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An Investigation of Processes Linking Patient-Centered Communication Approaches to Favorable Impressions of Vietnamese Physicians and Hospital Services

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Abstract

Strong doctor-patient relationships generate greater patient satisfaction and compliance with physician recommendations. Although prior research has explored distinct factors driving favorable patient outcomes, investigations have yet to comprehensively address the efficacy of different communication styles. Furthermore, it is critical to explore the full impact communication approaches have on perceptions of medical services. This investigation addressed two patient-centered communication approaches – empathy and nonverbal immediacy – as antecedents to Vietnamese patients' impressions of physicians and hospital services. Results showed that these two factors were powerful, independent predictors of satisfaction and trust. Conversely, patient participation was a less robust predictor of judgments toward physicians as well as a weak mediator between patient-centered communication skills and favorable physician impressions. In addition, results showed that patient satisfaction in physicians was a key intervening factor in the relationship between patient-centered communication skills and hospital satisfaction. Overall, the findings highlight the critical importance of physician connectedness with patients as central to patients' global judgments of medical services.

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1. Introduction

Positive doctor-patient relationships are critical to fostering patient satisfaction and compliance with treatment recommendations. Consequently, it is vital to assess how favorable perceptions of physician communication skills contribute to favorable evaluations physicians and medical institutions. Drawing from a sample of Vietnamese adults, we seek to identify more clearly how patient assessments of physician communication skills drive greater patient participation and ultimately, more favorable impressions of physicians and hospital services. There are three rationales for this investigation. First, research examining doctor-patient communication in non-westernized nations is relatively limited (Han, Dunne, & FitzGerald, 2013; Nguyen & Austin, 2018). Consequently, non-U.S. investigations that provide greater insights on cross-cultural similarities and differences are warranted (Hernández López, 2016). Second, across all doctor-patient investigations, researchers have yet to compare the explanatory power of distinct communication styles (both verbally and nonverbally) on favorable patient experiences. Finally, investigations involving outcomes related to patient satisfaction and trust frequently limit assessments to patient judgments of one particular medical professional/physician (e.g., Comstock, Hooper, Goodwin, & Goodwin, 1982; Kim, Kaplowitz, & Johnston, 2004), while excluding broader impressions of the health care environment. We argue that increased patient-centered communication strategies may ultimately foster favorable impressions of hospital/health care facilities by first generating positive judgments of physicians.

Among Vietnamese populations, researchers have explored different doctor-patient communication areas, such as physician information-seeking initiation practices (Nguyen, Austin, Chau, Nguyen, & Nguyen, 2018; Nhung, 2014) and the nature of follow-up visits (Nguyen & Austin, 2018). However, compared to the predominance of investigations conducted in the U.S., doctor-patient communication research within Vietnam has been relatively limited (Nguyen & Austin, 2018). Furthermore, the majority of this work employed qualitative approaches aimed at highlighting effective physician and patient communication strategies (e.g., Nguyen et al., 2018; Tran, 2009). In one of the few quantitative doctor-patient investigations (Han, Dunne, & FitzGerald, 2013), results showed that Vietnamese medical students became more patient-centered in their communication approach with patients as they progressed through school years. Although the research is relatively limited, these recent investigations suggest that within Vietnamese culture, there is substantial interest in identifying more patient-centered communication strategies to improve overall care. This current analysis explores whether patient-centered approaches that have predicted favorable patient experiences within U.S. samples lead to similar positive outcomes among Vietnamese patients. Overall, this study provides a) a more comprehensive assessment of the interrelationships between different patient-centered interaction approaches and the larger impact these strategies have on patient impressions of medical facilities, and b) a comparative assessment in a non-U.S. context of the role of patient-centered interaction on patient evaluations of medical care.

2. Theoretical Framework

2.1. Physician Communication Skills

Numerous investigations have highlighted the influence of high-quality physician communication skills on favorable attitudes towards physicians (Derksen et al., 2017; Farzadnia & Giles, 2015; Kafetsios, Anagnostopoulos, Lempesis, & Valindra, 2014; Henry, Fuhrel-Forbis, Rogers, & Eggly, 2012) as well as broader medical outcomes (Stewart, 1995; Slatore et al., 2010, Jackson, 2005; Stewart et al., 2000). In addition, more patient-centered approaches to communication (PCC) has been linked to the improved emotional health of both patients and physicians (Clever, Jin, Levinson, & Meltzer, 2008; Krasner et al., 2009). In this study, we examine the impact of physician communication skills on patient satisfaction and trust - key precursors to patient compliance and improved health outcomes (Burgoon et al., 1987; Safran et al., 1998). Two communication skills identified as central to enhancing patient satisfaction and trust are nonverbal immediacy and empathy.

2.1.1. Nonverbal Immediacy

Research shows that the nature of physicians' nonverbal communication skills can be vital to shaping interactions with patients and can influence patient health outcomes (Ambady, Koo, Rosenthal, & Winograd, 2002; Kafetsios, Anagnostopoulos, Lempesis, & Valindra, 2014; Tickle-Degnen & Rosenthal, 1990). Effective nonverbal communication is perceived to foster feelings of rapport between doctors and patients, leading to the development of interpersonal relationships between the provider and the patient (Ambady & Rosenthal, 1992; Hall, Harrigan, & Rosenthal, 1995). Among different nonverbal actions, immediacy serves as a critical factor driving favorable patient experiences. Nonverbal immediacy has been described as nonverbal communication behaviors serving to maximize one's perception of closeness with another (Mehrabian, 1969). The immediacy from health care providers can reflect direct eye contact, direct body orientation, shorter distance, and greater attention (Hall & Dornan, 1988). Prior meta-analytic work indicates that patient satisfaction is linked to enhanced physician nonverbal immediacy (Hall & Dornan, 1988). For example, Conlee, Olvera, and Vagim (1993) assessed the link between unique dimensions of patient satisfaction with physician care and nonverbal immediacy. Results showed that while nonverbal immediacy was strongly associated with all components of patient satisfaction, it was most strongly associated with the attention/respect factor. More recently, Kafetsios et al. (2014) found that higher perceived nonverbal immediacy was linked to patient satisfaction, as well as greater perceived positive communication and lower perceived negative communication. Furthermore, immediacy was found to mediate the relationship between emotion regulation skills and satisfaction.

Although not directly assessed in prior studies involving patient satisfaction, perceptions of physician trust may also be strongly tied to nonverbal immediacy. In particular, favorable assessments of competence - a factor linked to trust (Thom, Hall, & Pawlson, 2004) - have been associated with greater perceived nonverbal immediacy (Conlee et al., 1993). Researchers have theorized that effective nonverbal communication contributes to developing more trusting interpersonal relationships between physicians and patients (Ambady & Rosenthal, 1992). Consequently, greater nonverbal immediacy contributes to building rapport between the doctor and patient, with patients developing greater trust.

