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The Impact of Personal Dispositions on Privacy and Trust in Disclosing Health Information Online

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Abstract

Privacy issues are major concerns in disclosing sensitive personal information such as health-related information. This study investigates the impact of personal dispositions on forming privacy concern and trust in context of disclosing personal health information online, based on utility theory and prospect theory. The study is among the first to provide a comprehensive list of constructs related to the personal dispositions in this context. The conceptual model shows health status, personality traits, culture, prior privacy invasions and experience with the website as salient constructs, which form individuals' personal dispositions in their encounter with online requests for personal health information. Data were collected using a lab experiment. The results show that personal dispositions have significant impacts on factors that determine privacy concern, trust, and intention to disclose personal health information online. This work contributes to the research in health information privacy concern based on utility and prospect theories and sheds some light on the role of culture in the examination of privacy-trust constructs. Furthermore, the results of this study could be of use for web-based healthcare providers and other health-related websites, which collect personal information from their clients online.

Keywords: Health information sensitivity, privacy concern, trust, culture, personality.

Introduction

Online users have serious privacy concerns about how personal health information is used, disclosed, or protected and the degree of awareness and control people have regarding their information (Westin 2006). They are concerned about possible economic or social harm that may result from misuse of such information (Luck et al 2006). Moreover, with the advent of the Health Insurance Portability and Accountability Act (HIPAA), privacy concerns related to health information have been elevated to the forefront (Lazarou et al. 1998).

Individuals have high level of privacy concerns—88.2% Internet users have expressed concern about the privacy of their personal information (The digital future report, USC, 2004). Evidence suggests that privacy of health information is of focal concern for individuals (Bodenheimer et al. 2003; Cantor 2001; Harris-Interactive et al. 2002; Masys et al. 2002; Shortlife 1999; Westin 2003). Rindfleisch (1997) argues that because of health information privacy concern, individuals avoid healthcare in sensitive areas. In the same vein it could be argued that because of the fear of loss of the health information privacy, individuals may tend to avoid online healthcare especially in those areas which they consider sensitive. Rindfleisch (1997) provides several reasons for health information privacy concerns: (i) fear of discrimination by employees and insurance agencies; (ii) information once distributed cannot be made secret again; (iii) medical personnel may release health information out of curiosity, spite, revenge or profit; and (iv) once information leaves the hands of direct care provider, its use and control are subject to the ethical practices of the “secondary” user.

There is a difference between “psychological” privacy and “information” privacy. However, both views regard privacy as a personality disposition or an individual level phenomenon (e.g., Malhotra et al. 2004; Pedersen 1969). “Psychological” privacy, as defined by Pedersen (1969), comprises of six dimensions: reserve, isolation, solitude, intimacy with friends, intimacy with family and anonymity. “Information” privacy, on the other hand, is about being in control of information, calculus of information exchange and trust that the collector of information will behave appropriately (Xu et al 2006). Westin (1967) has defined information privacy as the “claim of individuals, groups, or institutions to determine for themselves, when, how, and to what extent information about them is communicated to others” (p.7). Cespedes and Smith’s (1993) definition is “protection against unwarranted uses of personal information with minimal damage” (p.8). In this study, we focus on how salient personal dispositions impact information privacy concern and trust, which in turn influence the intention to disclose personal health information online.

The prospect theory argues that decision making is a psychological analysis of risk and value, which inherently depends on one’s personal disposition. In a similar vein, the utility theory and its application in the choice theory posit that consumer preferences are a function of their personal characteristics. Disclosing health information online is a decision that individuals have to make in their encounter with online healthcare providers. Hence, we argue that personal dispositions influence constructs that are salient in disclosing online information. These salient constructs are perceived information sensitivity, privacy concern, trust, and risk beliefs. Hence the research question in this study is: how salient personal dispositions (such as personality, health status, culture, and web experiences) impact sensitivity of health information, privacy concern and trust levels in decision to provide personal health information online?

Literature Review and Research Model

Contemporary utility theory (as applied in arguments of choice theory) assumes that people make choices by maximizing their utility function that comprises of multiple choice alternatives or contributors (Ben-Akiva and Lerman 1985; Luce 1959; McFadden 1986; 2001). These alternatives (or contributors) are compensatory in nature in such a way that *utility* alternatives offset the *disutility* alternatives. McFadden (2001, pg. 356) argues that “the expressed preferences of the consumers are functions of their taste template, experience, and personal characteristics, including both observed and unobserved components”. The differences in individuals’ utility stem from their personal dispositions.

