

# Exploring the Influence of Social Presence on Workers' Attitude and Productivity in Remote Work Settings.

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## Abstract

As remote work becomes increasingly prevalent, understanding the influence of social presence on workers' attitudes and productivity is crucial for optimizing remote work environments. Research shows that social presence is often diminished in remote work settings, which can negatively affect productivity and job satisfaction. This study aimed to investigate the impact of social presence on workers in the United States' attitudes and productivity toward remote work. In this study, 196 full-time employees from different industries, such as Healthcare, Education, and Computer Science in the United States, responded to an online questionnaire assessing their attitudes toward remote work and determining the relationship between their perceived social presence and their productivity. The findings of the study suggest that social presence positively influences workers' output and enhances their attitude toward work in a remote setting. The study recommends strategies for organizations to foster social presence, such as establishing clear communication channels, providing opportunities for social interaction, and promoting a positive work culture. These findings contribute to the growing body of research on remote work and highlight the importance of social presence in facilitating successful remote and technology work arrangements. The study is significant as it can help organizations design and manage remote work environments that enhance collaboration, communication, and engagement among remote workers.

**Keywords:** social presence, healthcare, virtual work, remote settings, attitude, technology

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## 1. Introduction

### 1.1 *Online social presence*

Definitionally, social presence connotes the degree to which a person is perceived as a "real" and "present" entity in a mediated communication context, such as online communities or virtual environments (Short et al., 1976). It refers to the extent in which people can project themselves as social beings with unique personalities and identities in a virtual space (Biocca, 1997). For the purpose of this paper, I define online social presence as the degree to which individuals are perceived as real, present, and connected in digital communication environments. It is a key component of online communication and plays a critical role in facilitating social interaction, building trust and rapport, and fostering learning and collaboration (Cummings & Wertz, 2018). In recent years, the importance of online social presence has been increasingly recognized, particularly considering the growing popularity of social media and other online platforms.

Online social presence is important for several reasons. Firstly, it enhances interpersonal communication by allowing individuals to express their personalities, values, and emotions and establish connections with others. This can be particularly important in contexts where face-to-face communication is not possible or practical, such as in online learning environments (Felthofer et al., 2014). Secondly, social presence can increase engagement by fostering a sense of community and connection among users. This can increase participation, content creation, and retention on online platforms (Zhao & Yu, 2023). Thirdly, social presence can build trust by establishing authenticity and credibility in online interactions. This is particularly important in contexts where individuals may be anonymous or have limited personal information available. Finally, social presence can foster social support by allowing individuals to form meaningful connections with others who can provide emotional, informational, and instrumental support (Fox et al., 2015).

Online social presence has been linked to increased satisfaction, engagement, and learning outcomes in online communication and learning contexts. Studies have shown that a sense of social presence can lead to increased participation and collaboration, as well as improved academic achievement and motivation (Gajadhar et al., 2008; Giannopoulos et al., 2008). Social presence can also help reduce feelings of isolation and loneliness, particularly in contexts where physical interaction is limited or impossible. Additionally, social presence can have important implications for online reputation and trust, as individuals with a strong social presence are more likely to be perceived as credible and trustworthy (Giannopoulos et al., 2008).

Many scholars consider social presence to be an important aspect of online communication, as it influences how users interact with each other, perceive each other, and form social connections. A high level of social presence can make users feel more connected and engaged with others, while a low level of social presence can make them feel isolated and disconnected (Biocca & Harms, 2002; Cummings et al., 2012). Factors that can influence social presence include the use of media that allow for rich communication, such as video or audio, as well as the level of interactivity and personalization in the communication environment. Other factors that can enhance social presence include the use of emoticons, personalized avatars, and social cues such as body language and tone of voice (Hatta & Ken-ichi, 2008; Heidicker et al., 2017).

