Chapter 21
Social Forces that Influence Health IT Use Behavior of the Elderly

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ABSTRACT

The social forces that influence patient portal use behavior among the elderly are not well understood. Using both institutional theory and the Unified Theory of Acceptance and Use of Technology, the proposed model examines three social environmental factors – normative, mimetic, and coercive forces – within a Health Information Technology (HIT) context. An empirical study involving 117 subjects in the United States was used to test the proposed model. Using the partial least squares method, mimetic and coercive pressures were found to significantly influence patient portal use behavior. These findings indicate that older people follow not only their providers' advice, but also follow the behavior of respected, higher-status peers from their network. Normative pressure was not found to be significant, implying that older people do not follow the bandwagon effect.

INTRODUCTION

The healthcare industry is paying greater attention to improving patient outcomes through better provider-patient communication (Tang et al., 2013; Chrischilles et al.,2014). One such tool that is seeing greater utilization by healthcare providers is the patient portal. Patient portals are secure online websites that allow patients to access their personal health information, such as communicate summaries of recent visits, medications, immunizations, allergies, and lab results, from any location with an Internet connec-

tion (Krist et al., 2012; HealthIT.gov). More sophisticated patient portals are also capable of scheduling non-urgent appointments, downloading and submitting forms, processing prescription refills, accepting payments, and providing viewable educational material (Goldzweig et al., 2013). Patient portals have become a valuable tool for addressing the problem of rapidly aging populations in most countries (Bierman, 2012).

The use of electronic health records (EHR) is also on the rise. A 2014 study (Hsiao & Hing, 2014) shows that about 80% of office-based physicians in the US use EHRs, and a majority of them (69%) are committed to participate in the meaningful use incentive payment program available in the United States (Blumenthal & Tavenner, 2010). One of the Stage 2 Core Set objectives to achieve meaningful is "provide patients the ability to view online, download, and transmit their health information" (HealthIT. gov). This means that healthcare providers with EHR systems are mandated to provide patients with access to personal health information over the Internet using a secure online portal. Several other countries are introducing similar initiatives as they try to both improve health outcomes and strive for efficiencies in their health systems (Wickramasinghe, Davey, & Tatnall, 2013).

Numerous studies examine patient portal acceptance and use (Goldzweig et al., 2013; Ancker et al., 2011; Smith et al., 2015; Sarkar et al., 2011; Goel et al., 2011; Jung et al., 2011; Weppner et al., 2010). Patients with chronic conditions are more likely to accept and use patient portals (Goldzweig et al., 2013; Ancker et al., 2011; Millard & Fintak, 2002). Patient age is negatively correlated with portal adoption and use, especially among older patients (Goel et al., 2011; Jung, Padman, Shevchik, et al., 2011; Weppner et al., 2010). Roughly 20% of the US population will be over the age of 65 by 2030 in the next decade due to longer life spans and aging baby boomers (CDC, 2013), and it has been established that doctor visits and medical spending increase during the final years of life (Hogan, Lunney, Gabel, & Lynn, 2001). In fact, some studies indicate a quarter of an individual's medical spending occurs in their final year (Lubitz & Riley, 1993). Hence, one can conclude that while older patients could benefit most from patient portals, they are the least likely group to use them.

While there exists a number of empirical studies that examine various factors to better understand consumer health information technology (CHIT) acceptance and use, they rely primarily on technology acceptance theories (Klein, 2007). The variety of antecedents in the competing models show that older patients are less likely to accept CHIT by making use of online health information because of less comfort, efficacy, and control (Smith et al., 2015; Or & Karsh, 2009). However, one of these antecedents is social influence, also called subjective norm (Ajzen, 1991; Venkatesh & Davis, 2000; Moore & Benbasat, 1991), which remains unexplored in regards to older patients. According to Carley and Kaufer (1993), elderly patients are likely to conform to the attitudes, norms, and beliefs of those around them, meaning that social influence may be a motivator for the elderly to adopt and use patient portals. It is therefore prudent to examine social influence in more detail beyond the technology acceptance theories.

This empirical study argues that elderly patients' opinions about patient portal acceptance and use are influenced by those peers they respect. The conceptual model proposed herein is based on institutional theory's driving forces as a precursor of the driving forces of behavioral intention and use behavior within the Unified Theory of Acceptance and Use of Technology (UTAUT) Model. Data collected from the elderly in various social settings provides the basis of our empirical evidence that normative, coercive, and mimetic social forces significantly influence older patients' use behavior toward patient portals.

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