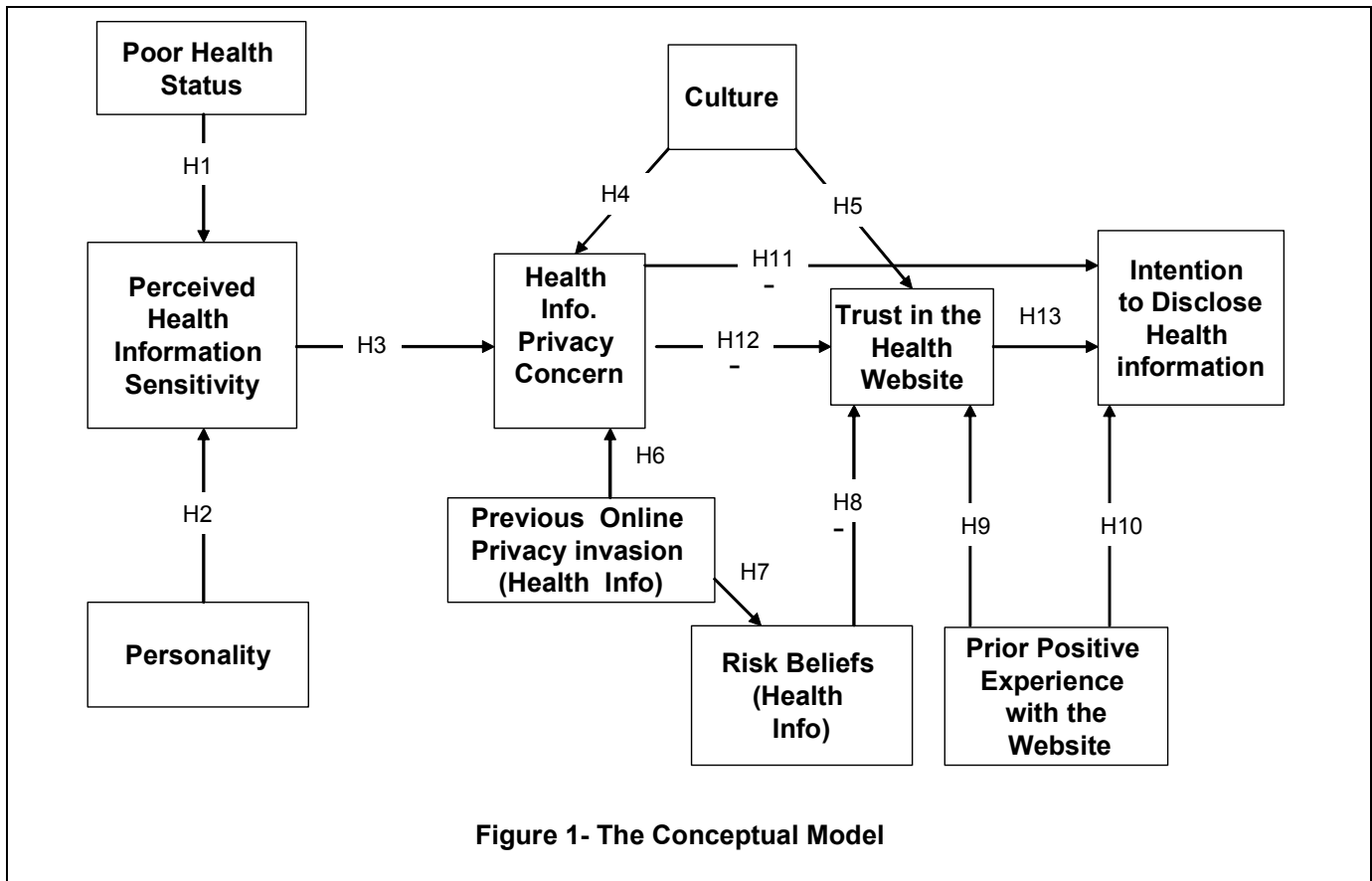
Arguing in terms of utility theory, we believe that for the visitors of a health website, the *utility* is the health services that a website provides. Since people in general regard their health information to be private, providing personal health information is a *disutility* attribute. This disutility may be further aggravated or reduced depending upon other contextual factors such as privacy concern (disutility-aggravator) and trust in the website (disutility-reducer). Moreover, there are always personal preferences attached to the way people make decisions, including the decision to provide personal health information online. The modern decision making theory posits that decision making is not a rationalized process. This is fully reflected in the prospect theory, which shows how personal biases and psychological states influence behavior under uncertain conditions (Tversky and Kahenan 1986).