2.1.2. Empathy

Empathy reflects both perspective-taking and an understanding of others' feelings and thoughts (Hoffman, 2001). In the context of doctor-patient interaction, empathy incorporates skills needed to "understand the patient's inner feelings and perspective" and effectively "communicate this understanding" to the patient (Hojat et al., 2002, p. 1564). Empathy is considered central to effective patient-centered communication approaches (Gobar Babar, 2011; Kurtz, Silverman, Benson, & Draper, 2003), and a powerful therapeutic tool (Rogers, 1975). Overall, the ability of physicians to understand and navigate patients' challenges and emotional state and effectively communicate this to the patient leads to more favorable patient outcomes (Stepien & Baernstein, 2006). Numerous investigations indicate that empathy predicts greater patient satisfaction (Quaschning, Korner, & Wirtz, 2013; Stepien & Baernstein, 2006; Stewart, 2001). For example, Quaschning et al.'s recent investigation of patients at a rehabilitation clinic showed that empathy was associated with both patient satisfaction and acceptance of the treatment initiated by the medical staff.

Although studied less extensively than patient satisfaction, prior investigations suggest that empathy should also increase perceptions of trust in physicians (Derksen et al., 2017; Hojat, et al., 2010; Thom & Campbell, 1997). Hojat et al. (2002) showed that perceptions of physician empathy were strongly correlated with patient-physician 'interpersonal trust.' In one recent focus group investigation, respondents indicated that greater empathy by physicians was beneficial to developing a "trustful and safe" relationship (Derksen et al., 2017, p. 990). Overall, empathy should contribute to greater satisfaction and trust in physicians.

2.2. The Role of Patient Participation

Greater shared decision-making between physicians and patients is a central component of patient-centered communication strategies. In this study, we explore the proximal role of

patient participation in predicting favorable impressions of physicians and hospital services. Prior research shows that increased patient participation increases patient satisfaction (Quaschning et al., 2014; Rost, 1989; Suh & Lee, 2010). Although patients vary to the extent they will offer information, in general, patients report greater satisfaction when they feel that physicians have met their information needs (Kravitz et al., 2002). In one of the earliest studies examining patient participation, Rost (1989) found that patients who interrupted physicians more frequently during a consultation subsequently reported higher levels of patient satisfaction. Conversely, greater frequency of physicians interrupting patients predicted lower levels of patient satisfaction.

Prior research has also found significant associations between patient participation and trust (Ommen et al., 2008; Peek et al., 2013; Savage, 2011; Yang & Wu, 2018). Unfortunately, there are conflicting arguments regarding the direction of this relationship (i.e., Peek et al., 2013; Savage, 2011; Yang & Wu, 2018). Savage (2011) tested a process model whereby trust preceded and hence led to, patient desire to participate. Conversely, a recent investigation argued that patient participation affects the understanding and expectations between doctors and patients and patient trust in the physician (Yang & Wu). This is predicated on the idea that greater patient participation creates a psychological contract, defined as a set of subjective beliefs related to mutual expectations between doctors and patients (Yang & Wu). Although the relationship was tested via correlational analysis, findings supported these predictions. Overall, while the direction of this relationship is relatively unclear, patient participation should associate with both greater satisfaction and trust in one's physician.

2.2.1. Potential Mediating Role

Within the literature on doctor-patient interaction, it remains unclear how patient-centered factors operate together to predict favorable patient experiences. While patient participation and physician communication skills are also interrelated, there lack any theoretical or empirical investigations identifying a clear directional relationship. Quashchning et al. (2013) found a strong correlation between shared decision making and empathy but did not examine any directional relationship between these factors. Street et al. (2005) found that supportive talk among physicians (a composite measuring including praise, reassurance, and empathy) predicted greater patient participation. Although not specifically examining patient participation, in a review of literature on immediacy, Ellis, Carmon, and Pike (2016) noted that this skill was consistently linked to greater patient motivation. This suggests that a potential response to increased patient-centered approaches is a desire to learn about health concerns as well as contribute to medical decisions. Overall, while findings do seem to suggest that there is a relationship that exists between different communication skills and patient participation, it is theoretically and empirically unclear whether participation results from these enhanced physician communication skills. Given the status and expertise physicians possess, patients may initially be hesitant to be active contributors to health decision-making. Thus, patient-centered communication styles among physicians may precipitate greater shared decision-making among patients. In an effort to more clearly isolate processes driving patient satisfaction, we explore the potential mediating role of patient participation.

2.3. Impressions of Hospital Services

Research examining the influence of doctor-patient interaction on patient satisfaction often focuses exclusively on patient judgments of a particular physician. This ignores the impact physician's communication skills could have on broader patient attitudes/impressions of medical institutions. Similar to patient satisfaction with physicians, broader judgments toward hospital services may contribute to increased preventative care as well as follow-up interactions/visits. Unfortunately, there lacks research exploring the role that positive doctor-patient relationships have on patients' satisfaction and trust with hospital services. A review of the literature suggests that researchers may combine various elements of the health care experience (e.g., physician care, nursing care, organizational impression) into one composite measure to assess patient experiences (Kraska, Weigand, & Geraedts, 2017) or assess communication more broadly

as one of several service quality elements within hospitals (Andaleeb, 2001). For example, in one study involving Bangladesh patients, researchers found that communication from medical staff predicted greater satisfaction with hospital services (Andaleeb, 2001). Unfortunately, these investigations do not allow researchers to assess the role that unique physician communication skills (e.g., empathy, nonverbal immediacy) play in affecting overall impressions toward hospital services. We argue that positive patient judgments of physicians stemming from greater patient-centered communication skills (empathy, nonverbal immediacy) should, in turn, lead to positive judgments toward that medical institution. Essentially, positive doctor-patient experiences tied to effective physician communication skills should result in broader favorable impressions toward hospital services.

The review of the patient satisfaction literature indicates that satisfaction with one's physician should act as an intervening factor in the relationship between patient participation and satisfaction with hospital services. The interrelationship between patient participation, trust in one's physician, and trust in hospital services is less clear. In particular, given the lack of evidence showing that participation precedes trust in physicians, there is uncertainty as to whether trust in one's physician mediates the relationship between patient participation and trust in-hospital services.

2.4. Research Questions/Predictions

The review above highlights the role that patient-centered communication factors - nonverbal immediacy, empathy - play in contributing to more favorable judgments of physicians and broader hospital services. In the current study, two broad sets of relationships are explored. The first set of investigations examine the direct and indirect relationship between nonverbal immediacy and empathy on patient satisfaction with physicians. In this context, we explore whether the relationship between patient-centered communication factors and judgments of physicians flows through patient participation. We expect that both nonverbal immediacy and empathy will predict satisfaction and trust in physicians. In addition, we explore whether the relationship between these patient-centered communication attributes and favorable impressions of physicians is mediated by patient participation.

Secondly, we explore how patient-centered communication skills as well as patient participation, contribute to favorable impressions of hospital services. Positive judgments of physicians should intervene in this relationship, thus, directly influencing positive impressions of services.

3. Methodology

3.1. Participants and Procedure

The participants of this study were employees of a large commercial bank in Vietnam. Emails soliciting participation in a survey were sent to all employees by the Executive Vice President. Qualified participants were individuals 18 years or older, suffered from at least one chronic or non-chronic condition, and had visited a Vietnamese hospital within the last six months. In addition, participants were required to be able to read and write in English. An online survey link was emailed to interested and eligible participants between February and April 2018. Each participant was asked to write the name of a hospital she/he visited, a health problem that made her/him visit the hospital, and the approximate distance of the hospital from her/his residence. The first section of the survey also included general demographic questions (e.g., gender, age, marital status). The second section addressed the central study variables: patient-centered communication skills (nonverbal immediacy, empathy), patient participation, and satisfaction/trust in physicians and hospital services.