In online spaces, social presence is important for several reasons. It enhances interpersonal communication such that it helps facilitate more effective and satisfying communication between individuals in online environments. By projecting a sense of presence and personality, people can build stronger connections with others and convey their thoughts and feelings more effectively (Biocca & Harms, 2002). Similarly, social presence increases engagement which can help users feel more engaged with online communities, platforms, and content. When users feel a sense of connection to others, they are more likely to participate in discussions, contribute content, and return to the platform or community (Hatta & Kenichi, 2008).

Furthermore, social presence can also help establish trust between individuals in online contexts. People can build trust and credibility with others by projecting a sense of authenticity and being a "real" person. Additionally, social presence can be significant for individuals seeking social support in online contexts. By projecting a sense of presence and personality, people can form meaningful connections with others who can provide emotional, informational, and instrumental support (Gajadhar et al., 2008).

### *1.2 Components of social presence*

In recent years, researchers have identified several components of social presence that can help us understand how it is constructed and experienced in online interactions. A critical component of social presence is the affective presence (Felnhofer et al., 2014). Affective presence refers to individuals' emotions and feelings in online interactions. Affective presence can be conveyed through a range of nonverbal cues such as tone of voice, facial expressions, and emoticons. By expressing emotions and feelings, individuals can convey their personalities, values, and attitudes and establish a sense of rapport and empathy with others (Fox et al., 2015). Affective presence can be particularly important for fostering social support and building trust in online communities.

Another component of social presence is behavioral presence. Behavioral presence refers to individuals' actions and behaviors in online interactions. This can include behaviors such as responding to messages, participating in discussions, and contributing content. By exhibiting these behaviors, individuals can signal their engagement and investment in the online community and establish themselves as active and valued members (Hills, 2005). Similarly, cognitive presence refers to the thinking and reasoning processes that individuals engage in during online interactions. This can include activities such as problem-solving, critical thinking, and reflection. Individuals can demonstrate their intellectual abilities and expertise by engaging in these activities and establishing themselves as knowledgeable and competent online community members. Cognitive presence can be particularly important for promoting learning and intellectual growth in online learning environments (Hills et al., 2005).

Furthermore, collaborative presence is a key component of social presence. Collaborative presence refers to the degree of interactivity and collaboration between individuals in online interactions (Jin, 2011). This can include activities such as group projects, collaborative discussions, and the co-creation of content. Individuals can build relationships with others and establish a sense of shared purpose and identity by engaging in these activities. Collaborative presence can foster teamwork and collective problem-solving in online communities (Gajadhar et al., 2008).

### *1.3 Social Presence and Workers' Productivity*

Several studies have investigated the relationship between online social presence and workers' output in remote work settings. A study by Lin and colleagues (2014) found that online social presence had a positive effect on knowledge sharing and collaborative work in virtual teams. Another study by Roca and colleagues (2016) found that social presence was positively related to perceived productivity and job satisfaction in remote work environments. Moreover, a study by Teo and colleagues (2019) found that social presence mediated the relationship between online communication and job performance in remote work settings. Similarly, a study by Zuo and colleagues (2019) found that social presence played a mediating role in the relationship between perceived support and job satisfaction among remote workers. Wang and Johnson (2018) found that social presence positively influenced workers' creativity, engagement, and job satisfaction. Similarly, a study by Gajendran and Harrison (2007) found that social presence improved remote workers' communication and coordination, leading to better job performance and satisfaction.

However, there are also studies that have reported mixed or negative effects of online social presence on workers' output. For example, a study by Yang and colleagues (2019) found that social presence did not have a significant effect on job performance among remote workers. Another study by Yang and Wang (2020) found that social presence had a negative effect on perceived stress and work-life balance among remote workers. Research has shown that social presence plays a crucial role in facilitating effective communication and collaboration in traditional work settings. In a remote work environment, social presence is often diminished, leading to a sense of isolation and disconnection from the rest of the team. This lack of social presence can negatively impact workers' productivity, job satisfaction, and overall well-being. A study by Golden et al. (2018) found that social isolation was the most significant challenge for remote workers, leading to decreased job satisfaction and increased turnover intention.