We argue that in disclosing personal health information, a number of psychological and physiological dispositions influence individuals’ beliefs, including their health status, personality traits, culture, and web experiences, as shown in Figure 1 and discussed below.

Health Status

Tisnado et al (2006) examined the impact of demographics and health status on the level of concordance (agreement) between the actual health records and self-report health information. They found that the concordance varied significantly only by the patient health status. Those who perceive their health to be “poor” are more sensitive about their health information than others. Patients are concerned that once information is released it cannot become secret again (Rindfleisch 1997). Thus, we argue that perceived health status would impact perceived health information sensitivity.

Hypothesis 1: Perceived poor health status will be positively associated with perceived health information sensitivity.



Personality

It is widely accepted that perceived sensitivity of information varies with individual differences (Nowak and Phelps 1992; Phelps et al 2000; Sheehan and Hoy 2000). Previous research by Stone and Stone (1990) has also argued for links between a number of individual traits and values and information privacy issues. Moreover, in the psychology literature, Pedersen (1982) demonstrated that privacy choices are associated with personality characteristics.

Personality is an intransient dimension. It is noted that personality demonstrates a greater consistency along the time (Lastovicka and Joachimsthaler 1988). Personality traits influence the perception of information sensitivity. Based on the utility theory, Stone and Stone (1990) argue that individuals tend to maximize their positively valued outcomes and tend to minimize their negatively valued outcomes. Using previous privacy studies they demonstrated that by protecting their privacy, individuals want to maximize their physical and psychological well being and to minimize their physical and psychological harm. Since psychology is vastly an individual level attribute, the notion that privacy is inherently a personality trait holds ground. Berscheid (1977), Cozby (1973), Stone (1986) and Stone and Stone (1990) are among several researchers who have argued for the relationship between personality trait of introversion-extroversion and privacy orientation.

Basing their organizational privacy model on theories of motivation, advanced by Porter and Lawler (1968) and others, Stone and Stone (1990) maintain that personality impacts cognition, which impacts motivational forces that in turn lead to behaviors. In the same vein it could be argued that personality traits impact perceived sensitivity of health information, which is a cognition process where one evaluates a piece of health information from the perspective of positive and negative possible outcomes.

Furthermore, Karahanna et al. (2005) also argue that personality traits influence cognitive beliefs. We argue that perception regarding the sensitivity of information is a cognitive belief, which is influenced by personality traits.

Hypothesis 2: Perceived health information sensitivity is associated with personality traits.

Perceived Health Information Sensitivity

Previous privacy studies have found that consumer willingness to disclose personal information depends on sensitivity of information (Malhotra et al 2004; Milne 1997; Nowak and Phelps 1992; Phelps, Nowak and Ferrell 2000; Sheehan and Hoy 2000). Wang and Petrisson (1993) noted that consumers' reaction to privacy threats depend on the type of information requested by marketers. Echoing the similar thoughts, Milne (1997) observed that when obtaining information from people, compliance rates vary according to the relative sensitivity of the information requested. Hence, we argue that information sensitivity will be directly associated with privacy concern regarding personal health information.

Hypothesis 3: Perceived health information sensitivity is positively associated with privacy concern about disclosing personal health information.

Culture

Culture has been defined as the "collective programming of the mind which distinguishes the members of one human group from another" (Hofstede 1980, pg. 260). Research involving national cultures is usually divided into two streams: one which involves the samples in two or more different countries (e.g., Gefen and Heart 2006; Rose and Straub 1998; Straub et al. 1997) and second which examines individual's espoused national culture values irrespective of where he or she is living (e.g., Gallivan and Srite 2005; Karahanna et al 2005; McCoy et al 2005; Srite et al 2006; Straub et al. 2002). Considering the fact that culture is manifested at individual level (Straub et al 2002), it will be interesting to examine how the "espoused" national culture values impact trust and privacy concern. Hofstede (1980) defined that there are four dimensions of culture: masculinity/femininity, individualism/collectivism, power distance, and uncertainty avoidance. He later added long term vision as the fifth dimension. Extending the Hofstede's (1980) dimensions, Globe-study (House et al. 2004) illustrates that there are two broad categories for cultural dimensions: practices and values.

Culture has been modeled in different ways in IS studies. Some researchers (e.g., Srite et al 2006) have posited interaction effects while others (e.g., Karahanna et al 2005) argue that culture directly impacts cognitive beliefs, values and social norms.

