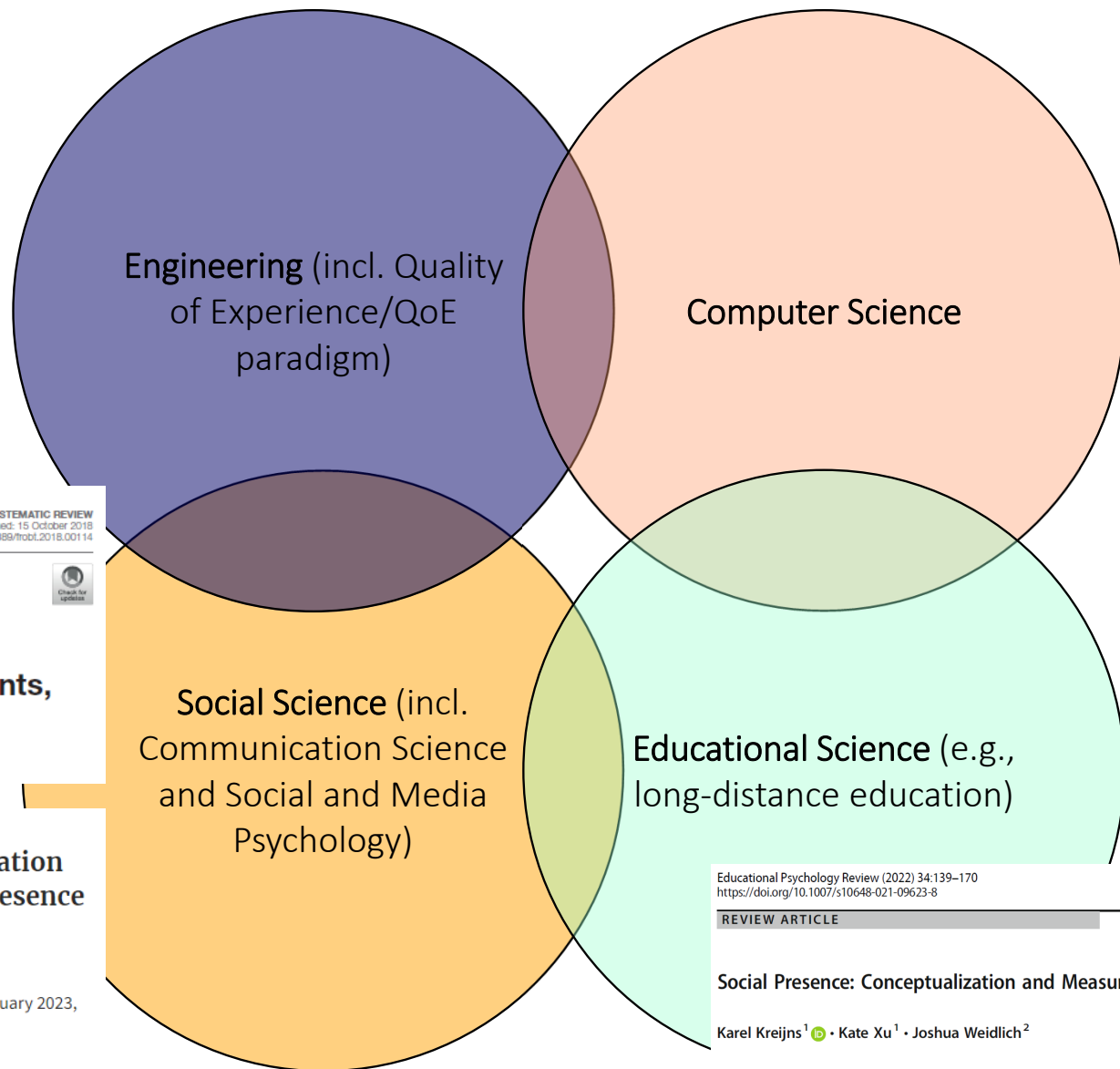


Spatial



Social

Social Presence (Disciplines)



