

## Social Presence in Online Learning: Past, Present, and Future

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**Abstract:** For over twenty years, researchers and practitioners have explored different frameworks and theories, in order to improve upon and better understand students' learning experiences and needs in online environments. Social presence has emerged as a key factor in student satisfaction and success in online courses and programs. Researchers, though, continue to define social presence in different ways, use various instruments to measure it, and almost incessantly investigate how every new technology influences it—often leaving practitioners and even other researchers at a loss. This paper examines these issues by reviewing the history of social presence, looking at the different ways researchers define it, highlighting key findings from a recent meta-analysis on social presence, and presenting three different conceptual lenses used by social presence researchers.

### The Origins of Social Presence for Online Learning

*Anyone who listens carefully to the way people say things quickly learns that the particular words a speaker uses to describe an event or experience can be a rich source of information about his feelings and attitudes* (Wiener & Mehrabian, 1968, p. 1).

While Wiener and Mehrabian (1968) may have been speaking to an audience that could hardly conceive of today's online learning environments, their opening sentence still holds true. As a construct, social presence today is often considered synonymous with distance education, specifically online education. In fact, the research base stems from work going much further back. For example, researchers in social psychology, such as Argyle and Dean (1965) and Argyle (1969), worked with nonverbal communication and interpersonal behaviors, pre-cursors to the concept of intimacy. Similarly, Mehrabian's (1966) work on immediacy, Wiener and Mehrabian's (1966) research on non-immediacy, and Mehrabian's (1972) study on nonverbal communication all have had significant influence over how we have come to define behaviors in the online environment: a complex, futuristic realm which these scientists could never have imagined.

The most clearly defined line between today's research on social presence and its predecessors is the work of Short, Williams, and Christie (1976) based on their communications research on "the effectiveness and impact of person-to-person telecommunications" (p. vi). They coined the term "social presence," and over time their work has been cited regularly throughout the literature. They posited that social presence is a quality of medium, with some mediums having a lesser ability to convey social presence (e.g. text-based communication). "[Social presence] varies between different media, it affects the nature of the interaction and it interacts with the purpose of the interaction to influence the medium chosen by the individual who wishes to communicate" (Short et al., 1976, p. 65).

The widespread use of computer-mediated communication (CMC) incited several researchers to begin questioning earlier works to see how previous assumptions related to the newer technologies. Walther (1992), for example, provided a critical evaluation on the role of the medium constraining users' communication, specifically by highlighting weaknesses in CMC research. To illustrate his point, he takes issue with the comparison of task-oriented assignments between simulated computer conferencing groups and Face-to-Face (F2F) groups with a limited time frame, which by its nature alleviates the advantages of CMC communication channels. Additionally, although he indicated the commonality of comparing verbal communication behaviors between computer conferencing groups and F2F groups, he also noted a lack in the examination of nonverbal communication behaviors in F2F in research, which could provide insights into CMC substitutions or equivalences in the research. For the latter, he argued that, despite transcripts and audio recordings of F2F groups having been used to compare to CMC groups, few studies had reported the nonverbal behaviors of F2F groups (p. 63). He also discussed the possibly unfair comparison of F2F and CMC based on the contexts and purposes of the communication being studied, including the findings of experimental studies versus authentic CMC groups (p. 59). At one point he explained, "it appears that the conclusion that CMC is less socioemotional or personal than face-to-face communication is based on incomplete measurement of the latter form..." (p. 63).

Gunawardena (1995) alleviated this tension by situating social presence theory into a particular educational context, and examining the likelihood that users attributed their social presence to either the medium itself or their perception of the medium. The educational context (i.e., The Globaled conferences) was a multi-university distance education project conducted using a "listserv" or electronic distribution list. Gunawardena found from the two studies discussed that it was students' perceptions of CMC and not the medium itself that derived their impression of social presence. Additionally, she found that because instructors can cultivate or create social presence, they need to learn to how to adapt to the medium (p. 165).

## **Defining Social Presence**

One cannot understand the past, present, and future of social presence without spending some time looking at how researchers define social presence. Since the concept of social presence was first linked to online learning, researchers and practitioners alike have been reconceiving not only what social presence is, but also the particular role/s it plays in online learning (Kreijns, Van Acker, Vermeulen & Van Buuren, 2014; Oztok & Brett, 2011). This is appropriate because the environments being studied has grown beyond text-based CMC and listservs and is researched from a number of disciplines and contexts. These reconceptions are supported by the varying definitions of social presence which will be presented.

