

# An analysis of factors influencing college students' acceptance of telemedicine

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## **Abstract**

The research studied college students who are potential telemedicine users but have been relatively under-researched. Considering the characteristics of telemedicine technology and traditional medical services, we developed a research model that used UTAUT and the Behavioral Model of Health Service Use as a theoretical framework and added trust and privacy concerns that reflect the unique characteristics of telemedicine. To examine the research model, we conducted a survey, and the respondents were recruited from the online community for college students. The survey questionnaire included performance expectancy (usefulness, convenience, cost-saving), effort expectancy, social influence, trust, privacy concerns, health status, health anxiety, and demographic information. 166 data were collected, and we used SPSS Statistics and SmartPLS to analyze the measurement and structural models. Determinants of telemedicine acceptance were analyzed as usefulness, convenience, cost-saving, social influence, and trust. In addition, we conducted a multi-group analysis by gender and found that social influence had a stronger effect on female students' intention to accept telemedicine. Based on the results, this study investigates college students' motivations and personal characteristics affecting telemedicine acceptance and the mechanisms involved in how these factors lead to stronger acceptance intention.

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**Keywords:** Telemedicine, Acceptance, College Students, UTAUT, Behavioral Model of Health Service Use

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## 1. Introduction

Recently, the changes that have attracted the most attention in healthcare are the spread of infectious diseases such as the coronavirus (COVID-19) and the active use of digital technology. These two changes are not independent but are closely related to each other. Before the COVID-19 pandemic, technology was not actively used in the healthcare field except for software such as EMR and PACS to improve the work efficiency of medical staff. However, during COVID-19, individuals began to use technology to manage their health, and the conservative atmosphere of the healthcare industry, which did not use technology compared to other industries, has dramatically shifted. In particular, there have been many changes in healthcare consumers' behavior. In the past, they passively received medical services in hospitals, but recently, digital technology has improved the delivery of healthcare services even outside hospitals. For example, in the early COVID-19, patients did not want to visit hospitals because they were worried about the infectious hospital environment and secondary infection of COVID-19. As the cancellation or delay of hospital visits might have caused the unhealthy status of patients, the need to take care of patient's health remotely and the demand for tools for care at home became more robust than before [1]. It brings increased use of telemedicine, which diagnoses and treats patients by medical professionals remotely using various telecommunication tools [2,3]. Telemedicine improves the overall quality of medical services by providing medical services promptly to users who need them [2]. In particular, providing access to medical care for rural residents and patients with limited mobility provides an alternative to traditional healthcare. It increases the diversity of healthcare services available to individuals [2]. Due to telemedicine's characteristics, telemedicine users have changed from passively receiving medical advice and treatment in the past to being able to manage their health actively, such as choosing doctors and hospitals more freely without time and place restrictions to solve their health problems [4]. In South Korea, telemedicine between doctors and patients was illegal before the COVID-19 pandemic but was temporarily legalized during the COVID-19 period. In the post-COVID-19 era, telemedicine is partially allowed under various conditions, such as returning patients and patients with chronic diseases living in rural areas.

As the interest in telemedicine is increasing, various research topics have been studied, such as telemedicine definition [5], medical effects [6], and policy [7]. These prior studies have contributed to establishing the concept of telemedicine and suggesting regulatory direction. Based on these excellent earlier studies, we attempt to understand telemedicine from the user's point of view. Many existing studies have studied telemedicine from the perspective of providers, such as doctors, rather than from the perspective of users, such as patients [8]. Recent research suggests a need to study the behaviors and influencing factors associated with patients' acceptance and use of telemedicine [9]. Considering that telemedicine has patient-centered features, such as strengthening and empowering users to control their health, it is necessary to study patients' behavior contributing to telemedicine acceptance and use from a user-centered perspective [10]. From the user's perspective, telemedicine differs from in-person medical care. Using digital technology, users can access medical services and interact with medical staff without restrictions on place and time. They also can communicate with other telemedicine users by exchanging reviews on the website or application. In other words, telemedicine has different characteristics, such as digital, ubiquity, interactivity, networks, computing, IT, and virtual medical content, from in-person medical care. The differentiation of telemedicine illustrates that it has the characteristics of both technology and traditional medical services. Therefore, it is necessary to understand telemedicine acceptance behavior

from the perspectives of both technology use and medical practice.