A reminder email was sent out four weeks after the initial correspondance. Four hundred and sixty-two eligible participants completed the survey. After discarding seven cases due to missing responses, the final sample included 455 responses. A small cash incentive was offered to respondents in exchange for their participation in this study.

The majority of the participants (57%) were males. Among all respondents, 75.2% noted being married, with ages ranging from 20 to 59 years old (M = 35.47). About 66% of the participants had a bachelor's degree in education. The majority of participants (71%) had visited public hospitals and roughly 81%

lived less than 20 kilometers from their preferred hospital. About one-third of the participants were ENT (Ear, Nose, Throat) patients and about one-fourth of them had eye conditions.

3.2. Measures

The descriptions below indicate the measurement scales for the central predictor and outcome variables. Unless otherwise noted, all items were measured on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Confirmatory factor analysis (CFA) through AMOS was run on all variables to assess factor loadings. Items were retained for factor loadings .50 or greater. Scale reliabilities for all measures exceeded .80 (α ranged from .82 to .95). Items were summed together, then averaged to create scales.

3.2.1. Nonverbal Immediacy

Patients' perceptions of physician nonverbal immediacy were assessed through a five-item scale (M = 3.76, SD = .73, α = .90) adapted from McCroskey, Richmond, Sallinen, Fayer, and Barraclough (1995) and Richmond, Gorham, and McCroskey (1987). This included items such as "This doctor looked at me while talking" and "This doctor had a very relaxed body position while talking to me".

3.2.2. Empathy

The five-item Jefferson Scale of Patient Perceptions of Physician Empathy (JSPPPE) (see Hojat et al., 2001; Kane, Gotto, West, Hojat, & Mangione, 2007) assessed patients' perceptions of their physician's empathy M = 3.69, SD = .77, α = .92). Sample items included were: "This doctor understood my emotions, feelings, and concerns" and "This doctor viewed things from my perspective".

3.2.3. Patient Participation

Patient participation was measured by five items adapted from previous doctor-patient communication measures (Dutta-Bergman, 2005; Hojat et al., 2001; M = 3.92, SD = .64, α = .91). This included items such as "I discussed all possible treatment options with the doctor before deciding which treatment to choose" and "I tried to get practical information from the doctor for my disease management".

3.2.4. Trust in Physician

We assessed patients' perceptions of trust in their physicians using Gordon, Pugach, Berbaum, and Ford (2014) five-item measure. CFA results indicated a factor loading of only .30 for one indicator. Thus, that item was dropped from the scale and a final four-item scale was created (M = 3.73, SD = .73, α = .87). Sample items included were: "The doctor chose the best medical treatment for me" and "The doctor was thorough and careful".

3.2.5. Patient Satisfaction with Physician

We used Poulton's (1996) Patient Satisfaction Scale to assess patients' satisfaction with their physicians (M = 3.82, SD = .75, α = .95). Patients indicated their agreement with six items such as "I am totally satisfied with my visit to this doctor" and "This doctor was very careful to check everything when examining me/carrying out my care".

3.2.6. Trust in Hospital Services

To measure patient's trust in their hospital services, we adapted Chaudhuri and Holbrook's (2001) three-item brand trust scale (M = 3.76, SD = .79, α = .83). Sample items included: "I trust the care that I receive from a health professional at the hospital that I visited" and "I rely on the care I receive from this hospital".

3.2.7. Satisfaction with Hospital Services

Three items adapted from Maxham and Netemeyer (2002) and Ladhari and Rigaux-Bricmont (2013) assessed patients' satisfaction with their hospital services. CFA results indicated a factor loading of only .10 for one indicator. Thus, that item was dropped from the scale and the remaining two items were summed together and averaged (M = 3.83, SD = .84, α = .86). Sample items included were: "I am satisfied with my overall experience with the hospital that I visited" and "Overall, I'm satisfied with the services provided by the hospital".

4. Results

4.1. Preliminary Analyses

Preliminary Pearson correlation analyses indicated that significant relationships existed

between all central study variables. The results of these simple correlation tests showed fairly strong associations, ranging from $r = .54$ to $r = .85$ (see Table 1).

Table 1
Intercorrelations between Central Predictor and Outcome Variables

Variable	NI	EMP	PP	SP	TP	SH	TH
1. Nonverbal Immediacy		.84**	.79**	.81**	.79**	.65**	.63**
2. Empathy			.73**	.85**	.80**	.68**	.65**
3. Patient Participation				.73**	.72**	.55**	.54**
4. Satisfaction with Physician					.84**	.66**	.65**
5. Trust in Physician						.70**	.69**
6. Satisfaction with Hospital							.70
7. Trust in Hospital							

Note: The numbers reflect Pearson's *r* coefficients.
NI = Nonverbal Immediacy; EMP = Empathy; PP = Patient Participation; SP = Satisfaction with Physician; TP = Trust in Physician; SH = Satisfaction with Hospital; TH = Trust in Hospital
* = $p < .05$, ** = $p < .01$

In addition, preliminary correlation tests revealed that none of the demographic measures (age, education, gender) were significantly associated with any of the central study variables. With the exception of post-hoc investigations, those measures were excluded from the main analyses.

4.2. Physician Communication Style and Patient Perceptions toward Physicians

The first analyses explored the influence of two patient-centered communication approaches – nonverbal immediacy and empathy – on patient perception of physicians. Two separate hierarchical regression analyses were run with nonverbal immediacy and empathy as the predictor variables. Results from the first test showed that empathy and nonverbal immediacy explained significant variance in patient satisfaction with physician, $R^2 = .75$, F (2, 446) = 674.84, $p < .01$. Nonverbal immediacy ($\beta = .36$, $p < .01$) and empathy ($\beta = .55$, $p < .01$) were both strong, positive predictors of patient satisfaction with physician (see Table 2, 1st column).

Table 2
Summary of Hierarchical Regression Analyses for Variables Predicting Favorable Impressions of Physician

	Satisfaction with Physician		Trust in Physician	
	β	**SE**	**β**	**SE**
Model 1a – Comm. Predictors				
Nonverbal Immediacy	.35**	.05	.40**	.05
Empathy	.55**	.04	.47**	.05
	$\Delta R^2 = .75$**		$\Delta R^2 = .69$**	
Model 1b – Comm. Predictors + Mediator				
Nonverbal Immediacy	.27**	.05	.30*	.05
Empathy	.52**	.04	.43**	.05
Patient Participation	.14**	.05	.18	.05
	$\Delta R^2 = .76$**		$\Delta R^2 = .70$**	

Note: Regression coefficients are standardized., * = $p < .05$, ** = $p < .01$

Results from the second test showed that empathy and nonverbal empathy also explained significant incremental variance in trust in physicians, $R^2 = .69$, ΔF (2, 445) = 504.18, $p < .01$. Nonverbal immediacy ($\beta = .40$, $p < .01$) and empathy ($\beta = .47$, $p < .01$) were both significant positive predictors of patient trust in physician (see Table 2, 2nd column).