A Systematic Review of Social Presence: Definition, Antecedents, and Implications

Catherine S. Oh^{1*}, Jeremy N. Bailenson¹ and Gregory F. Welch²

JOURNAL ARTICLE

Capturing social presence: concept explication through an empirical analysis of social presence measures

James J Cummings ✉, Erin E Wertz

Journal of Computer-Mediated Communication, Volume 28, Issue 1, January 2023, zmac027, <https://doi-org.vu-nl.idm.oclc.org/10.1093/jcmc/zmac027>

Published: 22 November 2022 Article history ▼

Educational Psychology Review (2022) 34:139–170
<https://doi.org/10.1007/s10648-021-09623-8>

REVIEW ARTICLE

Social Presence: Conceptualization and Measurement

Karel Kreijns¹ • Kate Xu¹ • Joshua Weidlich²

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Social Presence

Immediacy and Intimacy, Short et al. 1976

Immediacy

Intimacy

- “degree of salience of the other person in a mediated communication and the consequent salience of their interpersonal interactions”
- Determined by extent the medium/channel allows to transmit/communicate **immediacy behaviours** (e.g., smiling, nodding, proximity ~social cues) to foster **intimacy** (~warmth)

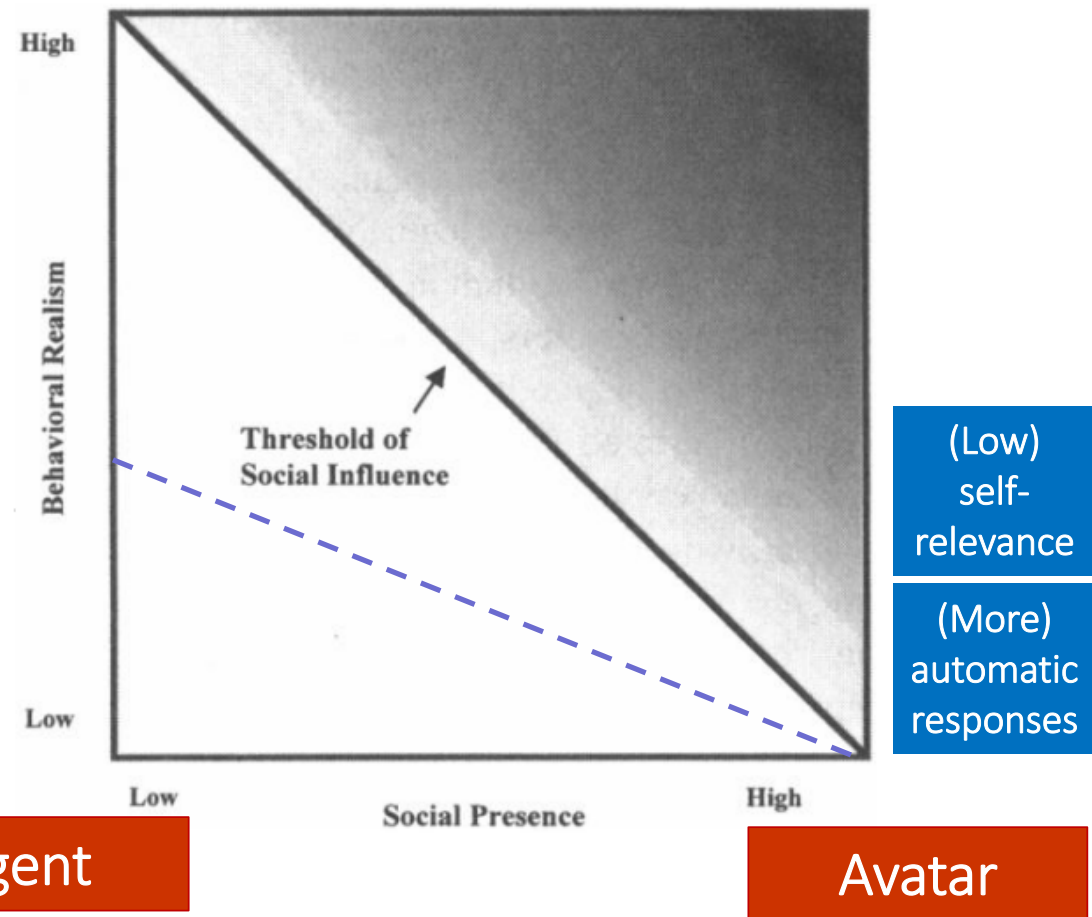


Is the other a real person?

Threshold Model of Social Influence, Blascovich et al. 2002

- Confusion since Short et al., 1976: Realness
- Avatars vs. Agents