Culture & Privacy Concern

Westin (1967) observed that every society values privacy in some form, but expressions of privacy differ significantly across cultures. Furthermore, Stone and Stone (1990) also argued for links between a number of individual traits and information privacy issues. Milberg et al (1995) conjectured that "it seems likely that associations between cultural values and information privacy concerns may also exist" (Milberg et al 1995 pg. 68). Milberg et al (1995) posited that individualism, power distance, and high uncertainty avoidance will be positively correlated with higher privacy concerns.

Even though there are many studies comparing privacy concern across borders (e.g., Dinev et al. 2006), this study is among the first to examine the espoused national cultural values, as discussed by Srite et al (2006). To keep the number of dimensions at a manageable level in the model, we focus on three more salient dimensions of culture: masculinity /femininity, individualism and humane orientation, the first two are from Hofstede's work and the last is based on the Globe study (House et al. 2004).

There is evidence that femininity is salient in privacy concern. Even though it is generally believed that women are more forthcoming (Hofstede 1980) and they should disclose more than men (Darlega and Chaikin 1977), Rosenbaum (1973) argues that women are more concerned about their sensitive information, including those related to their personal history and interest. Furthermore, individualism is more about "I" than it is about "we". Generally, the individualists believe in the "right to private life." Moreover, people who have high humane orientation are more forthcoming (House et al. 2004). Hence,

Hypothesis 4a: Femininity is positively associated with privacy concern.

Hypothesis 4b: Individualism is positively associated with privacy concern.

Hypothesis 4c: Humane orientation is negatively associated with privacy concern.

Culture & Trust

There has been an extensive study on the linkages between trust and culture. Researchers observe that trust and national culture are closely related (Gefen and Heart 2006; Doney, Cannon and Mullen 1998; Fukuyama 1995; Hofstede 1980); and that effects of trust are determined by culture (Doney et al 1998; Fukuyama 1995; Zucker 1986). Using respondents from US and Israel, Gefen and Heart (2006) argued that cultural differences would impact the trusting beliefs such that higher individualism and higher degree of uncertainty avoidance (low tolerance for uncertainty) each would be associated with higher trusting intentions whereas power distance would be associated with lower trusting intentions (Shaffer and O'Hara 1995; Shane 1992). We argue that cultural dimensions of femininity, humane orientation and individualism influence trust.

In their study on web documents, Zahedi et al (2006) found that femininity is characterized by belief signifiers such as relationship and relationship building, commitment, togetherness, and getting personal. In relations building, trust plays an important role (Cottrell et al. 2007). Hence, femininity would positively influence trust. Furthermore, people who have high humane orientation are more trusting and forthcoming (House et al. 2004). Moreover, Huff and Kelly (2003) in their study of seven-nations found that propensity to trust is higher in organizations from individualist cultures than from collectivist cultures. They argued that individualism is related with out-group trust, and collectivism is related with in-group trust. Individualists develop trust on outsiders easily, and collectivists are more skeptical of outsiders. In the same vein, it could be argued, that individualists are more trusting of the Internet and the health websites in particular. Hence,

Hypothesis 5a: Femininity is positively associated with trust.

Hypothesis 5b: Humane orientation is positively associated with trust.

Hypothesis 5c: Individualism is positively associated with trust.

Previous Online Privacy Invasion

Culnan (1993) and Stone et al. (1990) argued that previous privacy invasion could affect individuals' concerns for privacy. In another study, it has been shown that previous privacy invasion is negatively associated with willingness to be profiled online (Awad and Krishnan 2006).

According to integrative social contract theory (ISCT) (Donaldson et al 1994; 1995; 1999) members of a given community or industry behave fairly if their practices are governed by social contracts. Whenever customers provide their information to the online vendors, a social contract is created. "A social contract is initiated, therefore, when there are expectations of social norms (i.e., generally understood obligations), that governs the behavior of those involved" (Caudill et al. 2000 pg.14). This social contract ensures that the collector will undertake the responsibility to manage consumers' personal information properly (Caudill et al 2000; Culnan 1995; Milne et al 1993; Phelps et al 2000). This implied "psychological" (Pavlou and Gefen 2005) contract is considered breached if the consumer perceives that her privacy has been invaded by the "trusted" other party. Using the context of online market places, Pavlou and Gefen (2005) demonstrated that to an individual customer, a psychological contract violation by an individual seller leads to the perception of psychological contract violation by the entire community of sellers, which in turn heightens the individual's perceived risks from community of sellers. Thus it could be argued that an online privacy invasion is tantamount to a breach of psychological social contract, which would generate feelings of betrayal, resentment, and anger (Rousseau 1989) and create a perception of injustice (Pate and Malone 2000). Such feelings could lead to increased risk beliefs about all websites and Internet in general (Pavlou and Gefen 2005). In the same vein, it could be argued that previous online privacy invasion leads to increased risk beliefs associated with providing health information online, and heightens the privacy concern of the concerned individuals.