4.3. Patient Participation Analyses

The next set of investigations examined the link between patient participation and favorable impressions of physicians. The analyses assessed patient participation as both as an independent predictor of impressions and a mediator between physician communication skills and impressions. These were assessed simultaneously through mediation analysis. For these tests, we first employed a hierarchical regression analysis, followed by formal mediation tests via the PROCESS macro (Hayes, 2012). The correlation analyses discussed above indicated that: a) nonverbal immediacy and empathy were associated with patient participation, and b) patient participation was positively associated with satisfaction with physician and trust in physician. This provides preliminary support for two requirements for mediation (Kenny, 2011). Follow-up hierarchical regression analyses were run to assess independent relationships between variables. The first analysis showed that nonverbal immediacy ($\beta = .59$, $p < .01$) and empathy ($\beta = .23$, $p < .01$) were independent predictors of patient participation. Second, both nonverbal immediacy ($\beta = .27$, $p < .01$) and empathy ($\beta = .52$, $p < .01$) remained significant predictors of patient satisfaction with physician when patient participation ($\beta = .14$, $p < .01$) was added as a predictor to this model (see Table 2, 1st column). Figure 1 provides a visual illustration of these relationships. These results suggest that patient participation was a significant, but weaker predictor of patient satisfaction than either nonverbal immediacy or empathy.

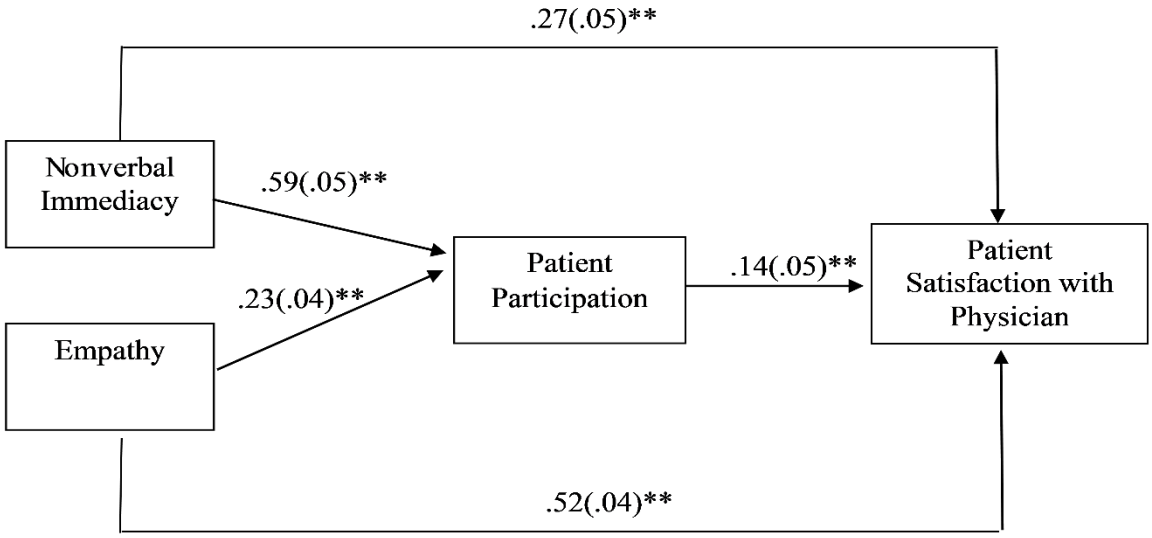

Figure 1

Patient Participation as Mediator between Patient-Centered Communication Measures and Patient Satisfaction with Physician (Notes: The numbers reflect standardized regression coefficients obtained through multiple regression analyses. For the final model, $R^2 = .76$. Numbers in parentheses denote standard errors. ** = $p < .01$)

To formally test for mediation, follow-up bootstrapping analysis utilizing model 4 from the PROCESS procedure (Hayes, 2012) was performed. In a series of analyses, patient participation was examined as a mediator with the other predictor variable (empathy or nonverbal immediacy) retained as a control variable. Results of bootstrapping analysis showed that the indirect relationship between nonverbal immediacy and patient satisfaction with a physician through patient participation ($\beta = .08$, $p < .05$; 95% confidence interval: .02 to .16) was statistically significant. Similarly, the indirect relationship between empathy and patient satisfaction with physician through patient participation ($\beta = .03$, $p < .05$; 95%

confidence interval: .01 to .07) was also statistically significant. Overall, these findings are indicative of partial mediation.

The second test, involving patient trust in physician, initially showed that nonverbal immediacy (β = .30, $p < .01$) and empathy (β = .43, $p < .01$) remained significant predictors of patient trust in doctors when patient participation (β = .17, $p < .01$) was added to the model (see Table 2, 2nd column). These results show that patient participation was a significant, but a weaker predictor of trust than either empathy or nonverbal immediacy. Results of bootstrapping tests showed that the indirect relationship between nonverbal immediacy and patient trust in physicians through patient participation (β = .09, $p < .05$; 95% confidence interval: .04 to .16) was statistically significant. Furthermore, the indirect relationship between empathy and patient trust in physician through patient participation (β = .03, $p < .05$; 95% confidence interval: .01 to .17) was also statistically significant. The results of these mediation analyses show support for partial mediation.

4.4. Patient Judgments towards Medical Institutions

The final set of investigations assessed how favorable impressions of physicians mediates the relationship between patient-centered interaction measures (nonverbal immediacy, empathy, patient participation) and judgments toward hospital services. The first hierarchical regression analysis revealed that empathy (β = .45, $p < .01$) and nonverbal immediacy (β = .26, $p < .01$) significantly predicted patient satisfaction with hospital services, whereas patient participation (β = .01, $p > .05$) did not significantly predict this outcome. Further analyses showed that after including patient satisfaction with physicians in the regression model, nonverbal immediacy (β = .20, $p < .01$) and empathy (β = .33, $p < .01$) remained significant predictors of satisfaction with hospital services (see Table 3, 1st column). Figure 2 details visually the relationship between these variables. Subsequent bootstrapping tests revealed that the indirect relationship between nonverbal immediacy and hospital satisfaction through satisfaction with physician (β = .04, $p < .05$; 95% confidence interval: .01 to .10; see Table 4) was statistically significant. Similarly, the indirect relationship between empathy and hospital satisfaction through satisfaction with physician (β = .09, $p < .05$; 95% confidence interval: .03 to .17) was also statistically significant. Overall, these findings are indicative of partial mediation.

