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PERSUASIVE TECHNOLOGIES AND SOCIAL INTERACTIONS IN PROFESSIONAL ENVIRONMENTS: EMBEDDED QUALITATIVE CASE STUDY

ABSTRACT

Background: Although previous studies have highlighted the impact of interactions on the web in the context of patient-health care professional (HCP) dyads, this paper extends that context to a triad that includes the role of employers and associated settings with social groups.

Objective: This study aims to evaluate how the interactions between individuals and the social use of the platform affect individuals' use of persuasive technology and, in turn, their work environment actions and responses, by implementing a persuasive technology health and wellness platform in a work environment.

Methods: For 8 months, we deployed a persuasive technology platform with different combinations of health-related features and content in 1 embedded case design with 8 fire stations for a small Canadian city (total number of participant firefighters, $n=141$) assigned to 1 of 2 treatments-interactive or static webpages. We used text-based content analysis techniques for outcome measures, drawn from a total of 29 participant exit interviews. In addition, medical assessments were conducted at baseline, midpoint, and end point by 7 HCPs and 1 researcher (BM), who also served as the data steward and managed the study.

Results: Our results reveal that group, social, and work influences introduce new elements to the use of persuasive technology,

which interact to foster higher levels of individual success. The platform in our study served as part of a larger social system, providing information that facilitated new behaviors at work and home. The 8-month group programs centered on exercise, nutrition, and smoking cessation. Groups of participants coached by certified professionals showed significant increases in sodium awareness, levels of actual exercise, and consistency of activities. As a result of the study, of 141 people, 15 (10.6%) were notified of serious medical health issues and 29 (20.6%) underwent blood work assessments and a privacy shield (protected by federal law) was enacted to protect employees from losing their employment based on any health concerns disclosed.

Conclusions: The persuasive technology platform, in combination with self-management and professional management and social interactions, significantly altered work management behaviors. Interactions among individual outcomes, group influences, and social situations strongly influenced individuals' behaviors in their work and home environments. Three things further improved the positive results that we observed: privacy shields (which allowed employees to reveal health concerns without fear of professional consequences), individual private activities aligned with group activities, and integration between HCP work with localized, organizational work roles.