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Does Perceived Privacy Influence Patient Satisfaction Among College Students? A Comparative Study of Students at a Kenyan University and at a Large American Midwestern University

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Guided by the communication privacy management theory (CPM), the overarching goal of this study was to examine the extent to which perceived privacy influences patient satisfaction among students at a Kenyan university and at a large Midwestern university. Data were collected using surveys with 349 Kenyan students and 420 U.S. students, recruited using convenience sampling. Privacy was measured using a multidimensional Likert privacy scale, while patient satisfaction was measured using a patient satisfaction scale. Data were analyzed using descriptive statistics, correlation analysis, multiple linear regression, two-way MANOVA, and moderation analysis. The results revealed that all three types of privacy (psychological, physical, and informational) had a strong positive correlation with patient satisfaction. Perceived privacy predicted perceived patient satisfaction, and men and women did not have different concerns for privacy. Participant country moderated the relationship between privacy and patient satisfaction. These results suggest that physicians and hospitals should emphasize effective patient privacy in spaces where medical interactions occur.

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Privacy is a major issue of concern because of increasing threats of data breaches and privacy violations brought about by advancements in technology. Healthcare data is highly valuable and has become a major target for hackers (Seh et al., 2020). In the United States, between 2009 and 2020, the Department of Health and Human Services (HHS) Office for Civil Rights recorded 3,705 incidences of healthcare data breaches, resulting in loss and inadvertent exposure of 268,189,693 healthcare records (Health Insurance Portability and Accountability Act, [HIPAA], 2021). Data breaches and resulting costs will increase in the future, indicating a need for more preventive measures (Seh et al., 2020). A breach of information privacy can lead to significant financial liability and criminal penalties if the stolen information is used for fraudulent monetary gain (Andriole, 2014; Taitsman, Grimm, & Agrawal, 2013). With the increased usage of electronic health records (EHR) for the storage of health information, privacy has become an important issue in healthcare (Haas, Wohlgemuth, Echizen, Sonehara, & Müller, 2010). Therefore, it is imperative that all stakeholders involved in the handling of medical data ensure its protection from unauthorized access (Haas et al., 2010; Taitsman et al., 2013).

In addition to potential privacy concerns related to technology, such as sensitive information being entered into electronic health records, patients may also be concerned about elements of the environment that can impact privacy, such as who can overhear sensitive information being shared. A clear understanding of how privacy influences patient satisfaction can provide insights into how healthcare organizations can maximize the patient-physician interactional experience (Hojat et al., 2011). Thus, using college students at two universities, one in Kenya and another in the Midwest region of the United States, this study uses CPM theory to examine how perceived privacy influences students' perceptions of satisfaction with health services.

Literature Review

Oftentimes, patient-healthcare provider interactions involve the disclosure of sensitive information, which is given in trust. Necessary steps should be taken to ensure that patient information is not accessed by unauthorized persons. In the United States, the privacy of medical records is safeguarded by the HIPAA of 1996, which was enacted to secure health information and set guidelines for handling health information to ensure privacy (U.S. Department of Health and Human Services [HHS], 2019). According to HHS (2019), HIPAA requires that healthcare providers, health insurance plans, and employers keep health information confidential.

In Kenya, patient privacy is protected under Article 31 of the Kenyan constitution and the Health Act of 2017. These two legal documents protect privacy by requiring confidentiality in handling information and guaranteeing that a person's information and physical space are not unnecessarily violated (Kenya Law Organization, 2017; National Council for Law Reporting, 2010). However, despite these laws, data breaches occur, and the increased use of technology may render existing measures ineffective in fully safeguarding patient privacy.

Explanation and Importance of Patient Privacy in Healthcare

Privacy is a broad concept, and its definition varies across disciplines and cultures. Altman (1975) conceptualized privacy as the "selective control of access to one's group" (p. 18). In this study, privacy is limited to aspects such as protection of patient information, personal privacy, privacy in physical spaces, and the physicians' respect for their patients' emotional well-being during interactions. These aspects are drawn from the privacy categories identified by Serenko and Fan (2013), who classified privacy into categories of informational, physical, and psychological.

The society into which an individual is born socializes him or her into what counts as privacy, influences one's privacy needs, and determines his or her willingness to self-disclose to other people (Lewis, Metheson, & Brimacombe, 2011). Privacy is important in health settings because it gives people control over the extent to which they disclose information to others (Altman, 1975). However, ensuring privacy of patients in their interactions with physicians can be difficult because treatment plans often involve various parties, such as physicians, nurses, pharmacists, and the finance and records departments, all of whom may have varying interests in the patients' data (Haas et al., 2010; Sittig, Belmont, & Singh, 2018). Thus, the safety of patients' privacy should be a shared responsibility among all stakeholders involved in patient care (Sittig et al., 2018).