Table 3
Summary of Hierarchical Regression Analyses for Variables Predicting Favorable Impressions of Hospital Services

	Satisfaction with Hospital		Trust in Hospital	
	β	**SE**	**β**	**SE**
Model 1a – PCC Measures				
Nonverbal Immediacy	.26**	.08	.26**	.08
Empathy	.45**	.07	.40**	.07
Patient Participation	.02	.07	.05	.07
	ΔR^2 = .49**		ΔR^2 = .45**	
Model 1b – PCC Measures + Mediator				
Nonverbal Immediacy	.20**	.08	.12†	.08
Empathy	.33**	.08	.23**	.07
Patient Participation	-.02	.07	-.02	.07
Satisfaction with Physician	.24**	.08	-	-
Trust in Physician	-	-	.42**	.07
	ΔR^2 = .50**		ΔR^2 = .50**	

Note: Regression coefficients are standardized., † = < .10, * = $p < .05$, ** = $p < .01$; PCC = Patient-Centered Communication

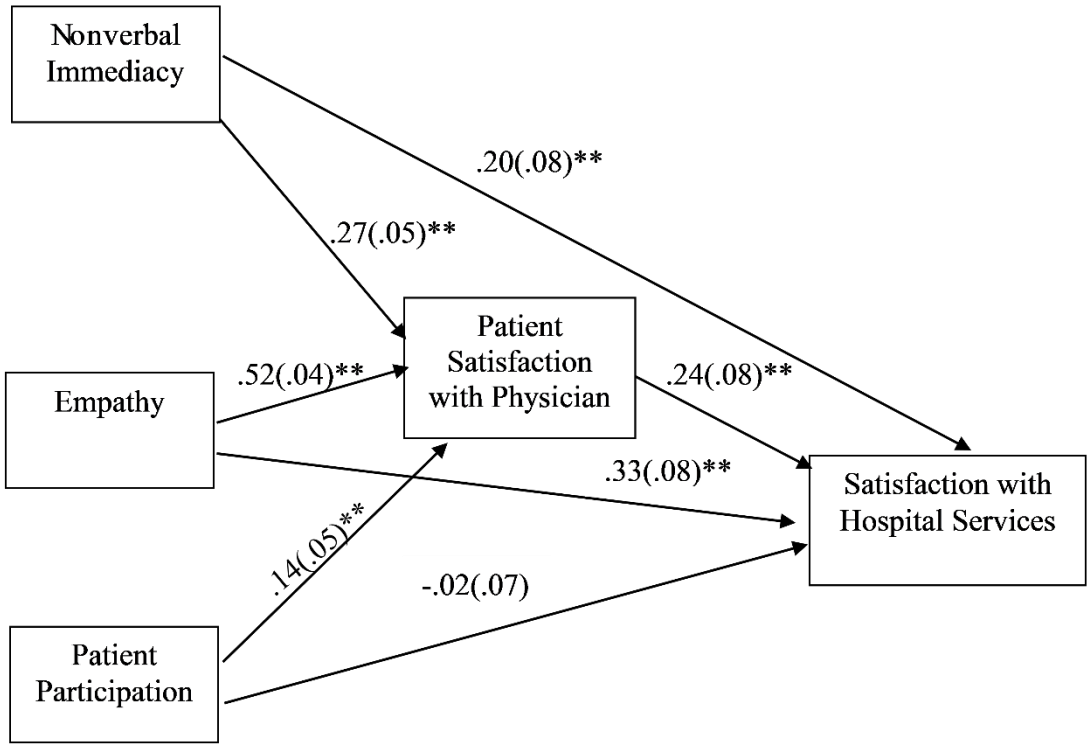

Figure 2

Patient Satisfaction with Physician Mediator between Patient-Centered Interaction Measures and Satisfaction with Hospital Services (Notes: The numbers reflect standardized regression coefficients obtained through multiple regression analyses. For the final model, $R^2 = .50$. Numbers in parentheses denote standard errors. ** = $p < .01$)

While the nonsignificant relationship between patient participation and hospital satisfaction technically violates the first assumption of mediation outlined by Baron and Kenny (1986), Kenny (2011) indicates that if the predictor (patient participation) is significantly associated with the mediator (patient satisfaction with physician), then a path from the predictor to the outcome may be implied and, furthermore, should be explored through bootstrapping techniques (Hayes, 2012). The results of this additional bootstrapping analysis revealed that indirect relationship between patient participation and hospital satisfaction through satisfaction with physician ($\beta = .03$, $p < .05$; 95% confidence interval: .005 to .07) was also statistically significant and reflective of partial mediation.

Hierarchical regression analysis revealed that empathy ($\beta = .40$, $p < .01$) and nonverbal immediacy ($\beta = .26$, $p < .01$) were significantly associated with patient trust in hospital services, whereas patient participation ($\beta = .05$, $p > .05$) did not predict this outcome. Subsequent hierarchical regression analysis showed that after including patient trust with physicians in the regression model, empathy ($\beta = .23$, $p < .01$) but not nonverbal immediacy ($\beta = .12$, $p > .05$) remained a significant predictor of trust in hospital services (see Table 3, 2nd column). Subsequent bootstrapping tests revealed a significant, indirect relationship between nonverbal immediacy and hospital trust through trust with physician ($\beta = .08$, $p < .05$; 95% confidence interval: .04 to .14). Similarly, the indirect relationship between empathy and hospital trust through trust with physician ($\beta = .12$, $p < .05$; 95% confidence interval: .07 to .20) was also statistically significant. Overall, these findings are indicative of partial mediation. Finally, results indicated a significant, indirect relationship between patient participation and hospital trust through trust with physician ($\beta = .06$, $p < .05$; 95% confidence interval: .03 to .10).

4.5. Post-hoc Analysis

Although none of the demographic items (age, gender, education) were directly associated with the central study variables, post-hoc

analyses revealed multiple moderator effects. First, hierarchical regression analysis indicated a weak, but significant interaction between patient participation and gender on trust in doctor $\beta = .19$, $p < .05$; $\Delta R^2 = .003$, ΔF (1, 442) = 4.12, $p < .05$. Subsequent analyses revealed that patient participation was significantly associated with trust in doctor among males ($\beta = .26$, $p < .01$), but not females ($\beta = .07$, $p > .05$). In addition, significant interactions emerged between age and nonverbal immediacy [$\beta = .12$, $p < .01$; $\Delta R^2 = .01$, ΔF (1, 438) = 13.12, $p < .01$], and between age and empathy [$\beta = .07$, $p < .05$; $\Delta R^2 = .01$, ΔF (1, 438) = 4.42, $p < .05$]. However, when these interactions were examined simultaneously in one model, only the age X nonverbal immediacy interaction remained significant. To decompose this interaction, separate regressions were run at one standard deviation above and below the mean of the moderator variable (i.e., age; Aiken & West, 1991). Results showed that among older participants, nonverbal immediacy was a strong, positive predictor of trust in hospital services ($\beta = .26$, $p < .01$), whereas among younger participants, nonverbal immediacy was not associated with trust ($\beta = .002$, $p > .05$; see Figure 3).

