

The Effect of Physical Therapist's Expertise and Interactivity on Revisit Intention Based on Trust

Gyeongseop Sim¹, Hojin Shin², Donghoon Kim³

¹Department of Health, Exercise and Rehabilitation, Yeosu Institute of Technology, Yeosu, Republic of Korea; ²Department of Health Science, Gachon University Graduate School, Incheon, Republic of Korea; ³Department of Physical Therapy, Ansan University, Ansan, Republic of Korea

Purpose: This study aimed to examine how the expertise and interactivity of a physical therapist impact a patient's intention to revisit a hospital based on trust.

Methods: We surveyed 274 patients who received physical therapy in Seoul and Gyeonggi Province to assess their reliability and revisit intentions based on their expertise and interactivity. SPSS 22.0 was used for frequency analysis and reliability verification, while AMOS 18.0 was used for confirmatory factor analysis and model verification.

Results: Physical therapist interactivity significantly impacted patients' intentions to revisit based on trust. The physical therapist's expertise had a significant effect on trust but did not demonstrate a significant effect on the intention to revisit.

Conclusion: The interactivity of physical therapists has an important effect on patients' intentions to revisit a hospital based on trust. Although therapist-centered expertise can generate trust in patients, it positively affects the intention to revisit the hospital. Therefore, it is suggested that physical therapists' patient-centered expertise and interactivity build patients' trust and are important for revisiting intention.

Keywords: Professional competence, Patient-centered care, Patient satisfaction, Patient trust

INTRODUCTION

Due to the increase in the average life expectancy and income level of the population, and the advancement of medical technology, medical institutions are competing in the domestic medical market to provide high-quality medical services that meet the demands of consumers. The opening of the domestic medical market in 2005 triggered its rapid quantitative development, accompanied by economic growth, and competition among hospitals gradually intensified.¹

Patients cited accessibility, interior design, and comfortable environments as geographical and environmental factors, as well as the clinical expertise of the hospital's physician and interpersonal factors, such as communication with medical staff, when choosing a hospital.^{2,3} As patients become aware of the differences in the medical services they receive depending on the severity of their illness, they place a greater emphasis on the expertise of medical profes-

sionals in treatment and diagnosis than they do on geographical location when choosing a hospital.^{4,5} Therefore, by allowing patients to recognize the physician's expertise, it is possible to establish trust and cultivate a cordial relationship.⁶

Moreover, because healthcare professionals can build trust and form favorable relationships with patients through communication and understanding based on their specialized treatment, this communication can be viewed as the beginning of trust between doctors and patients. Communication is the basis of medical treatment, and depending on the communication skills of healthcare professionals, it can influence customer satisfaction and behavior, evaluating the quality of medical services and acting as a component of customer satisfaction.⁷⁻¹⁰

Physical therapy has evolved extensively from its initial focus on localized pain relief to encompass a wide range of areas, including the restoration of physical function. Physical therapists possess spe-

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Corresponding author Donghoon Kim

E-mail kimdonghun@ansan.ac.kr

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cialized skills and professional expertise, working in collaboration with rehabilitation specialists such as physicians, nurses, and social workers, to restore patients' physical function and facilitate their active participation in society. Moreover, physical therapists engage in direct face-to-face interactions with patients for significantly longer durations, typically ranging from 30 to 60 minutes, to administer practical rehabilitation treatments. Therefore, the professional competence of physical therapists is a highly significant factor in their field.^{11,12}

However, previous studies have only focused on medical professionals' expertise and communication skills when investigating patient satisfaction and willingness to revisit. In physical therapy, research has been limited to factors such as patient demographics, the structure of medical institutions, and hospital accessibility, as well as satisfaction surveys based on the level of service provided by physical therapists and studies on their professional competence. Therefore, the impact of the physical therapists' professional competence and communication skills on patient trust is unknown.¹³⁻¹⁶ Therefore, this study aimed to verify the hypothesis that the expertise and interactivity of physical therapists will significantly influence patients' willingness to revisit based on trust and highlight the importance of the expertise and interactivity of physical therapists.

METHODS

1. Participants

This study was conducted with patients who received physical therapy within the past month from primary healthcare institutions or higher-level medical facilities located in Seoul and Gyeonggi Province. The participants were provided with detailed explanations about the study beforehand and consisted of those who voluntarily agreed to participate. Additionally, the survey questionnaire clearly stated the purpose and content of the research to enhance participants' understanding, and it was explained that they could withdraw from the study at any time. The main content of the survey consisted of 12 items, revised and supplemented to align with this study, based on the previous study by Seo.¹⁷ The items assessed professionalism (3 items), interaction (4 items), reliability (3 items), and intention to revisit (2 items). All items were rated on a 5-point Likert scale.