The process of protecting patients' information can involve the combination of physical and electronic safeguards to ensure the confidentiality, integrity, and continued availability of health information (Haas et al., 2010; Murphy, Gainer, Mendis, Churchill, & Kohane, 2011). It is also important that physicians create and sustain a conducive environment that fosters respect for patients (Lewis et al., 2011; Murphy et al., 2011). Physicians should be attentive to patients' needs because patients are likelier to disclose health information to physicians when they perceive that their privacy is not violated by the presence of other patients (Greenberg & Firestone, 1977).

Patient Satisfaction

One factor that may be influenced by patient privacy is patient satisfaction. Patient satisfaction involves the degree to which a patient's expectations for a medical visit are met (Agency for Healthcare Research and Quality, [AHRQ], 2017), and includes multiple dimensions, such as a healthcare provider's interpersonal communication and quality of technical care (Sitzia & Wood, 1997). Previous literature suggests that the quality of interpersonal interaction is the strongest factor influencing patient satisfaction, and that healthcare provider competency is also positively associated with patient satisfaction (Batbaatar, Dorjdagva, Luvsannyam, Savino, & Amenta, 2017). The connection between patient satisfaction and healthcare provider competency and interpersonal communication has also been found in developing countries (Srivastava, Avan, Rajbangshi, & Bhattacharyya, 2015). Research conducted in Kenya similarly suggests that elements of patient satisfaction are determined by patient-provider interaction, such as healthcare provider discussions of diagnosis and treatment, and whether patients feel they can talk with their healthcare providers (Do, Wang, Hembling, & Ametepi, 2017; Nyongesa, 2015; Nyongesa, Onyango, & Kakai, 2014). In the present study, patient satisfaction with a medical encounter is evaluated in relation to patient perceptions of privacy.

Patient Satisfaction and Patient Privacy

Privacy may play a role in determining patient satisfaction with a healthcare provider. Many patients consider the degree to which healthcare providers respect their privacy when determining their levels of satisfaction with the care they received (Batbaatar et al., 2017). Patient privacy and patient satisfaction are also related among patients in developing countries (Srivastava et al., 2015). For example, in a study of patients in Indonesia, privacy was the third most important factor in patients' determination of their satisfaction with a medical encounter (Bernhart, Wiadnyana, Wihardjo, & Pohan, 1999). Research conducted in Iran revealed a significant, positive relationship between healthcare providers' respect for patient privacy and patient satisfaction across physical, informational, and psychosocial privacy. Patients in Kenya indicate that privacy is a significant determinant of patient satisfaction as well (Do et al., 2017; Nyongesa et al., 2014), especially about whether patients perceive that others who are not part of the medical visit can overhear or see them during the visit. These studies provide evidence of the need for stakeholders to work together to ensure that the privacy needs of patients are met.

Theoretical Framework

This study is predicated on communication privacy management (CPM) theory. CPM explains how individuals manage private information through selective disclosure or concealment during interaction (Kennedy-Lightsey, Martin, Thompson, Himes, & Clingerman, 2012; Petronio, 2010). CPM is premised on five principles of disclosing private information: that people own their private information, people who own information have control over how their information is shared, people use privacy rules to guide how private information is shared, individuals who have access to private information become shareholders of that information, and when privacy boundaries are violated because of a disclosure of information to unauthorized people, turbulence occurs (Kennedy-Lightsey et al., 2012; Ngwenya, Farquhar, & Ewing, 2016; Petronio, 2010). According to CPM, when someone gains access to private information, he or she becomes a co-owner of the information and should take necessary steps to ensure its protection (Petronio, 2010; Petronio & Sargent, 2011).

CPM has been applied in a health context, such as patient privacy and disclosure of sensitive health information to family members (Xiao et al., 2015). In this study, medical information is viewed as owned by patients, and healthcare providers become co-owners when patients disclose their health information to them. CPM also posits that privacy and access to information can create a dialectical tension, especially when patients would like to disclose, but at the same time fear that the information they disclose might be accessed by unauthorized persons (Canzona, Peterson, Villagran, & Seehusen, 2015). Effective protection of privacy is important because when patients feel safe, they are willing to disclose more information to their healthcare providers (Petronio & Sargent, 2011).