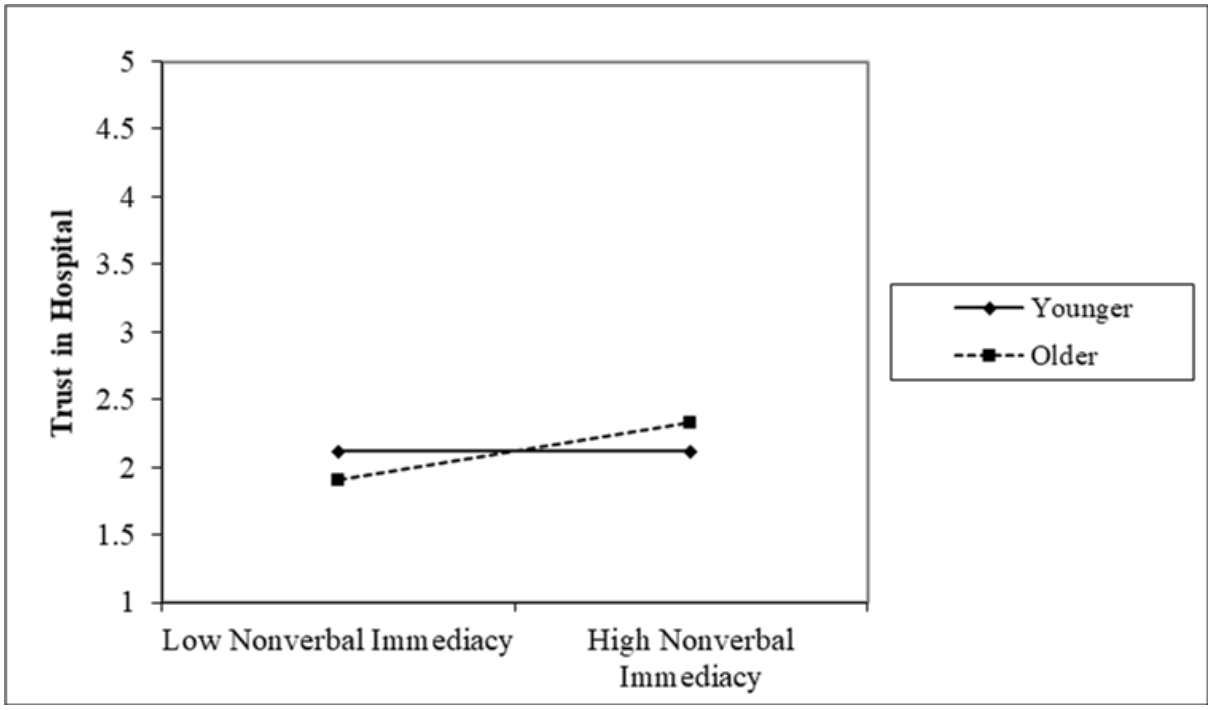

Figure 3
Post-hoc Analysis Indicating a Relationship between Nonverbal Immediacy and Trust in Hospital as a Function of Age, Indicated by Linear Regression Analysis

5. Discussion

Effective patient-centered communication strategies are needed to ensure patients engage in treatment adherence and broader positive health behaviors. Prior research shows that physicians utilizing more patient-centered communication approaches are likely to develop positive relationships with patients, leading to favorable patient impressions and improved patient outcomes. The current investigation expanded on prior patient-centered communication research by testing processes through which nonverbal immediacy and empathy – communication approaches historically linked to patient satisfaction – increased satisfaction and trust in physicians and Vietnamese hospital services. Patient-centered communication outside U.S. contexts has been relatively understudied, and within Vietnam, there exist few quantitative doctor-patient investigations. Consequently, on a theoretical level, this investigation sought to explain more clearly the interrelationships between different patient-centered interaction approaches and how these strategies contribute

to broader perceptions of medical services. From a practical perspective, this study offered a more extensive examination of how patient-centered care influences patient judgments within a non-westernized (Vietnamese) population.

The findings from this investigation indicate that empathy and nonverbal immediacy operate independently to predict favorable judgments of physicians and medical institutions. Together, these factors explained substantial variance in favorable patient assessments. Conversely, patient participation did not independently predict favorable impressions of hospital services and was a relatively weak predictor of satisfaction and trust in physicians. Finally, results from the model predicting judgments of hospital services indicated that physician satisfaction and trust were reliable intervening factors in the relationship between all three patient-centered factors and favorable judgments of medical institutions. The sections below discuss the theoretical and practical implications of these findings.

5.1. Theoretical Implications

Numerous investigations have explored the impact of empathy and nonverbal immediacy on patient judgments towards physicians. The current investigation attempted to provide a more comprehensive assessment of the interrelationships between these components of doctor-patient communication and patient participation to predict favorable patient experiences. While patient participation is strongly associated with empathy and nonverbal immediacy, the results from this study suggest that increased participation is a somewhat weak mediator between these patient-centered communication styles and judgments towards physicians. These results support Quaschning, Körner, and Wirtz's (2013) investigation, indicating that different patient-centered components exert independent, additive effects on patient impressions of physicians. Given the argument that the relationship between patient participation and patient trust is bi-directional (Peek et al., 2013), it is potentially more viable to assess the unique predictive power of patient participation on patient judgments (in comparison to other patient-centered variables), rather than exploring whether this factor drives patient perceptions of physicians.

This investigation also suggests that empathy and nonverbal immediacy factor more potently into patient satisfaction/trust than patient participation. Patient impressions may be determined less by their level of participation during consultations than the extent physicians promote greater perspective-taking and closeness. Ultimately, physicians displaying more patient-centered communication approaches can influence patients' positive judgments towards both physicians and broader hospital services.

5.2. Practical Implications

Results from this investigation show that Vietnamese medical institutions must continue to promote patient-centered communication approaches as this benefits long-term patient care and impressions toward medical facilities. Physicians' training sessions should highlight verbal and nonverbal communication approaches that embrace patient perspective-taking and maximize feelings of closeness (e.g., direct eye contact, greater attention). While it is important to promote these approaches across all age groups, the post-hoc tests revealed that greater nonverbal immediacy expressed towards older patients as opposed to younger patients is more likely to generate higher feelings of trust in-hospital services. This extends previous research that showed stronger links between patient-centered interaction styles and satisfaction among older adults (Peck, 2011). Given the rapid increase among those 60 and older within the Vietnamese population (Hoang & Duong, 2018), it is vital for medical facilities to invest time and resources to strengthening patient-centered communication strategies directed toward this population.

Although our findings suggest that patient participation is a less powerful predictor of patient satisfaction and trust than patient-centered communication strategies, participation does modestly contribute to these impressions. Consequently, outreach efforts by Vietnamese public health agencies should aim to promote greater patient engagement and active patient roles in health care.

A key limitation of this investigation is the correlational design. This does not allow one to identify causal relationships between the central factors in this study. In exploring these

relationships, we drew from previous doctor-patient literature in addressing why satisfaction and trust should result from specific communication approaches (Kim, Kaplowitz, & Johnston, 2004). In addition, it is ethically problematic to manipulate the extent that patients receive different levels of empathy and nonverbal immediacy. Follow-up longitudinal investigations that explore long-term changes in patient satisfaction/trust may offer more substantial insight into the possible influence of patient-centered communication approaches on patient impressions of physicians and hospital services as well as treatment adherence. In addition, we chose to ask patients to reflect on their perceptions of physicians' communication skills and opportunities for participation. While this approach replicates similar investigations (Kafetsios, Anagnostopoulos, Lempesis, & Valindra, 2014; Quaschning, Körner, & Wirtz, 2013), recording doctor-patient interactions via objective coding (i.e., Peck, 2011), may offer an alternative, and potentially more accurate examination of this topic.