Data collection was conducted online for a period of two weeks, from December 1 to December 15, 2022. The response rate was

96.81%. A total of 274 surveys were analyzed, excluding participants who did not respond to any items among the 283 individuals who agreed to participate in the survey.

2. Experimental method

1) Research model

The model comprised four categories: expertise and interactivity of physical therapists, patient trust, and willingness to revisit. This study investigated the influence of physical therapists' expertise and interactivity on patients' willingness to revisit based on their level of trust (Figure 1).

2) Experimental procedure

This study utilized a cross-sectional design, where participants were surveyed at a specific point in time. The corresponding model is presented in Figure 1. The experimental procedure proceeded as follows. First, relevant data from previous studies pertaining to variables associated with the model were collected. The survey questions were then modified and refined to align with the objectives of the survey. Subsequently, new survey questions were developed to suit the purpose and design of the study. Afterward, the survey was administered to participants who had received physical therapy within the past month and had consented to participate. Surveys with unanswered questions were excluded after reviewing the questionnaire.

3. Analysis method

SPSS 22.0 (ver 20.0, SPSS, Inc., Chicago, IL, USA) and AMOS 18.0 (ver 18.0, SPSS, Inc., Chicago, IL, USA) were used for statistical analysis. The reliability of the survey questions was verified using Cronbach's coefficient in SPSS 22.0, and frequency analysis was used to analyze the participants' demographics. AMOS Ver 18.0 was used to verify the

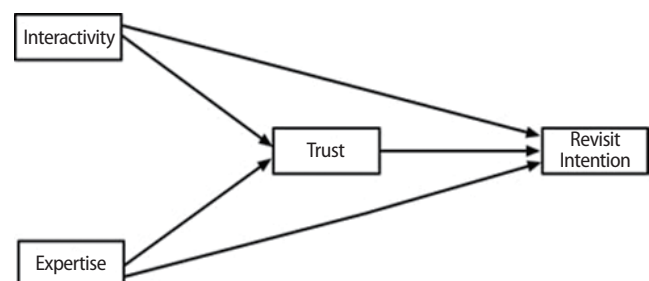


Figure 1. Study model: modeling the direct and Indirect (mediated by trust) paths of interactivity and expertise on intention to revisit.

validity of the survey questions, model fit, and significance of the model path.

RESULTS

1. Demographic characteristics of the study participants

The participants' demographics were as follows: Regarding sex, 135 (49.3%) were male, and 139 (50.7%) participants were female. Regarding age, 85 (31.0%) were in their 20s, 80 (29.2%) were in their 30s, 62 (22.6%) were in their 40s, 41 (15.0%) were in their 50s, and 6 (2.2%) were ≥ 60 years old (Table 1).

Regarding occupation, 10 (3.6%) were civil servants, 50 (18.2%) were professionals, 18 (6.6%) were self-employed, 20 (7.3%) were homemakers, 58 (21.2%) were students, 85 (31.0%) were office workers, and 33 (12.0%) were employed in other occupations. Regarding marital status, 132 (48.2%) participants were married, and 142

(51.8%) were unmarried (Table 1).

The final educational levels of the participants were as follows: "less than high school graduates" were 59 (21.5%), "college graduates" were 82 (29.9%), "university graduates" were 102 (37.2%), "graduate school in progress" were 14 (5.1%), and "graduate degree" were 17 (6.2%). The monthly incomes were as follows "no income" 57 (20.8%), "< 2 million" 40 (14.6%), "between 2 million and 3 million won" 87 (31.8%), "between 3 million and 4 million won" 49 (17.9%), and "> 4 million won" 41 (15.0%) (Table 1).

2. Reliability and validity of the measurement items

1) Reliability

Cronbach's alpha was used in this study to evaluate the reliability of the measurement items. The reliability coefficients for the items on expertise, interactivity, trust, and intention to revisit were 0.91, 0.95, 0.95, and 0.85, respectively, which all exceeded the minimum internal consistency threshold of 0.7 (Table 2).¹⁷

2) Model fit

Confirmatory factor analysis (CFA) was conducted to evaluate the validity of the measurement items. The analysis showed that the model fit indices were $\chi^2/df=2.67$, CFI=0.98, TLI=0.97, and RMSEA=0.07.