CPM also argues that people rely on boundary coordination rules, which guide the cultural cues about what should or should not be revealed to other people (Kennedy-Lightsey et al., 2012; Ngwenya et al., 2016). Healthcare providers, therefore, should consider the cultural values and beliefs of their patients because these values and beliefs inform patients' privacy concerns. The boundary rules can help

physicians in considering who should be in the room when examining their patients, the physical space where medical interactions occur, and how patients prefer their medical information be communicated to others. Past studies (Ngwenya et al., 2016; Xiao et al., 2015) also found that patients prefer having the freedom to decide when to disclose their health information. Relatedly, at a hospital in Iran, when doctors engaged in behaviors that protected physical, informational, and psychosocial privacy, their patients were more satisfied (Baghaei, Razmara Iranagh, Ghasemzadeh, & Moradi, 2021). Thus, based on CPM and previous research on patient privacy and patient satisfaction, the following hypothesis is posed:

H1: Perceived patient privacy will predict patient satisfaction among participants.

Gender and Privacy Concerns

Past studies have revealed differences in privacy concerns by gender in online platforms and in healthcare settings. Some research reports that women are less likely to protect their data online (Park, 2015), while other research reports that women are likelier to protect their data on social networking sites (Tifferet, 2019), or that men and women use different strategies to ensure privacy (Wolf, Willaert, & Pierson, 2014). However, in face-to-face settings, female patients tend to be more concerned for privacy than male patients (Aamar et al., 2019; K. Kim, Han, & Kim, 2017). Therefore, this study also presents the following research question:

RQ1: Do men and women differ in their concerns about privacy?

Patient Privacy in the United States and Kenya

Past research (e.g., Lewis et al., 2011) suggests that privacy is perceived differently across cultures, and people from different cultures have different concerns for privacy during interactions with their healthcare providers (Do et al., 2017; Lewis et al., 2011; Nyongesa et al., 2014). Specifically, individuals from individualist countries or who have individualist values tend to have greater concerns related to privacy and are more motivated to protect their privacy than those from collectivist countries or those who have collectivist values (J. Kim & Kwan, 2021; Yang & Kang, 2015). Therefore, to examine if the privacy needs among participants vary across countries, the following research question is posed:

RQ2: Do U.S. and Kenyan participants differ in their concerns about privacy?

Patient Satisfaction and Privacy in the U.S. and Kenya

A collection of studies focusing on the U.S. and the UK suggest that patients generally have a high level of satisfaction with the care they receive (Sitzia & Wood, 1997). Quality of healthcare in the United States is generally high compared with Kenya, where inadequate funds hinder the care that is delivered (Nyongesa, 2015; Nyongesa et al., 2014). However, less attention has been paid to the role of privacy and participant country and how they may together influence patient satisfaction. Thus, the following research question is forwarded:

RQ3: Will the participant country (U.S. or Kenya) moderate the relationship between perceptions of privacy and patient satisfaction?

Method

Participants

This study involved students from a large Kenyan university located in Uasin Gishu County and students from a large Midwestern university in the United States. A total of 792 students participated. Thirty students who indicated they had never been to a hospital were excluded from the analysis, leaving 769 student responses for analysis. For the Kenyan sample, 468 surveys were distributed to students and 349 participants returned completed surveys, representing a 74.5% response rate. The sample from the U.S. university included 420 participants recruited through the university's research participation system.

Overall, of the 762 participants, 266 (34.9%) indicated they visited the hospital less than six months before this study was conducted, 206 (27%) had been to the hospital more than six months in the past, and another 285 (37.4%) had visited a hospital more than a year before the start of the study as shown in Table 1 below.

Table 1. Frequencies of Demographic Variables for Midwest and Kenyan Students.

Characteristic	*N*	%
Gender	760	
Male	359	47.2
Female	401	52.8
Marital Status		
Single	683	89.9
Married	34	4.5
Domestic partnership	28	3.7
Divorced	3	.4
Widowed	12	1.6
Education		
Kenyan Campus		
High school	115	33.6
Associate degree	86	25.1
Bachelor's degree	132	38.6
Master's	2	.06
Doctoral	2	.06
Midwest Campus		
Freshmen	111	26.4
Sophomores	136	32.4
Seniors	164	39
Master's	2	.5
Doctoral	1	.2
Missing	6	1.5
Race		
Caucasian	283	67.4
Asian	89	21.2
African American	21	5
Hispanic/Latino	21	5
Native Hawaiian	2	.5
American Indian	1	.2
Immigration		
American citizens	324	77.1
Permanent residents	25	6.0
International students	69	16.3

Procedures

On obtaining IRB approval from both the U.S. university and the Kenyan university, surveys were used to collect data from the students. Because of poor Internet connectivity at the Kenyan university, paper surveys were distributed to students during class time, and students were asked to return the survey during

the next class session. Data from the students at the U.S. university were collected using an online survey distributed through Qualtrics. Participation was optional. Students at the U.S. university were offered extra credit for participating in the study, and the Kenyan students were not offered any extra credit for participation because the university does not offer extra credit in their courses.