Hypothesis 6: Perception of previous online privacy invasion is positively associated with higher privacy concern.

Hypothesis 7: Perception of previous online privacy invasion is positively associated with higher risk beliefs associated with providing health information online.

Risk Beliefs Associated with Providing Health Information Online

Risk has been defined as "the possibility of loss" (Yates and Stone 1992 pg. 4). Perception of risk can be related to the uncertainty caused by the possibility of the vendor's opportunistic behavior that can result in loss for the consumer (Ganesan 1994). Pavlou (2003) argues that "the distant and impersonal nature of the on-line environment and the implicit uncertainty of using a global open infrastructure for transactions have rendered risk an inevitable element of e-commerce"

(pg. 109). Using the privacy calculus model and social exchange theory lens, Dinev and Hart (2006) demonstrated that willingness to provide personal information depends upon the risk-benefit analysis, in such a way that perception of higher risk lowers the trust and hence the willingness to disclose the personal information. Though researchers generally argue that trusting beliefs enhance trusting intentions by lowering the risk beliefs (Malhotra et al 2004; McKnight et al, 2002; Pavlou and Gefen 2005), privacy calculus model demonstrates that risk beliefs lower trust as well. Since the focus of *trust* construct in this study is related to a given website, whereas the risk beliefs are associated with providing health information online in general, we argue that risk beliefs impact trust in the website. Hence,

Hypothesis 8: The extent of risk beliefs associated with providing health information online is negatively associated with trust in a website.

Prior Experience with the Website

Previous research supports the notion that prior positive experience is associated with trust in a website. Familiarity with a website affects consumers' trusting behavioral intentions (Gefen 2002; Gefen and Heart 2006, Gefen and Straub 2004; Jarvenpaa et al 1998; McKnight et al 2002). In context of health infomediaries Song and Zahedi (2006) demonstrate that past positive experience leads to favorable trusting beliefs. Hence,

Hypothesis 9: Prior positive experience with a website is positively associated with trust in the website.

Hypothesis 10: Prior positive experience with a website is positively associated with increased intentions to disclose health information on the website.

Privacy Concern

There are several reasons consumers desire to keep information private (Milne 1997). Among these are intrusion (invasion of privacy), disclosure (publicly disclosing embarrassing facts), false light (false public portrayal), and appropriation (use of a person's name without permission) (Nowak and Phelps 1995; Prosser 1960). Privacy concern is a personality disposition that negatively impacts both trusting beliefs (Malhotra et al 2004) and willingness to provide personal information on the Internet (Dinev and Hart 2006). Utility theory posits that in order to make a decision, the utility and disutility attributes need to counterweigh each other. The privacy concern aggravates the disutility attribute of providing information. Hence,

Hypothesis 11: Higher privacy concern is negatively associated with intention to disclose health information online.

Personal characteristics shape one's beliefs which in turn impact one's intentions (Ajzen 1991; Fishbein and Ajzen 1975). Privacy concern has been shown to be negatively associated with trusting beliefs (Malhotra et al 2004); and trusting beliefs have been found to be positively associated with trusting intentions and willingness to disclose personal information (McKnight et al 2002). Hence,

Hypothesis 12: Higher privacy concern is negatively associated with trust in a website.

Trust

Perceptions that the vendor is honest encourage the consumer to provide personal information (McKnight et al 2002). Higher level of trust has also been shown to influence users to disclose personal information (Dinev and Hart 2006). Trust "can positively influence willingness to disclose personal information" (Dinev and Hart 2006 p. 66). In the context of utility theory, trust can be viewed as disutility-reducer, which lowers the disutility associated with providing the information. Hence,

Hypothesis 13: Trust in a website will lead to higher intentions to disclose health information on the website.

Methodology

Study Design

We tested the research hypotheses using student population. Students were recruited through an email announcement. The research study was conducted in a lab using online access. Participants were randomly assigned to view one out of three health websites. After viewing the website the participants answered a few questions about the contents of the website and completed the instrument. A total of 367 observations were collected.

Operationalization of variables

To ensure construct validity we used items from existing scales wherever possible. We converted the items to semantic differential (0-10), so as to minimize common method bias. Table 1 shows the definition of constructs and the sources of items. Dimensions of culture were adopted from multiple sources.

