Social Presence in Social Media: Persuasion, Design and Discourse*

Doctoral Consortium

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1 MOTIVATION AND PROBLEM STATEMENT

The social presence construct has gained widespread use in explaining computer mediated communication outcomes. With social information systems gaining more prominence, this construct, which has at its heart the users and their interrelationships, has gained more traction. In my dissertation, I analyze this important construct in three essays from three perspectives: consequences, "competition" aspect, and antecedents. One, while social presence has been shown to impact task performance under various contexts, there is less clarity in the mediating mechanisms, and even less research on the contingencies in social presence's impact on task performance. So, in my first essay I ask: How does social presence affect task performance? And do these effects depend on task-related, contextual and cultural contingencies? Two, in the United States, several studies of different groups of HIV-positive individuals generally show suboptimal rates of adherence. I examine the "competition" dimension of social presence, i.e. others are present but competing with the user, and its outcomes in the HIV context. I analyze the impact of a competitive gamification application in improving HIV patient medication adherence measured using a Medication Event Monitoring System (MEMS). I also analyze patients' entrainment with multiple time cycles related to technology cues, game performance, and the work life, which pose conflicting demands to patients' adherence. I also study how this entrainment is impacted by patients' perceptions around their technological and social environments. Three, with social systems providing users affordances for user-generated content, and for maintaining online relationships, it is important to study the user's online

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social network structure and its impact on the social presence. In essay 3, I analyze the antecedents of social presence, particularly those pertaining to online social network structure.

2 BACKGROUND LITERATURE

The basic idea behind these essays is bringing about a social space online. The pioneering work on social presence informs my dissertation [1]. Essay 1 integrates social presence theory with the Elaboration Likelihood Model [2]. Essay 2 is rooted in entrainment theory [3], and the Health Belief Model, a widely cited model of preventive health behavior that proposes that a "cue to action" for a patient elicits health behavior change in the patient [4]. Essay 3 integrates the social network theory with social presence theory [5].

3 METHODS

In the first essay, we build a social presence model of task performance, with task complexity and system purpose as the moderators. We empirically tested our hypotheses with the state-of-the-art, rigorous Two Stage Random Effects Meta-Analytic Structural Equation Model [6]. The second essay is an experimental study. We have three main data sources for analyses – patient electronic medical record (EMR) for co-morbid conditions, our cloud setup for daily MEMS (time of use) and game app use data (time and duration of use), and four surveys for self-reported data on a variety of psychological, perceptual, behavioral, and demographic variables. We plan to use longitudinal structural equation modeling and panel data analyses to test our hypotheses. Essay 3 analyzes secondary data from a leading online health community. Text analyses and social network analyses will be used to operationalize the variables. Econometric models will be used to empirically test the hypotheses.

4 RESULTS

Our analyses from essay 1 shows that social presence's relationships with task impacts - performance and effort, are mediated by flow-based central processing, and trust-based peripheral processing. Task-complexity negatively moderates the positive social presence-flow relationship, and positively

moderates the positive social presence–trust relationship. On the other hand, utilitarian system context (versus hedonic) positively moderates the positive social presence-flow relationship, and negatively moderates the positive social presence–trust relationship. Data collection for essay 2 is under progress. Essay 3 is under data analyses stage.

5 IMPLICATIONS

My dissertation contributes to the literature on social presence in three ways. One, it provides clarity on consequences of social presence through the social presence model of task performance, with task-related and contextual contingencies. Two, if positive results are obtained in essay 2 analyzing the competition dimension of social presence, then the proposed technology intervention focused on enhancing ART adherence through fun and competition could significantly enhance the standard of care with respect to poorly adherent HIV/AIDS patients in the US. This change in clinical practice may also have broader implications for the self-management of other chronic diseases as well. Three, the study of antecedents of social presence in online health communities fills the gap in the literature that has less focused on a user's social network.

6 REFERENCES

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