Participants were selected based on convenience and with the assumption that as a well-educated sample, they would understand existing healthcare processes. Additionally, university students, though vulnerable to many illnesses (e.g., injuries, sexually transmitted diseases), are often less studied about their health-seeking behaviors (Nicoteri & Arnold, 2005). The survey asked participants to respond to statements assessing their perceptions about patient privacy, patient satisfaction, and their frequency of seeking medical services. To enhance the validity of the study, the scale items were piloted with 50 students; however, the results did not reveal any ambiguities in the survey items. The next section explains the measures used to study perceived privacy and satisfaction.

Measures

Privacy was measured using a multidimensional Likert privacy scale developed by Serenko and Fan (2013). The scale has response options ranging from strongly disagree (1) to strongly agree (5) and measures privacy based on the following subscales: informational privacy, physical privacy, psychological privacy, and global measures of privacy. According to Serenko and Fan (2013), the informational dimension focuses on patients' perceptions of their control of personal information about how their information is used, physical privacy refers to perceptions of patients about the extent to which their bodies and personal space are interfered with during a physical examination, and psychological privacy refers to how much patients' cultural values, opinions, feelings, and beliefs are respected by their physicians.

Some of the example items on the informational privacy subscale included: "When the medic collected my personal information, I was not worried about my privacy" and "The medic only collected personal information that was related to my health concerns." Physical privacy subscale items included: "When I interacted with the medic, I felt a sense of control over my body and personal space" and "The space and furniture arrangement in the medic's office created a sense of privacy," and sample items of the psychological subscale included: "When I interacted with the medic, I did not have to hide my personal beliefs and cultural values" and "My medic does not question my personal and cultural values." The subscales had a total of 28 items with statements reflecting the above dimensions. The Cronbach's alpha reliability for specific subscales in the current study were as follows: informational privacy items (α = .90), physical privacy items (α = .89), and psychological privacy items (α = .86).

The patient satisfaction scale was adopted with modifications from Hojat and colleagues (2011). This Likert scale has responses ranging from strongly disagree (1) to strongly agree (5), and has 10 items measuring patients' perceptions of the quality of care and their experiences during interactions with physicians. In the current study, two items from the patient satisfaction scale were dropped because they were very similar to some items in the patient privacy scale. In a previous study by Hojat and associates (2011), the patient satisfaction scale had a Cronbach's alpha reliability of .75 to .90. In the current study, items were adopted with slight modifications for cultural appropriateness. Specifically, the word *physician*

in both the privacy and satisfaction scales was modified to *medic* and its meaning broadened to include nurses, clinical officers, and physicians to reflect how physicians are viewed in Kenya. In the present study, the patient satisfaction scale had a Cronbach's alpha of .78.

Example items on the patient satisfaction scale read as follows: "I was satisfied that my medic was taking care of me"; "I was confident of my medic's knowledge and skills"; and "My medic listened carefully to me."

Data Analysis

The data were analyzed using SPSS to address the research questions and test the hypotheses. To test H1, which suggested that perceived privacy (i.e., psychological, physical, and informational privacy) predicted perceived patient satisfaction, a correlation analysis was first conducted with the privacy subscales and the perceived patient satisfaction score. After the correlation analysis, a multiple linear regression analysis was conducted with the patient satisfaction score as the dependent variable and the privacy subscales as the independent variables. RQ1 and RQ2 asked whether the participant country and participant gender influence concerns for privacy. A two-way MANOVA was conducted, with independent variables of the participant country (U.S. or Kenya), gender (male or female), and dependent variables of the three types of privacy (informational, physical, and psychological). RQ3 asked whether the relationship between patient privacy and patient satisfaction was moderated by the country the participant was from (dummy coded as U.S. = 0, Kenya = 1). To investigate this research question, three moderation analyses were conducted using Hayes' (2018) PROCESS macro for SPSS, version 3.3, Model 1.

Results

Hypothesis 1: Relationship Between Perceived Patient Privacy and Patient Satisfaction

As reported in Table 2, the results indicated that all the privacy subscales were correlated with patient satisfaction ($p < .001$). Specifically, the results revealed that psychological privacy ($r = .686$) and physical privacy ($r = .622$) had the strongest correlation with satisfaction, while informational privacy had the smallest correlation ($r = .567$).

Table 2. Correlation Analysis of Satisfaction and Various Subscales of Privacy.

Variable	1	2	3	4
Informational privacy	-			
Physical privacy	.718**	-		
Psychological privacy	.643**	.753**	-	
Satisfaction score	.567**	.622**	.686**	-

Note. **Correlation is significant at the 0.01 level (2 tailed).

The results of the regression model revealed that perceived privacy predicted perceived patient satisfaction ($R^2 = .505$, $F(3, 752) = 257.57$, $p < .001$). Specifically, informational privacy (ß = .149, $p < .001$), physical privacy (ß = .162, $p < .001$), and psychological privacy (ß = .469, $p < .001$) were significant

predictors of patient satisfaction (see Table 3 below). Psychological privacy emerged as the strongest predictor of patient satisfaction. H1 was supported.