Table 1. Demographic characteristics of study subjects

	Classification	Frequency (persons)	Percentage (%)
Gender	Male	135	49.3
	Female	139	50.7
Age	20's	85	31.0
	30's	80	29.2
	40's	62	22.6
	50's	41	15.0
	over 60's	6	2.2
Occupation	Civil servants	10	3.6
	Professions	50	18.2
	Self-employed	18	6.6
	Housewives	20	7.3
	Students	58	21.2
	Office workers	85	31.0
Marriage	Etc.	33	12.0
	Married	132	48.2
Last educational background	Unmarried	142	51.8
	Less than high school graduate	59	21.5
	College graduate	82	29.9
	University graduate	102	37.2
	In graduate school	14	5.1
Monthly income	Graduate school graduation	17	6.2
	No income	57	20.8
	Less than 2 million won	40	14.6
	2 million won to 3 million won	87	31.8
	3 million won to 4 million won	49	17.9
	Over 4 million won	41	15.0

Table 2. Confirmatory factor analysis

Category	Questions	SE	α	AVE	CR
Expertise	The PT has sufficient knowledge of physical therapy.	0.88	0.91	0.86	0.95
	The PT makes an accurate diagnosis for treatment.	0.86			
Interactivity	The PT has proper treatment skills.	0.91	0.95	0.87	0.96
	The PT respected my opinion.	0.91			
	The PT treated and talked focused on me during the treatment.	0.90			
Trust	The PT sincerely answered my question.	0.92	0.95	0.88	0.95
	The PT explained to me fully.	0.89			
Revisit Intention	I have a general belief in this physical therapist.	0.93	0.85	0.79	0.88
	I trust what this physical therapist says.	0.95			
	I think that this physical therapist will use the appropriate treatment method for me.	0.88	0.82		
	I would like to choose a physical therapist who has been treated first and receive treatment if necessary.	0.82			

$\chi^2 = 123.25$, $df = 46$, $\chi^2/df = 2.67$, CFI = 0.98, TLI = 0.97, RMSEA = 0.07, RAR = 0.01, SE = Standard Estimate, α = Cronbach's α , PT = Physical Therapist.

The comparative fit index (CFI) and TLI–Lewis index (TLI) were > 0.9, and the root mean square error of approximation (RMSEA) was < 0.08, indicating an acceptable level of model fit (Table 2).

3) Validity

Based on the confirmatory factor analysis, the concentration validity was analyzed, and the factor loading ranged from 0.82–0.9, which was > 0.6 and significant at the $p < 0.001$ level. Furthermore, the average variance extracted (AVE) for the measurement items was > 0.5, and the composite reliability (CR) was > 0.7, thus ensuring concentration validity (Table 2).¹⁸

3. The validation of the model paths

(1) Expertise and trust

The model path between expertise and trust showed a positive and significant effect, with a path coefficient of 0.38, a critical ratio (CR) of 4.53, and a p -value < 0.001, indicating that the therapist’s expertise had a significant positive influence on the patient’s trust (Table 3, Figure 2).

2) Interactivity and trust

The model path between interactivity and trust revealed a positive and significant effect, with a path coefficient of 0.60, CR of 7.19, and $p < 0.001$. This indicates that the therapist’s interactivity significantly impacted the patient’s trust (Table 3, Figure 2).

Table 3. Verification of study model

Path of the model	Standard Estimate	S.E.	C.R.	p
Expertise → Trust	0.38	0.01	4.53	<0.001***
Interactivity → Trust	0.60	0.09	7.19	<0.001***
Trust → Revisit Intention	0.39	0.18	1.99	0.04*
Expertise → Revisit Intention	0.20	0.15	1.51	0.12
Interactivity → Revisit Intention	0.35	0.17	2.14	0.03*

$\chi^2 = 123.25$, $df = 46$, $\chi^2/df = 2.67$, CFI = 0.98, TLI = 0.97, RMSEA = 0.07, RAR = 0.01, * $p < 0.05$, *** $p < 0.001$, S.E. = Standard Error, C.R. = Critical Ratio.

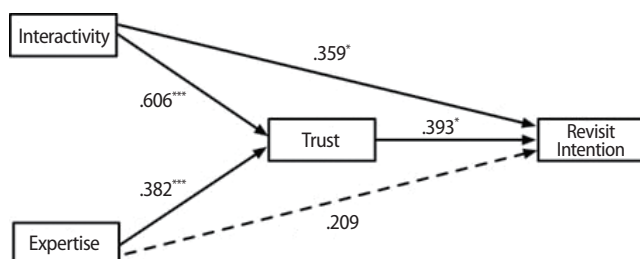


Figure 2. Verification of study model.

3) Reliability and intention to revisit

The model path between reliability and intention to revisit showed a significant positive effect (path coefficient = 0.39, CR = 1.99, $p < 0.05$), indicating that patients’ trust in the therapist had a significant positive impact on their intention to revisit the hospital (Table 3, Figure 2).

