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# PSYCHOLOGY JOURNAL

## The Other Side of Technology

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## Editorial Preface

This issue of PsychNology features 5 articles originally presented at PRESENCE 2009, the 12th annual international workshop on presence. The conference was organized by the International Society for Presence Research (ISPR; <http://ispr.info>) and hosted by the University of Southern California Institute for Creative Technologies (ICT; <http://ict.usc.edu>) in Los Angeles, California.

I attended my first Presence conference in 1999 in London and have been to each one since. They've all been extremely interesting, productive and not incidentally, a lot of fun. In this case the approximately 70 of us met for parts of three days in a large, bright room with three of four walls dominated by floor-to-ceiling windows overlooking the peaceful waters and sailboats of Marina del Rey, as both scholars and professionals presented and discussed the latest phenomena, theories and research projects related to telepresence. As happens each year, the breadth of topics and applications of presence further reinforced my belief in the centrality and importance of the presence concept to so many aspects of our 21st century lives. The five research articles in this issue, selected based on their original and one or more subsequent rounds of careful peer reviews, represent some of that diversity.

Rabindra Ratan and Béatrice Hasler explore the increasingly common experience of psychological connection of medium users with their representation within an interactive medium. In "Exploring Self-Presence in Collaborative Virtual Teams," the authors use a 3D Collaborative Virtual Environment (CVE) to provide tentative evidence for their proposed three dimensional structure of proto, core and extended self-presence and a questionnaire to measure the

phenomenon. The dimensions are said to involve the extent to which a mediated self-representation feels like an extension of the user's body, evokes strong emotions as the representation interacts with mediated objects, and is related to one or more aspects of the user's personal identity. As the authors note, more work will be necessary to validate and refine their model and measures, but the rapid evolution of technologies in which a version of us is meant to draw us into the mediated environment and experience (everything from classic teleoperation to role-playing and video games to virtual worlds) means we need to better understand self-presence and its consequences.

In many cases media users can select their own self-representations in the form of an avatar. In "Advancing a Model of Avatar Evaluation and Selection," Mark Hamilton and Kristine Nowak use an information processing approach to examine the complex relationships among key features of avatars and the ways users perceive, evaluate and select these virtual representations. Using an image-level rather than judgment-level analysis of characteristics of a large, diverse set of avatar images and study participants' responses to them, the authors reveal important roles for anthropomorphic intensity (the degree to which avatars are perceived as human), along with perceived gender, homophily, competence, realism and trustworthiness. They also find interesting gender differences and effects of avatar image integrity (manipulations such as morphing that may imply deceit). While presence itself isn't an explicit part of their study or model, it's clearly implicated in the factors that affect users' evaluation and selection of virtual versions of themselves (and subsequent experiences of self-presence).

All three of the remaining articles detail experiments that explore both the causes and specific consequences of different kinds of presence in diverse settings.

In "Image versus Sound: A Comparison of Formal Feature Effects on Presence and Video Game Enjoyment," Paul Skalski and Robert Whitbred report on a study in which image quality (standard vs. high definition) produced no differences but sound quality (stereo vs. 5.1 surround sound) increased several dimensions of presence - spatial presence, perceptual realism, engagement, and social richness - along with the key criterion of enjoyment, with engagement and social richness mediating enjoyment. As they note, this pattern of results in a context in which sound has been surprisingly under-studied, "speaks loudly in favor of the merits of sound" (pun possibly intended) and raises intriguing questions about the links between different types of presence and enjoyment.

Karl Horvath and Matthew Lombard focus on arguably the two most common types of presence and their roles in the design of user-interfaces. In "Social and Spatial Presence: An Application to Optimize Human-Computer Interaction," they report on a study that in the context of an online application for admission to a university manipulated cues designed to evoke social presence (social pleasantries, an agent character) and spatial presence (three dimensional graphical representation of physical spaces). Participants reported greater presence, satisfaction, enjoyment, comprehension of and perceived ability to complete the task, and likelihood to use and recommend the application when they used versions of the software with more presence cues. Along with a consistent pattern that favored the conditions with both social and spatial cues, then

spatial cues alone, then social cues alone and then neither, the results suggest the potential value of developing a 'toolbox' of presence cues to be used in the design of a wide variety of computer user-interfaces.

In the final article, "When Richer is Poorer: Understanding the Influence of Channel Richness and Presence on the Introduction of a Mission Statement," Robert Whitbred, Paul Skalski, Cheryl Bracken, and Evan Lieberman apply presence concepts in yet another context. They note that organizations often struggle to effectively communicate their mission to members and argue that presentation formats that evoke presence as transportation and immersion should increase this effectiveness. In their study, watching a video of the university president reading the mission statement unexpectedly evoked less presence than reading the written statement directly (a result the authors explain in various ways). But greater reported presence of both types was associated with greater recall, personal involvement and perceived importance of the statement and the authors conclude that presence holds important value as a mediating variable in this type of communication.

Telepresence scholarship has come a long way even since the first Presence conferences, from a focus on the basics of definition and measurement, simple linear models of cause-and-effect, and a narrow range of technologies (mostly VR) to more subtle and complex theories and models that incorporate the roles of different forms of presence in a wide variety of phenomena and settings. These articles provide a glimpse of this evolution and in my view, it's only going to get more interesting. Follow along with - and please consider joining - us at ISPR.

One last important point: Thank you to PRESENCE 2009 co-chairs Jacki Morie and Belinda Lange of the Institute for

Creative Technologies and  
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special issue possible.

**Matthew Lombard**  
President, International Society for  
Presence Research