- Social Influence
 - Avatar = always high (because real human)
 - Agent = depending on behavioral realism/ perceived anthropomorphism
 - Threshold lower for automatic responses, low self-relevance

Realness



Realness/social perception

Animacy (e.g., Scholl) **and Anthropomorphism** (e.g., Kühne & Peters, 2023)

- Animacy: detecting intentional agents
 - Self-propelled motion/agency
 - Sentiency/experience
 - Attribution of goals and beliefs
 - Theory of mind
 - Social network of brain
- Anthropomorphism
 - Perceiving “human”
 - Unique human qualities (e.g., Haslam)



Heider & Simmel, 1944
Oatley & Yuill, 1985

Social Presence

Awareness and Engagement, Biocca et al.

“A sense of being with another” in the (virtual) environment

1. Co-presence

- Mutual awareness (I was often aware of others in the environment)

2. Psychological involvement

- Mutual attention (The other individual paid close attention to me)
- Empathy (When I was happy, the other was happy.)
- Mutual understanding (I understood what the other meant.)

3. Behavioral engagement

- Behavioral interaction (What the other did affected what I did.)
- Mutual assistance (My partner worked with me to complete the task.)
- Dependent action (The other could not act without me.)



Rapport

Social Presence

Parasocial Interaction (EPSI, Hartmann & Goldhoorn, 2011)