Analysis and Results

We conducted exploratory factor analysis to examine the discriminant validity. From the exploratory factor analysis (EFA), three dimensions for personality trait—agreeableness, conscientiousness, and emotional stability—emerged. For the rest of constructs, no cross loading above 0.40 (McKnight et al 2002) were observed and all the items loaded together into the intended factor, supporting the discriminant validity of proposed constructs. We examined the reliability of the measures, known to be of critical importance (Song and Zahedi 2005; Moore and Benbasat 1991; Straub et al 2002, 2004). As Table 2 shows, the Cronbach Alpha values are well above the cut off point of .70 (Nunnally 1978), and the composite factor reliability values are greater than the recommended threshold of 0.70 (Segars 1997). The AVE values for the constructs exceed the threshold of .50 (Segars 1997), indicating that the constructs have captured a relatively high level of variance (Fornell and Larcker 1981).

Table 1. Operationalization of Variables

Construct	Construct Definition	Source
Intention to disclose	Intention to disclose private health information	Malhotra et al (2004)
Trust	Trust in a health website	Gefen et al. (2003)
Privacy Concern	Health Information Privacy Concern	Dinev and Hart 2006
Experience with the website	Prior positive experience with the health website	Song and Zahedi (2006)
Risk beliefs	Risk beliefs about submitting health information on the Internet in general	Malhotra et al (2004)
Previous online privacy invasion	Previous experiences of cases that individuals believes his/her privacy has be compromised	Awad and Krishnan (2006)
Personality Inventory	Comprising of the following five dimensions: extrovertness, agreeableness, conscientiousness, emotional stability and imagination	Fraj and Martinez (2006); Goldberg (1990)
Culture	Espoused national culture values, basically based on Hofstede (1980) dimensions but applied at individual level rather than national level. Selected dimensions are masculinity-femininity, individualism-collectivism from Hofstede (1980), and human orientation dimension from Globe study (House et al. 2004)	Srite et al.(2006); Dorfman & Howell (1988); Hofstede (1980) Globe Study by House et al. (2004)
Perceived Health Information Sensitivity	Perception about the sensitivity of health information	Self developed
Health Status	Perceived state of individual's health	Self developed

We also estimated the measurement model (Anderson and Gerbing 1982). Factor loadings coefficients for all items were quite high. The t-values were well above 2.54 threshold (ranging from 10.01 to 47.97), supporting the statistical significance of factor loadings (Muthén and Muthén 2003). Furthermore, square root of AVE for each construct was greater than the correlation values of the construct with other constructs (Fornell and Larcker 1981). All constructs pass the guideline, providing evidence for their discriminant validity (Table 3).

Furthermore, we checked for common method variance. “Common method variance” refers to variance that is attributable to the measurement method rather the construct of interest” (Podsakoff et al. 2003 p.879). We analyzed common method variance using Harman’s single factor test. This test involves exploratory factor analyses of all items to “determine whether the majority of the variance can be accounted for by one general factor” (Podsakoff et al. 2003 p. 890). The first factor in this study extracted 14% of the variance, which is not large enough to indicate common method bias (Igbaria et al 1997).

The fit indices of the measurement model are reported in Table 4. The fit indices of the measurement model are desirably above (or below) the threshold, providing further support for the model fit (Hu and Bentler 1999).

Table 2. Reliability, CFR and AVE

Construct	Cronbach Alpha	Composite factor reliability (CFR)	Average variance extracted (AVE)
Personality-agreeableness	0.884	0.915	0.731
Personality-conscientiousness	0.841	0.884	0.605
Personality-emotional stability	0.862	0.897	0.637
Culture-individuality	0.892	0.918	0.693
Culture-femininity	0.908	0.928	0.764
Culture-humane orientation	0.774	0.862	0.677
Perceived information sensitivity	0.869	0.902	0.606
Privacy concern	0.897	0.911	0.774
Previous online privacy invasion	0.936	0.955	0.876
Past positive experience with the website	0.959	0.974	0.926
Trust in the website	0.906	0.935	0.782
General Risk beliefs	0.906	0.879	0.707
Intention to disclose information	0.973	0.982	0.948
Health status	0.804	0.875	0.701