Table 3. Results of Multiple Linear Regression by Privacy Subscales.

Variable	*Model B*	*SE B*	*β*	*t*	*p*	95% CI
Constant	.852	.111		7.67	< .001	[.634, 1.70]
Informational privacy	.140	.035	.149	3.95	< .001	[.070, .209]
Physical privacy	.147	.040	.162	3.68	< .001	[.069, .226]
Psychological privacy	.476	.041	.469	11.74	< .001	[.397, .556]
R^2		.505			< .001	
F (3, 752)		257.57			< .001	

Research Questions 1 and 2: Relationship Among Country, Gender, and Privacy.

The overall MANOVA for country was statistically significant: Wilks' Λ = .926, $F(3, 750) = 20.10$, $p < .001$, $\eta^2_p = .074$. For all three types of privacy, significant effects were found (see Table 4). U.S. participants had higher perceptions that their informational privacy, physical privacy, and psychological privacy needs were met than Kenyan participants. The overall MANOVA for gender was not statistically significant: Wilks' Λ = .995, $F(3, 750) = 1.19$, $p = .31$, neither was the interaction between gender and country: Wilks' Λ = .994, $F(3, 750) = 1.53$, $p = .21$.

Table 4. Differences in Privacy Concerns Among Male and Female U.S. and Kenyan Participants.

Privacy	Country or Gender	*N*	*M*	*SD*	*F*	*p*	η^2_p
Informational	U.S.	414	4.03	.59	40.00	< .001	.051
	Kenya	342	3.77	.57			
	Male	357	3.94	.60	1.70	.192	.002
	Female	399	3.89	.59			
Physical	U.S.	414	4.15	.62	51.13	< .001	.064
	Kenya	342	3.84	.57			
	Male	357	4.03	.61	2.10	.148	.003
	Female	399	3.99	.62			
Psychological	U.S.	414	4.13	.58	51.12	< .001	.064
	Kenya	342	3.85	.47			
	Male	357	4.00	.54	.14	.710	< .001
	Female	399	4.00	.56			

Research Question 3: Relationship Moderator

A significant result was discovered for all three types of privacy (see Table 5 below).

Table 5. Moderation Results for Privacy and Country on Patient Satisfaction.

Variable	*b*	*SE B*	*t*	*p*	*95% CI*
Constant	1.27	.15	8.28	< .001	[.97, 1.57]
Informational Privacy	.67	.04	17.80	< .001	[.60, .74]
Country	1.24	.22	5.55	< .001	[.80, 1.68]
Informational x Country	−.32	.06	−5.67	< .001	[−.43, −.21]
Constant	.98	.14	6.88	< .001	[.70, 1.26]
Physical Privacy	.72	.03	21.13	< .001	[.65, .79]
Country	1.45	.21	6.81	< .001	[1.03, 1.86]
Physical x Country	−.36	.05	−6.78	< .001	[−.46, −.25]
Constant	.75	.14	5.23	< .001	[.47, 1.03]
Psychological Privacy	.78	.03	22.74	< .001	[.71, .85]
Country	.85	.23	3.69	< .01	[.40, 1.30]
Psychological x Country	−.20	.06	−3.52	< .01	[−.32, −.09]

For informational privacy, the overall model explained significant variance in patient satisfaction: $R = .59$, $R^2 = .35$, $F(3, 752) = 134.40$, $p < .001$. The individual effects of informational privacy and country were both significant. The interaction term was also significant: $R^2\Delta = .03$, $F(1, 752) = 32.14$, $p < .001$, with approximately 3% of the variance in patient satisfaction uniquely being predicted by the interaction. For physical privacy, the overall model explained a large proportion of variance in patient satisfaction: $R = .65$, $R^2 = .42$, $F(3, 752) = 183.09$, $p < .001$. The individual effects of physical privacy and country were both significant. The interaction term was also significant: $R^2\Delta = .04$, $F(1, 752) = 45.96$, $p < .001$, with approximately 4% of the variance in patient satisfaction uniquely predicted by the interaction. For psychological privacy, the overall model explained a large amount of variance in patient satisfaction: $R = .69$, $R^2 = .48$, $F(3, 752) = 232.51$, $p < .001$. The individual effects of psychological privacy and country were both significant. The interaction term was also significant: $R^2\Delta = .01$, $F(1, 752) = 12.42$, $p < .001$, with approximately 1% of the variance in patient satisfaction uniquely predicted by the interaction. The effect of privacy on patient satisfaction is stronger for the U.S. than for the Kenyan participants; U.S. participants with lower perceptions of privacy have lower satisfaction than Kenyan participants with lower perceptions of privacy, and U.S. participants with higher perceptions of privacy have higher satisfaction than Kenyan participants with higher perceptions of privacy (see Figures 1–3 below).