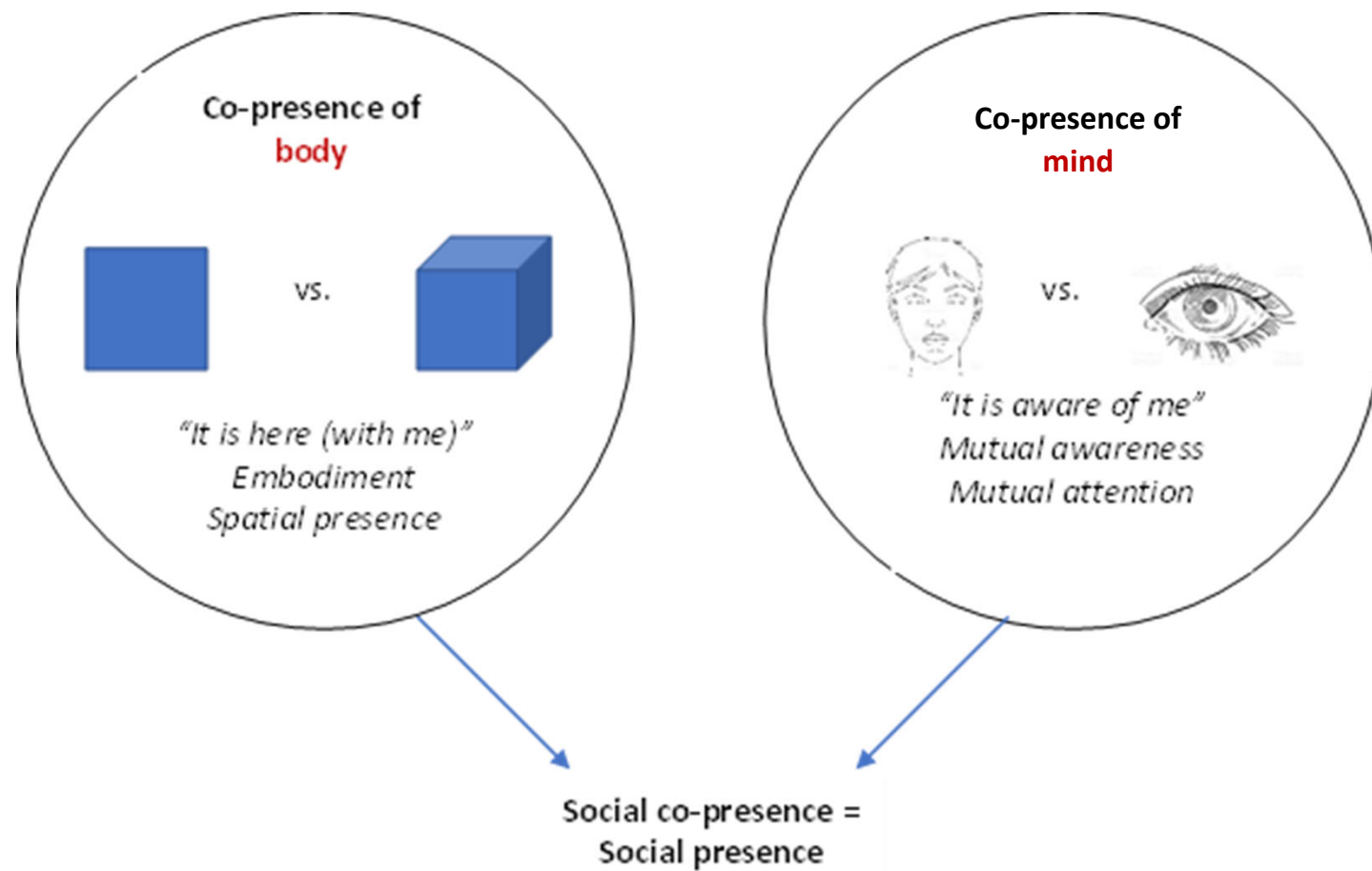
- Mutual awareness
- Mutual attention
- Mutual adjustment



Item	Indirect		Direct		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>EPSI</i>	2.06	1.07	2.49	1.09	3.92**
While watching the video clip, Amy					
1. ... was aware of me.	1.88	1.16	2.39	1.24	4.13**
2. ... knew I was there.	1.90	1.19	2.51	1.33	4.70**
3. ... knew I was aware of her.	2.49	1.47	2.88	1.40	2.70**
4. ... knew I paid attention to her.	2.43	1.41	2.92	1.40	3.40**
5. ... knew that I reacted to her.	2.05	1.23	2.40	1.28	2.70**
6. ... reacted to what I said or did.	1.58	1.01	1.83	1.12	2.31*

Social Presence

Co-presence of body and mind? (e.g., Hartmann, in prep. 😊)



Co-presence

Imagine the impact/social influence on the observer based on...



		Body	
		No	Yes
Mind	No	Nothing is present.	Another object, unintelligible social agent, or mindless social agent is present.
	Yes	Another mind, spirit, intelligence is present.	Another body with a mind (animal, human, social creature) is present.

Co-presence: Really a part of social presence?

Cummings & Wertz (2022)

I am aware of you...