Table 3. Construct Correlation Values with Average Variance Extracted*

	PAGR	PCON	PEMN	CULIND	CULFEM	CULHUM	ISHL	PCHL	PIHL	EXPWHL	TRUHL	RBHL	INTDHL	HLSTAT	AVE
PAGR	0.855														0.731
PCON	0.238	0.778													0.605
PEMN	-0.020	-0.024	0.798												0.637
CULIND	0.222	-0.068	-0.109	0.832											0.693
CULFEM	0.382	0.109	0.111	0.172	0.874										0.764
CULHUM	-0.476	-0.100	0.108	-0.012	-0.196	0.823									0.677
ISHL	0.079	0.110	0.332	-0.005	0.110	0.041	0.778								0.606
PCHL	0.081	0.045	0.136	0.075	0.142	-0.001	0.363	0.880							0.774
PIHL	-0.042	-0.026	0.070	0.125	-0.065	0.175	0.046	0.249	0.936						0.876
EXPWHL	0.004	-0.019	-0.006	-0.034	-0.033	0.062	0.001	0.035	0.171	0.962					0.926
TRUHL	0.119	0.010	-0.033	0.084	0.066	-0.180	-0.011	0.001	-0.002	0.254	0.884				0.782
RBHL	-0.009	-0.005	0.015	0.027	-0.014	0.037	0.010	0.053	0.213	0.036	-0.105	0.841			0.707
INTDHL	0.060	-0.004	-0.050	0.035	0.010	-0.111	-0.084	-0.208	-0.041	0.234	0.662	-0.076	0.974		0.948
HLSTAT	0.036	-0.005	0.318	0.041	0.151	0.129	0.461	0.189	0.093	0.009	-0.019	0.020	-0.051	0.837	0.701

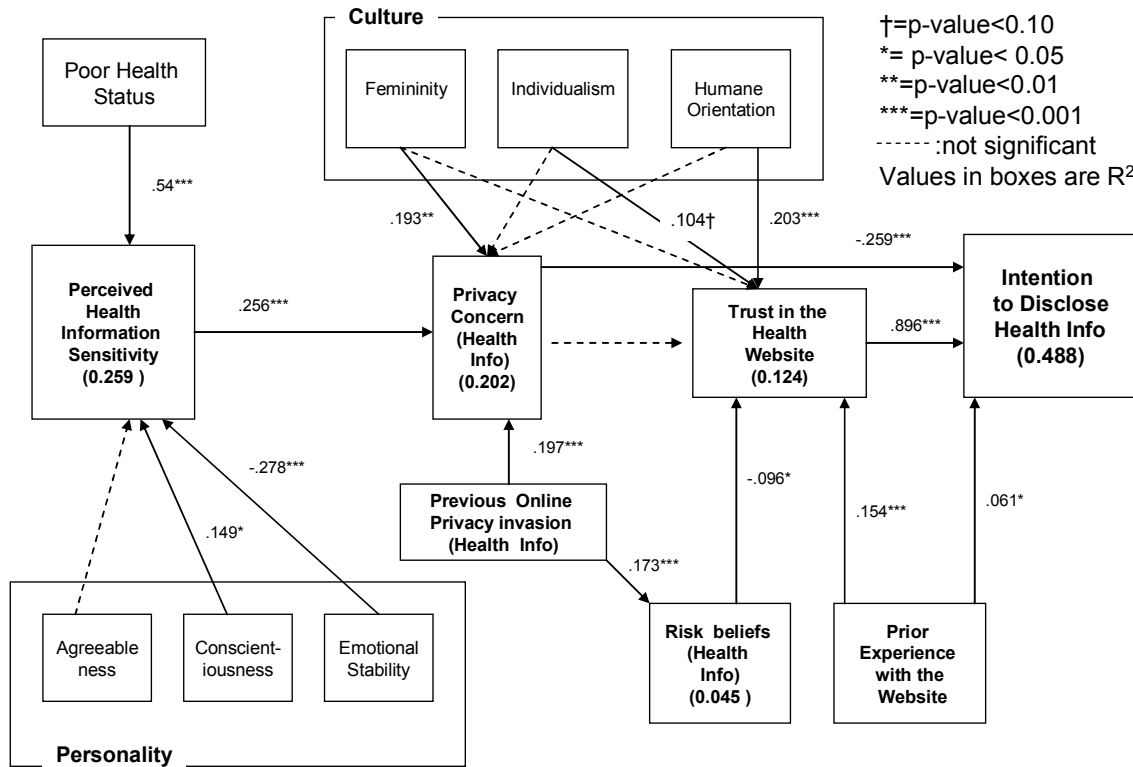
* Diagonal values are square root of AVE

Model Estimation Results

The model was estimated using SEM and *Mplus* software (developed by Muthén and Muthén 2003, based on Muthén 1984 and Muthén and Satorra 1995). The estimation used the mean-adjusted maximum likelihood, which adjusts the estimation result for the non-normality in data. The fit indices for both measurement and estimation models are given in Table 4. The normed chi-square as well as SRMR, RMSEA are desirably below the threshold. GFI and NFI are slightly lower than the prescribed cut off of 90. However, the average of GFI (AGFI) and normed-NFI (NNFI) are desirably above the threshold (Gefen et al 2000). The estimated model is shown in Figure 2.