Secondly, this study was limited to one non-U.S. population (Vietnam). Prior research has shown that the nature of doctor-patient interactions as well as patient expectations for these encounters can vary greatly across countries (Oshtaki, Oshtaki, & Fetters, 2006; van den Brink-Muinen et al., 2000). Therefore, how patients respond to more patient-centered strategies may be moderated by one's culture and/or national customs. Future investigations should explore these relationships across a wider range of countries with cultures reflecting various perspectives on health care interactions.

In summary, this investigation explored broader processes driven by two patient-centered communication skills – empathy and nonverbal immediacy – as antecedents to Vietnamese patients' impressions of physicians and hospital services. Results showed that these two factors were powerful, independent predictors of satisfaction and trust. Conversely, patient participation was a less robust predictor of judgments toward physicians as well as a weak mediator between patient-centered communication skills and favorable physician impressions. In addition, results showed that patient satisfaction and trust in physicians was a key intervening factor in the relationship between patient-centered communication skills and favorable impressions of hospital services. Overall, the findings highlight the critical importance of physician connectedness with patients as central to patients' global judgments of medical services.

References

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions.* Thousand Oaks, CA: Sage.

Ambady, N., & Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis. *Psychological Bulletin*, *111*(2), 256-274.

Ambady, N., Koo, J., Rosenthal, R., & Winograd, C. H. (2002). Physical therapists' nonverbal communication predicts geriatric patients' health outcomes. *Psychology and Aging*, *17*(3), 443–452.

Andaleeb, S. S. (2001). Service quality perceptions and patient satisfaction: A study of hospitals in a developing country. *Social Science & Medicine, 52*(9), 1359-1370.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182.

Burgoon, J. K., Pfau, M., Parrott, R., Birk, T., Coker, R., & Burgoon, M. (1987). Relational communication, satisfaction, compliance- gaining strategies, and compliance in communication between physicians and patients. *Communications Monographs*, *54*(3), 307-324.

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing*, *65*(2), 81-93.

Clever, S. L., Jin, L., Levinson, W., & Meltzer, D. O. (2008). Does doctor-patient communication affect patient satisfaction with hospital care? Results of an analysis with a novel instrumental variable. *Health Services Research*, *43*(5), 1505-1519.

Comstock, L. M., Hooper, E. M., Goodwin, J. M., & Goodwin, J. S. (1982). Physician behaviors that correlate with patient satisfaction. *Journal of Medical Education, 57*(2), 105-112.

Conlee, C. J., Olvera, J., & Vagim, N. N. (1993). The relationships among physician nonverbal immediacy and measures of patient satisfaction with physician care. *Communication Reports, 6*(1), 25-33.

Derksen, F., Hartman, T. C. O., van Dijk, A., Plouvier, A., Bensing, J., & Lagro-Janssen, A. (2017). Consequences of the presence and absence of empathy during consultations in primary care: A focus group study with patients. *Patient Education and Counseling*, *100*(5), 987-993.

Dutta-Bergman, M. J. (2005). The relation between health-orientation, provider-patient communication, and satisfaction: An individual-difference approach. *Health Communication*, *18*(3), 291-303.

Ellis, R. J. B., Carmon, A. F., & Pike, C. (2016). A review of immediacy and implications for provider-patient relationships to support medication management. *Patient Preference and Adherence, 10*(1), 9-18.

Farzadnia, S., & Giles, H. (2015). Patient-provider interaction: a communication accommodation theory perspective. *International Journal of Society, Culture & Language*, *3*(2), 17-34.

Gordon, H. S., Pugach, O., Berbaum, M. L., & Ford, M. E. (2014). Examining patients' trust in physicians and the VA healthcare system in a prospective cohort followed for six-months after an exacerbation of heart failure. *Patient Education and Counseling*, *97*(2), 173-179.

Hall, J. A., & Dornan, M. C. (1988). What patients like about their medical care and how often they are asked: A meta-analysis of the satisfaction literature. *Social Science & Medicine*, *27*(9), 935-939.

Hall, J. A., Harrigan, J. A., & Rosenthal, R. (1995). Nonverbal behavior in clinician-patient interaction. *Applied and Preventive Psychology*, *4*(1), 21-37.

Han, B. T. H., Dunne, M. P., & FitzGerald, G. (2013). Vietnamese medical students' attitudes toward the doctor-patient relationship. *Journal of Medicine and Pharmacy*, *2*, 109-117.

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]*. Retrieved from http://www.afhayes.com/public=process2012.pdf

Henry, S. G., Fuhrel-Forbis, A., Rogers, M. A. M., & Eggly, S. (2012). Association between nonverbal communication during clinical interactions and outcomes: A systematic review and meta-analysis. *Patient Education and Counseling*, *86*(3), 297–315.

Hernández López, M. D. L. O. (2016). Disagreement and degrees of assertiveness in service encounters: Purchase vs problem-solving interactions. *International Journal of Society, Culture & Language*, *4*(2), 87-104.

Hoang, V. M., & Duong, H. Y. (2018). Health and health care for older people in Vietnam. *Healthy Aging Research, 7*(15), 1-2.

Hoffman, M. L. (2001). *Empathy and moral development: Implications for caring and justice*. New York, NY: Cambridge University Press.

Hojat, M., Mangione, S., Nasca, T. J., Cohen, M. J., Gonnella, J. S., Erdmann, J. B., ... & Magee, M. (2001). The Jefferson scale of physician empathy: Development and preliminary psychometric data. *Educational and Psychological Measurement*, *61*, 349-365.

Hojat, M., Gonnella, J. S., Nasca, T. J., Mangione, S., Vergare, M., & Magee, M. (2002). Physician empathy: Definition, components, measurement, and relationship to gender and specialty. *American Journal of Psychiatry*, *159*(9), 1563-1569.

Hojat, M., Louis, D. Z., Maxwell, K., Markham, F., Wender, R., & Gonnella, J. S. (2010). Patient perceptions of physician empathy, satisfaction with physician, interpersonal trust, and compliance. *International Journal of Medical Education*, *1*, 83-87.

Jackson, J. L. (2005). Communication about symptoms in primary care: Impact on patient outcomes. *Journal of Alternative & Complementary Medicine, 11*(1), s-51-s56.

Kafetsios, K., Anagnostopoulos, F., Lempesis, E., & Valindra, A. (2014). Doctors'

emotion regulation and patient satisfaction: A social-functional perspective. *Health Communication*, *29*(2), 205-214.

Kane, G. C., Gotto, J. L., West, S., Hojat, M., & Mangione, S. (2007). Jefferson scale of patient's perceptions of physician empathy: Preliminary psychometric data. *Croatian Medical Journal*, *48*(1), 81-86.

Kenny, D. A. (2011). *Mediation*. Retrieved from http://davidakenny.net/cm/mediate.htm

Kim, S. S., Kaplowitz, S., & Johnston, M. V. (2004). The effects of physician empathy on patient satisfaction and compliance. *Evaluation & the Health Professions*, *27*(3), 237-251.