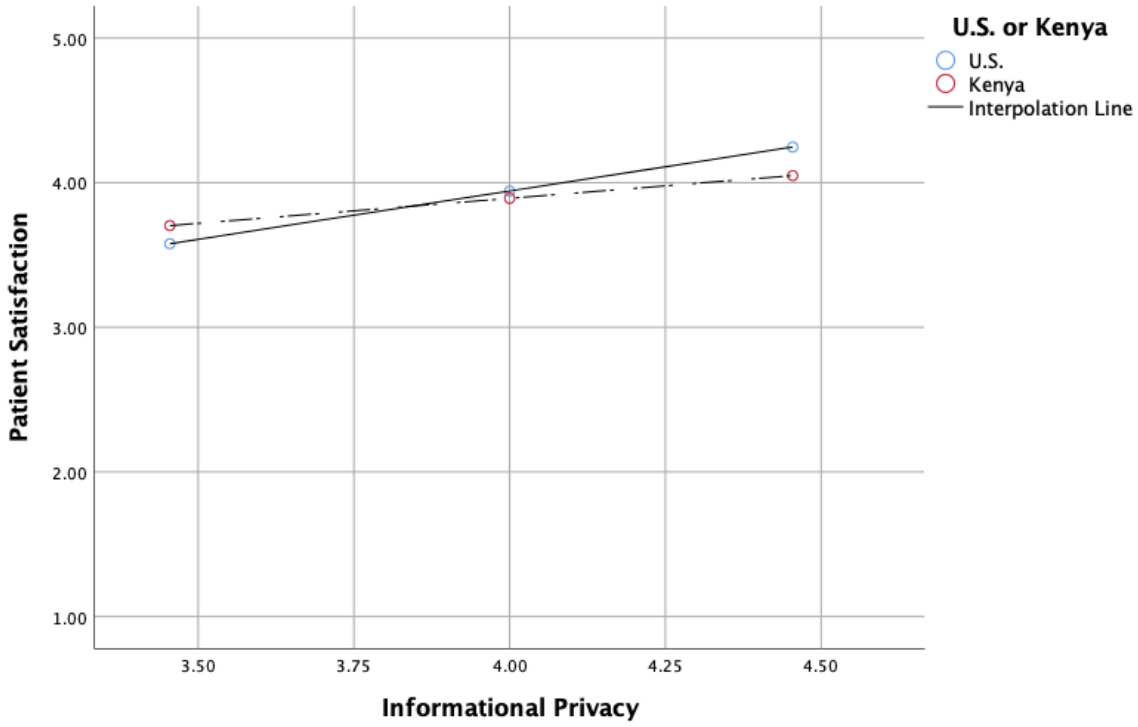

Figure 1. Country moderates relationship between informational privacy and patient satisfaction.