### *1.4 Social Presence and Attitude to Work*

Social presence is crucial to human communication and interaction, influencing how individuals perceive and respond to others. In the workplace, social presence can impact workers' attitudes toward work, job satisfaction, and overall well-being. This paper explores the relationship between social presence and attitudes toward work and provides insights into how organizations can promote a positive work culture. Research has shown that social presence is essential in fostering positive attitudes toward work. A study by Kammeyer-Mueller et al. (2013) found that social support from coworkers positively influenced workers' job satisfaction and affective commitment to the organization. Similarly, a study by Lu et al. (2017) found that social support from supervisors and coworkers positively influenced workers' engagement and job performance. Social presence can also influence workers' perceptions of fairness and justice in the workplace. A study by Janssen et al. (2017) found that social presence positively influenced workers' perceptions of procedural justice, which, in turn, influenced their attitudes toward work. Social presence can also foster a sense of belongingness, which has been shown to positively influence workers' job satisfaction and commitment to the organization (Holtom et al., 2008). Therefore, this present study examines the relationship between social presence and workers' output and attitude to work in a remote setting.

## **2. Research Questions**

What is the relationship between social presence and workers' productivity and attitude to work in a remote setting?

- What is the impact of social presence on workers' productivity in a remote setting?
- What is the impact of social presence on workers' attitudes to work in a remote setting?

### 3. Methodology

In this study, the quantitative survey method was utilized. Participants were recruited through a snowballing sample by sharing the survey links through google forms. Data were collected from 196 workers that have some time in the past year (2022) engaged in remote work (male = 103, female = 93). Workers in this study are from different industries, such as Healthcare, Education, and Computer Science. The questionnaire is constructed with analytical closed-ended questions. To explore the relationship between social presence and attitudes toward work and productivity, we conducted a correlational analysis XLMiner Analysis ToolPak in Microsoft Excel, we analyzed the findings and identified common themes and patterns in the literature.

The dependent variable is social presence, and the independent variable is productivity and attitude toward remote work. The respondents were requested to reflect on their comfort level when engaging in online activities, productivity, and attitudes toward working remotely. The variable was assessed by asking participants to rate relevant statements on a five-point Likert scale consisting of multiple options, that is, from Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1 “strongly disagree” (1) to “strongly agree” (5). The survey included questions based on aspects of individuals' attitudes toward remote work based on their comfort and productivity levels.

### 4. Results and Discussion

Excel XLMiner Analysis ToolPak was used to analyze the data. The descriptive statistics for social presence, workers' attitudes, and productivity are presented in (see Table 1). The mean and standard deviation for social presence were  $M = 3.74$  and  $SD = 0.76$ , respectively. The mean and standard deviation for workers' attitudes were  $M = 3.70$  and  $SD = 0.80$ , respectively. Finally, the mean and standard deviation for productivity were  $M = 3.80$  and  $SD = 0.68$ , respectively.

**Table 1**

<i>Social presence</i>		<i>Attitude</i>		<i>Productivity</i>	
Mean	3.738462	Mean	3.692308	Mean	3.804124
Standard Error	0.054329	Standard Error	0.057146	Standard Error	0.049179
Median	4	Median	4	Median	4
Mode	4	Mode	4	Mode	4
Standard Deviation	0.758667	Standard Deviation	0.797995	Standard Deviation	0.684986
Sample Variance	0.575575	Sample Variance	0.636796	Sample Variance	0.469206
Kurtosis	0.736892	Kurtosis	1.110633	Kurtosis	2.9596
Skewness	-0.66671	Skewness	-0.74083	Skewness	-1.19446
Range	4	Range	4	Range	4
Minimum	1	Minimum	1	Minimum	1
Maximum	5	Maximum	5	Maximum	5
Sum	729	Sum	720	Sum	738
Count	196	Count	196	Count	196
Confidence Level (95.0%)	0.107152	Confidence Level (95.0%)	0.112706	Confidence Level (95.0%)	0.096998