Variations in wording aside, we have learned much about social presence and its influence in online learning over the past 20 years, including the perception that it can be (strongly) felt by participants in computer-mediated communication (Gunawardena, 1995; Richardson & Swan, 2003). Social presence has been shown to influence many factors in students' learning experiences. More specifically, social presence can influence students' participation and motivation to participate (Swan & Shih, 2005; Tao, 2009; Tu & McIsaac, 2002), course and instructor satisfaction (Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003; Swan & Shih, 2005), and both actual and perceived learning (Hostetter & Busch, 2013; Kang & Im, 2013; Richardson & Swan, 2003; Wise, Chang, Duffy & del Valle, 2004). Further, social presence has implications for course design (Arbaugh, 2005; Swan, Matthews, Bogle, Boles & Day, 2012; Tu & McIssac, 2002) and even for retention and intention to enroll in online course rates (Boston et al., 2009; Reio & Crim, 2013). Finally, while the concept of social presence has much to do with the iterations between online participants, it has also been found to permeate all aspects of a course, including seemingly individual assignments (Hostetter & Busch, 2013; Richardson & Swan, 2003).

Research on social presence has increased not only due to the rise in online learning environments and the search for best practices therein, but also in part because it is one-third of the triumvirate of the Community of Inquiry (CoI): a process-based framework that has been widely adopted in the past 15 years and, along with teaching presence and cognitive presence, widely researched (Arbaugh, 2008; Boston, et al., 2009; Swan, et. al., 2008).

## **The Relationship between Social Presence and Technology**

To understand social presence, one must realize that technology has been tied to social presence since the beginning. Short, Williams, and Christie (1976) developed the theory of social presence to explain the effect telecommunications media (i.e., technology) have on communication. They believed that media differ in their degree of social presence and that these differences influence how people interact. In fact, they argued that people perceive some media as having a higher degree of social presence (e.g., video) than other media (e.g., audio) based on the nonverbal and relational cues filtered out. With the rise of computer-mediated communication (CMC), researchers and online educators, though, began to question the highly technological deterministic perspective of Short et al. (see Danchak, Walther, & Swan, 2001; Gunawardena, 1995; Gunawardena & Zittle, 1997; Tu, 2000). They argued that it matters more what one does with, and how one uses, a communication medium than any supposed capabilities of a communication medium (Walther, 1992, 1996). But with advances in communication technology, online educators have continued to explore the affordances and constraints of emerging communication technologies and specifically the different ways one may leverage these technologies for teaching and learning purposes and specifically for social presence purposes. For instance, online educators have explored how to use text-messaging (DuVall, Powell, Hodge, & Ellis, 2007), digital stories (Lowenthal & Dunlap, 2010), digital music (Dunlap & Lowenthal, 2010), social media (Dunlap & Lowenthal, 2009, 2011), and VoiceThread (Borup, West, & Graham, 2012) to name a few. As communication technologies evolve, online educators will continue to experiment with how to best leverage the affordances of these technologies to establish each other as being “real” and “there” in online courses.

## **Measuring Social Presence: Findings and Observations from a Meta-Analysis**

The results of a recent meta-analysis conducted by the presenters on social presence will be presented to provide an overview of what we know about social presence measures. The meta-analysis targeted studies from 1992 to May 2015 and explored the relationship between social presence and student outcomes (satisfaction and perceived learning). To be included in the meta-analysis, each study had fit three conditions: the study (a) investigated the relationship between social presence and either perceived learning or students’ satisfaction in fully online courses in a higher education setting; (b) used social presence, or related theories as a framework; and (c) reported quantitative information that can be used to calculate the correlation between social presence and either satisfaction or perceived learning. Based on these criteria, 73 out of 98 studies were excluded from the sample pool leaving 25 studies.

Two types of Pearson’s correlation coefficient ( $r$ ) that represents the relationship between social presence and student satisfaction or the relationship between social presence and student perceived learning, respectively, served as effect sizes. The results showed a moderately large positive average correlation between social presence and satisfaction ( $r = .557, k = 26$ ) and social presence and perceived learning ( $r = .510, k = 26$ ). A large variation among effect sizes (86.7% for satisfaction and 92.8% for perceived learning, respectively) also indicated systematic differences among these correlations due to online course settings. We found that (a) the magnitude of the relationship between social presence and satisfaction was moderated by the course length, discipline area, and scale used to measure social presence; and (b) the relationship between social presence and perceived learning was moderated by the course length, discipline area, and target audience of the course.

The meta-analysis study provides some interesting insights into the measures of social presence currently in use. It shows that no two scales are truly equal while also indicating that strengths can be found in each despite this disparity. Although two scales may purport to measure the same construct, the dimensions may vary and capture a different element of the same construct based on the set of items (operationalization) included in scale, resulting in differing outcomes. However, when the reliability of one scale is higher the correlations with student outcomes will also be higher even when different scales measure the same construct. In this case, the Richardson and Swan scale (2003) demonstrated a higher reliability (less measurement error) than the other scales examined.