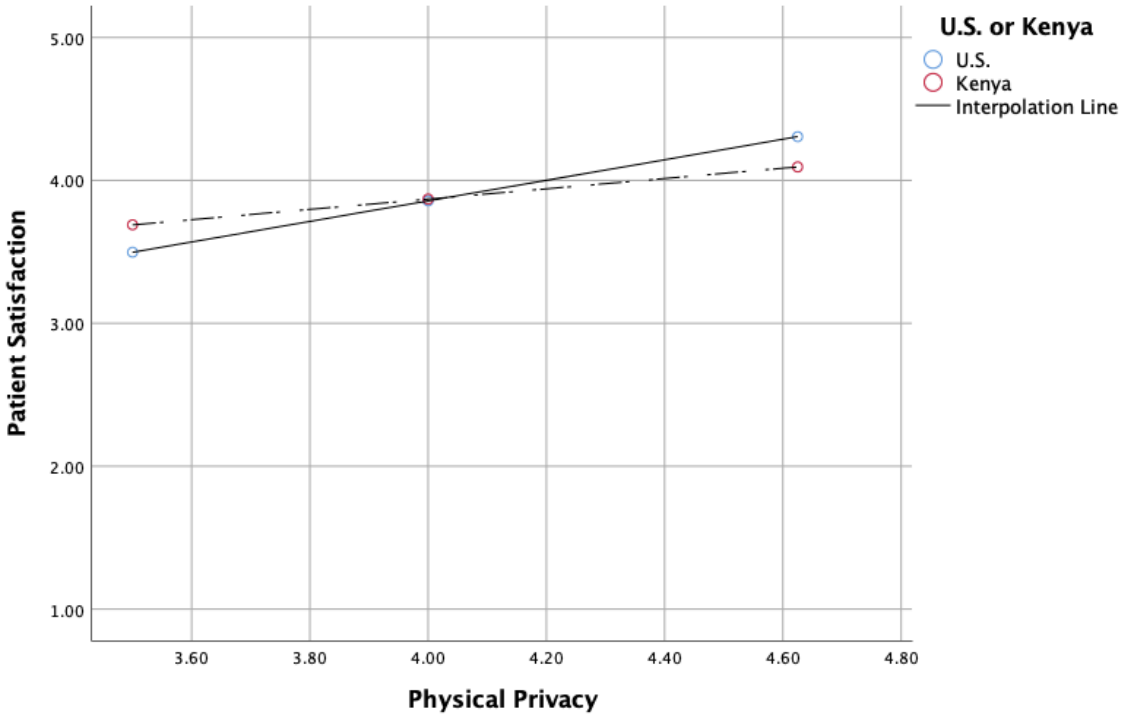

Figure 2. Country moderates relationship between physical privacy and patient satisfaction.

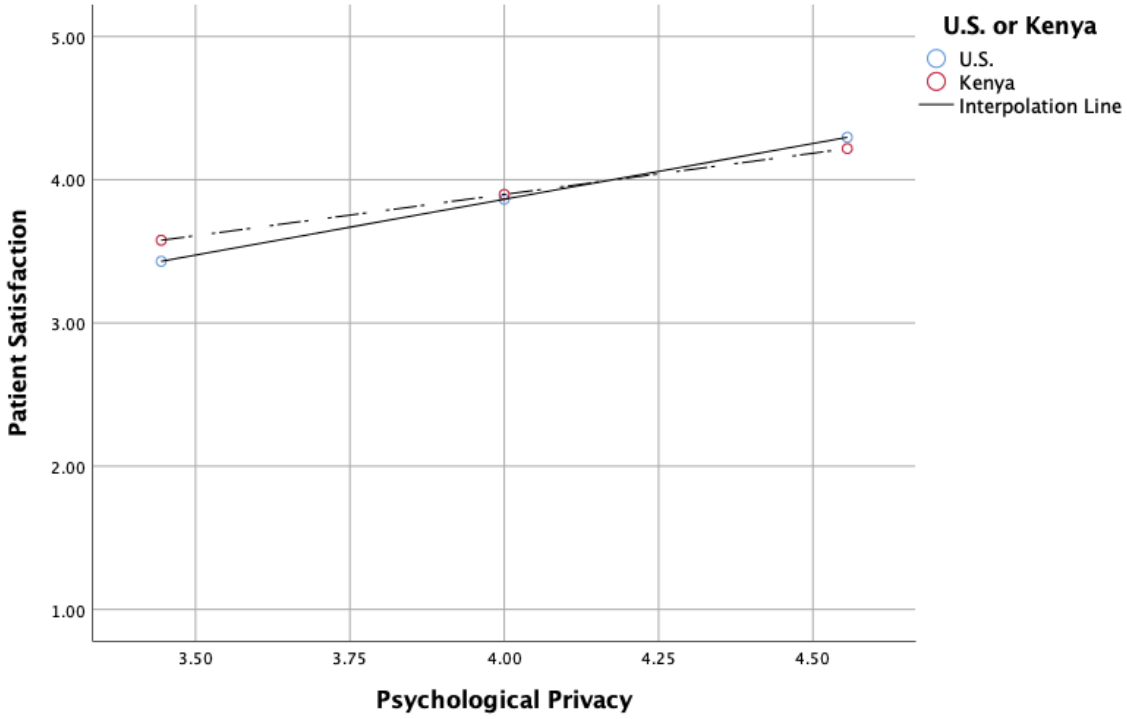

Figure 3. Country moderates relationship between psychological privacy and patient satisfaction.

Discussion

Summary of Findings

The results of this study showcase the importance of privacy in healthcare settings and some of its effects on treatment outcomes. This is evidenced by the positive correlation between patient satisfaction and all three dimensions of privacy under consideration (i.e., informational, physical, and psychological), and the emergence of all three aspects of privacy as significant predictors of perceived patient satisfaction. The emergence of psychological privacy as a strong predictor of privacy compared with informational and physical privacy might suggest that physicians need to pay more attention to how they communicate with their patients as a way of ensuring that they respect the opinions, personal values, and cultural norms of their patients. However, the finding that there are no differences in the concerns for privacy among men and women contradicts past research (Park, 2015; Wolf et al., 2014), which has found differences in privacy needs between men and women, especially in online platforms. This is understandable because our research mostly focused on offline relationships involving privacy of patients and their interactions with physicians. However, there is a need for more research to support this finding because some of the health issues that women face, such as reproductive health, might require more privacy.