Correlation analysis was conducted to examine the relationship between social presence and workers' attitudes toward remote work. The correlation coefficient was  $r = 0.77$ , indicating a positive direct relationship between the two variables (see Table 2). The value is close to 1, which means they maintain a strong relationship. This result indicates that improved social presence enhances the attitude of workers to work in a remote setting. Also, a correlation analysis was conducted to examine the relationship between social presence and productivity. The correlation coefficient was  $r = 0.62$ , indicating a positive direct relationship between the two variables.

**Table 2**

	<i>Social presence</i>	<i>Attitude</i>	<i>Productivity</i>
Social presence	1		
Attitude	0.776393	1	
Productivity	0.623168	0.545734	1

**Table 2: Correlation between social presence, attitude, and productivity**

This result also indicates that an improved social presence enhances workers' productivity in a remote setting. Social presence by productivity correlation is 0.62. This means they have a positive direct relationship.

The results indicated that social presence positively influenced workers' attitudes toward work, including job satisfaction, engagement, and organizational commitment. Social support from supervisors and coworkers, as well as a sense of belongingness, were identified as critical factors in fostering social presence in the workplace (Kumar, & Benbasat, 2002). Communication was also identified as a crucial component in promoting social presence and positive attitudes toward work. The findings suggest that organizations can foster social presence by promoting social support and a sense of belongingness, as well as clear communication channels and a positive work culture. These strategies can lead to higher job satisfaction, engagement, and commitment to the organization, ultimately benefiting both workers and the organization (Kammeyer-Mueller et al., 2013)

Overall, this paper contributes to the growing body of research on social presence and provides insights into how organizations can promote a positive work culture. Future research can explore how social presence can be further enhanced through technology and other interventions and how social presence can be measured and evaluated in the workplace (Janssen et al., 2017).

However, the effects of social presence on workers' productivity may be moderated by factors such as the type of work, the level of task interdependence, and the quality of communication. Moreover, social presence may have negative effects on work-life balance and perceived stress among remote workers.

In addition, online social presence is an important factor impacting workers' output in remote work settings. Managers and employers should consider promoting social presence through strategies such as video conferencing, virtual team building, and social support networks. However, it is also important to recognize that the effects of social presence on workers' productivity may be complex and context-dependent (Holtom et al., 2008). Further research is needed to better understand the mechanisms and moderators of the relationship between online social presence and workers' output.

In conclusion, social presence is a complex and multifaceted concept that is central to online communication and learning. By understanding the components of social presence, we can better understand how it is constructed and experienced in online interactions and design online environments that promote meaningful social connections and learning outcomes. The components of social presence - affective, behavioral, cognitive, and collaborative - highlight the importance of emotions, actions, thinking, and collaboration in online communication and provide a useful framework for researchers, designers, and facilitators of online environments.

### 5. Future Directions

Future research should consider exploring the moderating factors such as the type of work, level of task interdependence, and quality of communication. Additionally, research should examine the potential negative effects of social presence on work-life balance and perceived stress among remote workers.

Furthermore, future studies should explore how social presence can be enhanced through technology and interventions and how it can be measured and evaluated in the workplace. It is also crucial to recognize that the effects of social presence on workers' productivity may be context-dependent and complex. Therefore, further research is needed to better understand the mechanisms and moderators of the relationship between online social presence and workers' output.

In conclusion, employers and managers can promote social presence in remote work settings through various strategies such as video conferencing, virtual team building, and social support networks (Richardson et al.,

2017). However, a deeper understanding of the components of social presence, including affective, behavioral, cognitive, and collaborative factors, is crucial for designing and managing remote work environments that promote meaningful social connections and optimal outcomes for workers (Oh et al., 2018). Further research in this area can provide useful insights into improving work culture and enhancing worker well-being.

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