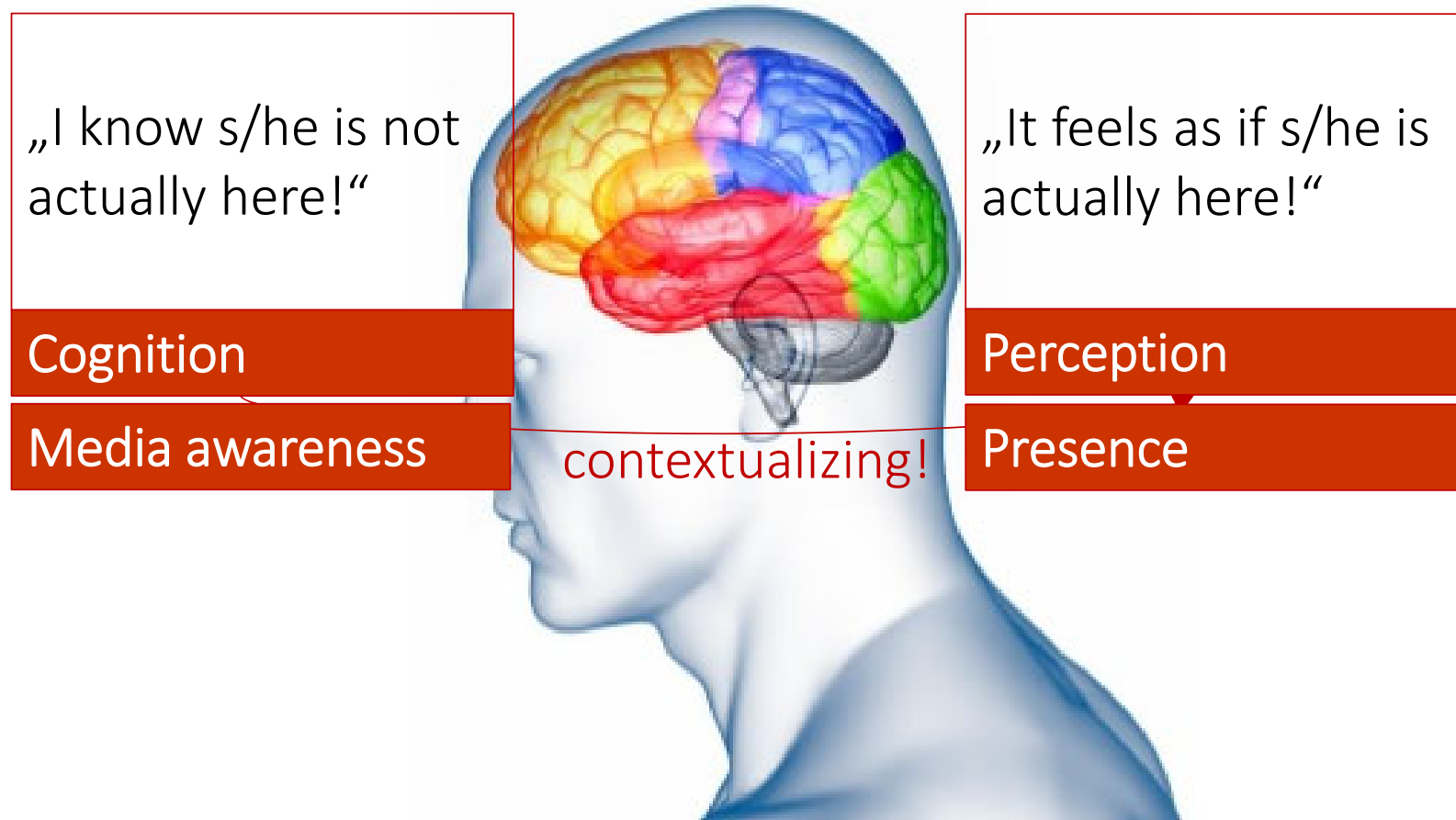
...intentional agent

With this in mind, social presence may then be conceived of as *the perceptual salience of another social actor*. This modified definition highlights the two dimensions that, in practice, are inherent to social presence. Further, such a definition helps to distinguish social presence from other constructs that are often conceptually—and, as seen here, operationally—conflated with it (e.g., copresence and co-location). That is, this definition sufficiently captures social presence independent of other possibly related but non-requisite perceptions, including perceived understanding of, association with, or physical proximity to another being. As this refined definition

Media awareness

Dual account of XR experience (Hartmann & Hofer, 2023)

media awareness



Thank you for joining!

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