Patients in the United States believe that their privacy needs are being met to a higher degree than patients in Kenya. For physical privacy, this could be because some patients have to share beds in Kenyan hospitals (Nyongesa et al., 2014), and one study found a Kenyan hospital had less than average ratings of patient privacy (Stone et al., 2014). Regarding patient satisfaction, the influence of privacy on patient satisfaction was stronger for the United States' participants than Kenyan participants. Apparently, Americans put more emphasis on privacy in healthcare interactions than Kenyans.

Practical and Theoretical Implications

Overall, the finding that perceived privacy predicts patient satisfaction is consistent with previous studies that have found that privacy influences patient satisfaction with health services (Bernhart et al., 1999), and patients' preferences over the extent to which they would like to disclose their health information to their healthcare providers (Ngwenya et al., 2016; Xiao et al., 2015). This finding adds to our understanding of other factors that influence patient satisfaction with treatment outcomes besides the healthcare provider's perceived competence (Batbaatar et al., 2017), and the healthcare provider's perceived empathy with a patient (Cleary & McNeil, 1988).

With the threats to privacy increasing, it is important that health institutions and providers take necessary steps to ensure the safety of medical records and to ensure a privacy-conducive environment in the spaces where medical interactions occur. This is necessary because privacy incentivizes patients to disclose more information to their physicians (Canzona et al., 2015; Petronio & Sargent, 2011). Consistent with CPM theory, the results of this study indicate the need for effective protection of patient information by physicians and hospital staff because they become co-owners of the medical information that patients provide (Petronio, 2010; Petronio & Sargent, 2011). Additionally, protection of patients' privacy is important because when privacy is violated, such as through a breach of information, turbulence arises (Kennedy-Lightsey et al., 2012; Petronio, 2010), and this might negatively impact patients' satisfaction.

Privacy is a complex concept that has varying cultural conceptions, and people have varying needs for privacy (Lewis, et al., 2011). Previous studies suggest the need to ensure protection of patients' personal space to prevent eavesdropping (Greenberg & Firestone, 1977; Marin, Gasparino, & Puggina, 2018). Thus, it might be important to enhance privacy through redesigning medical interaction spaces, formulating clear privacy policies, and using both physical and electronic safeguards to protect health information (Andriole, 2014; Birnbaum, Gretsinger, Antonio, Loewen, & Lacroix, 2018). Additionally, healthcare providers and health-communication specialists could consider tailoring messages based on the country one is from when it comes to considerations of privacy and patient satisfaction.

Limitations

It is important to consider some of the limitations of this study. The study is based on self-reporting measures, and the participants were not patients at the time of the study. The participants were asked only to remember their previous interactions with healthcare providers. Therefore, it is possible that the participants might have forgotten some of the details about their past interactions with healthcare providers. Additionally, the survey design used for this study does not provide proof of causality between privacy and

patient satisfaction because we did not control for other factors that might have influenced the results. Finally, it is possible that the findings might have been influenced by data collection in paper format for the Kenyan sample and in an online format for the U.S. sample. In particular, the findings from the paper version of the survey might have been prone to social desirability in which the face-to-face engagement between the researcher and the participants might have had implied pressure on how the participants replied to questions on the survey.

Directions for Future Research

Although this study used CPM as a guiding theory, the various concepts of the theory were not tested in the present study; these concepts could be tested in a follow-up study. Another possible direction for future research would be to use an alternative research method, such as a field study using qualitative methods, to consider how attention to patient privacy varies across different departments of a hospital (e.g., emergency or obstetrics), or different cultures and contexts. An experiment could also be conducted examining patient reactions to particular privacy concerns arising in the environment, such as sensitive information being entered into a patient's medical record or being overheard by other patients. Additionally, privacy protection and safety are an important part of a patient-doctor relationship. Therefore, it would be important in future studies to investigate how significant privacy is compared with other attributes related to patient satisfaction, such as availability of provider, perceived competency, kindness of provider, time with provider, and overall health system environment and context. Going forward, researchers could also examine participants' past experiences in visiting different types of healthcare facilities, such as clinics versus large hospitals, and whether their experiences differ based on the type of healthcare facilities they visited. Finally, in future studies, patients could be asked about suggestions they have for how to enhance perceptions of privacy in a healthcare setting.

Conclusion

Taken together, the results of this study suggest the need for health institutions and stakeholders to work more diligently to ensure effective privacy protections for informational, physical, and psychological aspects of privacy. In addition, the results of this study advance health communication scholarship by offering insights into how perceived privacy influences patient satisfaction across two countries. Because of immense threats to privacy as evidenced by frequent breaches and theft of medical information, there is a need for those entrusted with patients' records and treatment to take necessary steps to safeguard the integrity and availability of such information from unauthorized access and corruption.

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