As with other constructs that are regularly investigated in educational research (e.g., critical thinking) the elusiveness of social presence continues to confound our attempts to capture it with a single measure, whether that be through behavioral indicators (Rourke, et al., 1999; Swan & Shih, 2005) or self-report measures (Gunawardena & Zittle, 1997; Swan, et. al., 2008). Several researchers have concluded that because social presence's multi-dimensional nature, measuring it is no easy feat: especially when defining it is challenging. As researchers now engaged with this line of inquiry, we concede the struggle of capturing the complex and multifaceted dimensions of social presence.

## Perceptions of Social Presence Online: Three Conceptual Lenses

In line with the results from the meta-analysis, the presentation will review the idea that social presence is a multi-faceted construct and one way to help us understand the past, present, and future of social presence is by recognizing the conceptual lens a researcher is using. In the past attention in research was not given to multiple lenses but rather used a single lens and generally excluded all others. Yet, perceptions of social presence have evolved over time, are still in use, and generally fall into three major schools of thought: *Technology-Driven*, *Determined by Participant Perceptions*, and *Literacy-Oriented*. The common ground among these three orientations is that they all suggest that learning is more than a mere passive transmission-based process, certainly more than what Paulo Friere identifies as the Banking Concept of Education. Each of these perspectives is explored below:

***Technology-Driven.*** The technology-driven focus draws from the telecommunication era of the late 1960s and 1970s when organizations began investing more time, money, and infrastructure into teleconferencing. In this era, computer-mediated communication (CMC) researchers viewed social presence as that which was lost or missing from the communicative experience. This philosophy derives from the ground-breaking work of Short, Williams, and Christie where researchers perceived social presence as the “degree of salience of the other person in a mediated communication and the consequent salience of their interpersonal interactions” (1976, p. 65). As various interactive and other communication media evolved, such as social media, video streaming, Web conferencing, and learning management systems, social presence research began to revisit the effects of differing technologies on learner perceptions of social presence. Many of these studies have been grounded in the Community of Inquiry framework but move beyond it to again consider technological effects (Nippard, & Murphy, 2007; Ice, Curtis, Phillips, & Wells, 2008; Dunlap, & Lowenthal, 2009, 2014; Lowenthal, & Dunlap, 2010; Nagel, & Kotze, 2010; Daspit, & D'Souza, 2012; Lowenthal, 2009).

***Participant Perceptions.*** The notion that social presence was a function of media, however, was challenged by researchers in the field who showed that perceived social presence in online interactions varies among participants in the same mediated conversations (Gunawardena & Zittle, 1996), and indeed that many participants perceived online discourse as more personal than traditional classroom discussion (Walther 1992; Wegeriff, 1998). They thus argued that social presence was as much a matter of individual perceptions as an objective quality of the medium. This sense of social presence was adopted by the scholars who created the Community of Inquiry (CoI) framework, which describes learning processes in online environments. Garrison, Anderson, and Archer (2000; 2010) explain learning online as supported by the interconnection of three presences—social presence, teacher presence, and cognitive presence. Since the COI's inception in the late 1990s, researchers have employed the COI framework widely in dozens of studies across various institutions, subject areas, and student populations worldwide (Richardson, & Swan, 2003; Wise, Chang, Duffy, & del Valle, 2004; Arbaugh, 2008; Garrison, & Cleveland-Innes, 2005; Swan, & Shih, 2005; Shea, Li, Swan, & Pickett, 2005; Lomicka, & Lord, 2007; Shea & Bidjerano, 2009; Garrison, & Akyol, 2013; Boston, Diaz, Gibson, Ice, Richardson, & Swan, 2009; Cleveland-Innes, Ally, Wark, & Fung, 2013 ).

***Literacy-Oriented.*** The final category is still emerging in many ways. This school of thought views social presence as an overarching concept—as a literacy in its own right. Social presence in this view, is not the extension of participants in a learning environment or a small part of an educational experience. Instead, social presence serves at the center of a dynamic interplay of instructors, students, instructional designers, instructional strategies, technology, media, and norms coming together to determine the learning outcomes. Researchers who embody this philosophy often employ the Social Presence Model (SPM) (Whiteside, 2015) with the following five

interconnected components: Affective Association, Community Cohesion, Instructor Involvement, Interaction Intensity, and Knowledge and Experience (Garrett Dikkers, Whiteside, & Lewis, 2012, 2013; Whiteside & Garrett Dikkers, 2012; Whiteside, Garrett Dikkers, & Lewis, 2014). The SPM views social presence as a “master conductor that synchronizes the instructor, students, norms, academic content, learning management system (LMS), media and tools, instructional strategies, and outcomes within a learning experience” (Whiteside, 2015)

## Summary

Social presence is a popular construct used in online education. However, it has a rich and varied history that too many are not aware of. Participants in this session will learn about the past, present, and future of social presence through a specific focus on the origins of social presence, how it is defined, measured, and researched, and finally three common lenses used by researchers today.

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