Kraska, R. A., Weigand, M., & Geraedts, M. (2017). Associations between hospital characteristics and patient satisfaction in Germany. *Health Expectations*, *20*(4), 593-600.

Krasner, M. S., Epstein, R. M., Beckman, H., Suchman, A. L., Chapman, B., Mooney, C. J., & Quill, T. E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *Jama*, *302*(12), 1284-1293.

Kravitz, R. L., Bell, R. A., Azari, R., Krupat, E., Kelly-Reif, S., & Thom, D. (2002). Request fulfillment in office practice: Antecedents and relationship to outcomes. *Medical Care*, *40*(1), 38-51.

Kurtz, S., Silverman, J., Benson, J., & Draper, J. (2003). Marrying content and process in clinical method teaching: Enhancing the Calgary–Cambridge guides. *Academic Medicine*, *78*(8), 802-809.

Ladhari, R., & Rigaux-Bricmont, B. (2013). Determinants of patient satisfaction with public hospital services. *Health Marketing Quarterly*, *30*(4), 299-318.

Maxham III, J. G., & Netemeyer, R. G. (2002). A longitudinal study of complaining customers' evaluations of multiple service failures and recovery efforts. *Journal of Marketing*, *66*(4), 57-71.

McCroskey, J. C., Richmond, V. P., Sallinen, A., Fayer, J. M., & Barraclough, R. A. (1995). A cross-cultural and multi-behavioral analysis of the relationship between nonverbal immediacy and teacher evaluation. *Communication Education*, *44*(4), 281-291.

Mehrabian, A. (1969). Methods & Designs: Some referents and measures of nonverbal behavior. *Behavioral Research Methods and Instrumentation*, *1*(6), 203–207.

Nguyen, H. T. L., Austin, G., Chau, D. D., Nguyen, H. Q., & Nguyen, K. H. B. (2018). Eliciting patients' health concerns in consulting rooms and wards in Vietnamese public hospitals. *International Journal of Applied Linguistics & English Literature*, *7*(2), 121-133.

Nguyen, H., & Austin, G. (2018). Follow-up visits in doctor-patient communication: The Vietnamese case. *International Journal of Society, Culture & Language*, *6*(1), 18-30.

Nhung, P. T. H. (2014). Linguistic and cultural constraints in Vietnamese general practitioners' act of initiating clinical information-seeking process in first encounters with outpatients. *Theory and Practice in Language Studies*, *4*(6), 1125.

Ommen, O., Janssen, C., Neugebauer, E., Bouillon, B., Rehm, K., Rangger, C., ... & Pfaff, H. (2008). Trust, social support and patient type—associations between patients perceived trust, supportive communication and patients preferences in regard to paternalism, clarification and participation of severely injured patients. *Patient Education and Counseling*, *73*(2), 196-204.

Peck, B. M. (2011). Age-related differences in doctor-patient interaction and patient satisfaction. *Current Gerontology and Geriatrics Research*, *2011*. doi:10.1155/2011/137492

Peek, M. E., Gorawara-Bhat, R., Quinn, M. T., Odoms-Young, A., Wilson, S. C., & Chin, M. H. (2013). Patient trust in physicians and shared decision-making among African-Americans with diabetes. *Health Communication*, *28*(6), 616-623.

Poulton, B. C. (1996). Use of the consultation satisfaction questionnaire to examine patients' satisfaction with general practitioners and community nurses: Reliability, replicability and discriminant

validity. *British Journal of General Practice, 46*(402), 26-31.

Quaschning, K., Körner, M., & Wirtz, M. (2013). Analyzing the effects of shared decision-making, empathy and team interaction on patient satisfaction and treatment acceptance in medical rehabilitation using a structural equation modeling approach. *Patient Education and Counseling, 91*(2), 167-175.

Richmond, V. P., Gorham, J. S., & McCroskey, J. C. (1987). The relationship between selected immediacy behaviors and cognitive learning. *Annals of the International Communication Association, 10*(1), 574-590.

Rogers, C. R. (1975). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*(2), 995–1103.

Rost, K. (1989). The influence of patient participation on satisfaction and compliance. *The Diabetes Educator, 15*(2), 139-143.

Safran, D. G., Taira, D. A., Rogers, W. H., Kosinski, M., Ware, J. E., & Tarlov, A. R. (1998). Linking primary care performance to outcomes of care. *Journal of Family Practice, 47*(3), 213-221.

Savage, S. V. (2011). Patients, trust, and patient participation: factors influencing whether patients want to be active health care participants. In J. J. Kronenfield (Ed.), *Access to care and factors that impact access, patients as partners in care and changing roles of health providers* (pp. 149-171)., Bingley, UK: Emerald Group Publishing Limited

Slatore, C. G., Cecere, L. M., Reinke, L. F., Ganzini, L., Udris, E. M., Moss, B. R., ... & Au, D. H. (2010). Patient-clinician communication: associations with important health outcomes among veterans with COPD. *Chest, 138*(3), 628-634.

Stepien, K. A., & Baernstein, A. (2006). Educating for empathy. *Journal of General Internal Medicine, 21*(5), 524-530.

Stewart, M. (2001). Towards a global definition of patient-centered care: The patient should be the judge of patient-centered care. *BMJ: British Medical Journal, 322*(7284), 444-445.

Stewart, M. A. (1995). Effective physician-patient communication and health outcomes: A review. *CMAJ: Canadian Medical Association Journal, 152*(9), 1423-1433.

Stewart, M., Brown, J. B., Donner, A., McWhinney, I. R., Oates, J., Weston, W. W., & Jordan, J. (2000). The impact of patient-centered care on outcomes. *Journal of Family Practice, 49*(9), 796-796.

Street Jr, R. L., Gordon, H. S., Ward, M. M., Krupat, E., & Kravitz, R. L. (2005). Patient participation in medical consultations: Why some patients are more involved than others. *Medical Care, 43*(10), 960-969.

Suh, W. S., & Lee, C. K. (2010). Impact of shared-decision making on patient satisfaction. *Journal of Preventive Medicine and Public Health = Yebang Uihakhoe Chi, 43*(1), 26-34.

Thom, D. H., & Campbell, B. (1997). Patient-physician trust: An exploratory study. *Journal of Family Practice, 44*(2), 169-177.

Thom, D. H., Hall, M. A., & Pawlson, L. G. (2004). Measuring patients' trust in physicians when assessing quality of care. *Health Affairs, 23*(4), 124-132.

Tickle-Degnen, L., & Rosenthal, R. (1990). The nature of rapport and its nonverbal correlates. *Psychological Inquiry, 1*(4), 285–293.

Tran, K. (2009). Examining conversational constraints in Vietnamese patient-doctor communication: A case study. *XULAneXUS, 6*(1), 10.

Yang, T., & Wu, Y. (2018). A study on the influence of patient participation on patient trust-based on sample survey in China. *Frontiers in Psychology, 9*(2189), 1-10.

van den Brink-Muinen, A., Verhaak, P. F. M., Bensing, J. M., Bahrs, O., Deveugele, M., Gask, L., ... & Peltenburg, M. (2000). Doctor-patient communication in different European health care systems: Relevance and performance from the patients' perspective. *Patient Education and Counseling, 39*(1), 115-127.

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