4) Expertise and intention to revisit

The model path between expertise and intention to revisit showed a non-significant effect (path coefficient = 0.2, CR = 1.51, $p > 0.05$), indicating that the therapist’s expertise did not significantly impact the patient’s intention to revisit the hospital (Table 3, Figure 2).

5) Interactivity and intention to revisit

The model path between interactivity and the intention to revisit showed a significant positive effect (path coefficient = 0.35, CR = 2.14, $p < 0.05$), indicating that the therapist’s interactivity with the patient had a significant positive impact on their intention to revisit the hospital (Table 3, Figure 2).

DISCUSSION

This study examined the effects of physical therapists’ expertise and interactivity on patients’ intentions to revisit based on trust. The model path of the impact of physical therapist interactivity on the intention to revisit, as mediated by trust, was found to have a significantly positive effect (path coefficient = 0.35, CR = 2.14, $p < 0.05$). Communication is a crucial factor influencing trust and is the foundation of the medical treatment process. Through effective communication, a trustworthy relationship can be established between doctors and patients. This highlights the importance of communication in the medical field.^{9,20} Therefore, it can be concluded that actively listening to the patient’s story and providing explanations from the patient’s perspective through a combination of nonverbal and verbal communication increases trust.

Satisfaction with medical care significantly influences the intention to revisit. The satisfaction with healthcare services is a comprehensive evaluation of patients’ quantitative and qualitative experiences. Even if healthcare professionals provide accurate diagnoses and treatments using advanced medical equipment and technology, patients will not perceive it as high-quality healthcare if they experience negative emotions due to other factors. When the overall satis-

faction rating is low, the intention to revisit the hospital decreases.^{21,22} Therefore, the interaction skills of physical therapists also have a positive impact on the comprehensive evaluation, which in turn influences patients' intention to revisit.

Previous studies by Park²³ suggested that patient-centered communication by physicians significantly impacts patient satisfaction and hospital revisit intentions based on trust. Similarly, Kim's previous study²⁴ found that patient-centered communication significantly impacts patient satisfaction and revisit intention, providing additional support for the findings of this study.

The model pathway through which the expertise of physical therapists affects the intention to revisit was found to have a significant impact on trust rather than on the intention to revisit.

Among several factors contributing to building trust, capability plays a crucial role. Capability refers to the ability to technically realize the purpose of an exchange or transaction at the service level. In other words, if a service provider has the necessary skills, resources, and expertise to fulfill their commitment, customers are more likely to trust and feel confident about doing business with them. Therefore, capability is an essential component in building trust in service-oriented industries.^{25,26} The expertise of physical therapists in medical services refers to their ability to apply therapeutic techniques to achieve the goal of treating diseases when patients visit hospitals. Therefore, trust in patients is more likely to be established as this expertise increases. In Seo and Kim's prior research¹⁷, similar to the findings of this study, the expertise of medical staff was reported to have a significant positive impact on trust. However, despite the formation of such trust, it had little impact on the intention to revisit. Humans tend to make decisions not based on rational calculations but rather on their level of satisfaction based on their psychological characteristics.²⁷ Even if the therapist has a high level of expertise, therapist-centered decision-making can be perceived as authoritarian and lacking consideration for the patient, which can result in lower patient satisfaction and negatively impact the intention to revisit the hospital. According to a previous study²⁴, which investigated the impact of therapist communication styles on customer satisfaction and revisiting intentions, therapist-centered communication was reported to cause lower customer satisfaction and negatively affect revisiting intentions. Additionally, Giacomo et al. mentioned that communication is an important factor affecting patient satisfaction.²⁸ The results of these previous studies support this

study's findings. Therefore, while therapists' expertise can establish trust in patients in terms of their ability, if therapists engage in therapist-centered decision-making and are perceived by patients as lacking consideration for others, it can have a negative impact on the hospital's intention to revisit even if it can create trust in patients in terms of their ability.

This study revealed that the interactivity between patients and therapists was more important than the therapist's expertise in influencing the intention to revisit, with trust as the mediating variable. Therefore, while maintaining the professional expertise of a physical therapist in clinical decision-making, it is important to avoid one-sided and authoritative behaviors toward patients. Instead, physical therapists should empathize with patients by listening to their stories and explaining the treatment process in a way they understand. By prioritizing patient-centered interactions, physical therapists can build greater trust and increase the likelihood of patients returning to the hospital.

The limitations of this study include the restriction of independent variables that can influence trust and the lack of consideration for various physical therapy factors (such as facility and classification) and environmental factors that can impact the dependent variable. Additionally, the survey was limited to the metropolitan area, making it difficult to reflect regional perspectives. Therefore, future research should consider a variety of physical therapy factors and environmental factors from different regions and hospitals. Furthermore, there is a need for studies examining various mediators and independent variables that can influence the dependent variable.

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