Table 4. Fit Indices

Fit indices	Estimation Model	Measurement Model	Recommended cutoff value
Normed Chi-square	1.55	1.48	< 3.0 or 5.0
SRMR	0.065	0.046	<0.10
RMSEA	0.039	0.036	<0.06
GFI	0.85	0.86	>0.90
AGFI	0.84	0.84	>0.80
NFI	0.85	0.86	>0.90
NNFI	0.93	0.94	>0.90
TLI	0.93	0.94	>0.90
CFI	0.94	0.95	>0.90



The results show that the personal dispositions influence privacy and trust constructs. More specifically, poor health status increases perceived information sensitivity significantly with a high path coefficient, which in turn significantly impacts privacy concern regarding disclosing health information. Considering the impacts of personality traits, the results show that emotional stability has a significant negative impact on perceived health information sensitivity whereas conscientiousness has a positive impact on information sensitivity and agreeableness has no influence on it.

Considering dimensions of culture, femininity influences privacy concern significantly whereas humane orientation influences trust. Individualism has no impact on privacy concern, but has a marginal impact on trust in the website. Moreover, previous online privacy invasion has a significant impact both on privacy concern and risk beliefs. Prior experience with the website also has a positive and significant influence on trust as well as the intention to disclose health information. Risk beliefs have a negative influence on trust. The results show that privacy concern and trust are two main determinants of intention to disclose health information.

Discussion

The broad objective of this work was to investigate the impact of personal dispositions on forming privacy concern and trust when dealing with disclosure of health information online. We used utility theory and prospect theory to argue for the importance of personal dispositions. Our work is one of the first to provide a comprehensive list of constructs related to the personal dispositions in the context of disclosing personal health information. We identified personal dispositions that influence constructs on the path to health information disclosure. Poor health status is a context-dependent construct that heightens the perception of health information sensitivity. Unhealthy individuals are concerned about disclosure of their health information that could damage their status, employment opportunities or their social standing. Personality traits also impact perception of health information sensitivity, but in a different fashion. Emotional stability decreases this sensitivity whereas conscientiousness increases the sensitivity. Together, personality traits and health status influence the perception of the information sensitivity. Information sensitivity, in turn, influences privacy concern, but again personal dispositions come

into play in the form of culture and prior experiences of privacy invasion. Privacy concern is heightened almost equally by the femininity dimension of individuals' culture as well by prior privacy invasion experiences. In other words, the role of culture in the form of collective social programming is as strong as direct first-hand experience of privacy invasion. A similar result is observed in personal dispositions' impact on trust. The impact of culture in the form of humane orientation is stronger than personal experiences with the website. Again, collective social programming in the form of humane orientation is stronger than first-hand prior experience with the website in trusting it. This is an important finding, that social programming in the form of cultural dimensions are as influential (and at time even more influential) than negative or positive first-hand personal experiences.

The findings of this research are important for managers of websites requiring health information disclosure. The managers need to be cognizant of culture, personality and health status of their customers and find a way to counter perceptions about information sensitivity by providing necessary assurance and social support. Moreover, from research perspective, the findings also suggest the importance of context in studying trust and online privacy behavior.

The role of privacy concern and trust in disclosing health information is interesting in our analysis. Privacy concern does not impact trust, but directly influences willingness to disclose personal health information. We also found that trust plays a much more important role in intention to disclose than privacy concern. It shows that privacy concern of individuals could be overcome if a website succeeds to build trust. In other words, once trust is gained, the influence of other factors may gradually fade away.

Limitations and Extensions

The study has limited generalizability since the participants were college students living in the Midwest region. All items were self reported including the intention to disclose. While information systems researchers have made substantial progress in examining behavioral aspects related with trust and technology adoption, little has been done to examine the privacy concern and intention to disclose in healthcare domain and the role of personal dispositions. As the reliance on the Web for collecting and disseminating health information increases, a deeper understanding of what makes people trust websites to disclose their personal information will be needed in order to facilitate web-based healthcare. Our work makes a contribution in this direction. Furthermore, our work shows that studies of trust within different context is of great value and there is a need to investigate the nature of privacy and trust issues in a comparative study of different contexts.

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