Regarding technology use, the most comprehensive study of influential factors for technology adoption is the Unified Theory of Acceptance and Use of Technology (UTAUT) [11]. UTAUT was developed by reviewing eight theories related to user acceptance behavior and analyzing the conceptual similarities between the constructs of each theory. Eight different theories include Theory of Reasoned Action [12], Technology Acceptance Model [13], Motivational Model [14], Theory of Planned behavior [15], combined TAM and TPB [16], Model of PC Utilization [17], Innovation Diffusion Theory [18], and Social Cognitive Theory [19]. UTAUT identified four key determinants influencing the acceptance and use of technology. The first determinant is performance expectancy, which is the benefit that an individual expects to obtain by adopting the technology, and the second determinant is effort expectancy, which is the degree to which the individual perceives the technology to be easy to use. The third factor is social influence, the degree to which significant others perceive that the technology should be used, and the last factor is facilitating conditions, which is the technical or organizational support expected to be provided while using the technology. UTAUT assumes that these four factors influence intention to accept and use technology and that this influence is moderated by age, gender, experience, and voluntariness of use [11]. While UTAUT is one of the most widely used theories in various fields to understand how and why individuals adopt technology [e.g., 20], UTAUT has had limited application in the healthcare field [4]. Since it has been suggested that UTAUT is highly relevant to the study of acceptance behavior in the healthcare field [21], this study developed a research model that reflects the unique characteristics of telemedicine based on UTAUT. In addition to the variables of UTAUT, we examine new aspects of telemedicine acceptance through trust and privacy concerns [22]. Trust and privacy concerns are notable concepts as barriers to acceptance behavior when studying the acceptance of healthcare services using technology from the user's perspective.

From the healthcare perspective, various studies have been conducted to understand health behavior and healthcare service use behavior. In other words, these earlier studies aim to ensure that all individuals have equal opportunities for healthcare by exploring the reasons why individuals do not engage in activities that are good for their health or why they choose to engage in activities that are bad for their health. Among the various theories to understand individual health behaviors, such as The Health Belief Model [23], The Transtheoretical Model [24], The Precaution Adoption Process Model [25], this study uses the concept of Andersen's Behavioral Model of Health Service Use to explore the acceptance behavior of telemedicine from a healthcare point of view. Since its development in 1968, the Andersen behavioral model of health services use has been used to understand why individuals use health services and to promote equitable access to health services based on this. According to this model, health service use is influenced by predisposing, enabling, and needs factors. Predisposing factors include individual-level characteristics such as demographics, education level, and occupation. Enabling factors include community and personal resources that facilitate or impede access to health services, such as health insurance and wait times for health services. Lastly, needs factors consist of subjective and evaluated needs for healthcare. Subjective needs are the individual's judgment that he or she needs healthcare, and evaluated needs are the medical experts' judgment that he or she needs healthcare.

Using UTAUT and the Behavioral Model of Health Service Use, this study aims to examine the acceptance of telemedicine among college students. While many contributed telemedicine studies target medically vulnerable groups, such as older adults, war veterans, and residents in rural areas [26,27], few studies examine college students' telemedicine acceptance behavior

[28]. Among studies on the acceptance of telemedicine targeting vulnerable groups, a review of the literature investigating the perceptions of telemedicine among older adults with cancer found that their willingness to accept telemedicine increased due to reasons such as improved accessibility to medical services, reduced medical costs, improved convenience, and ease of use. On the other hand, barriers to acceptance were investigated, such as preference for conventional care, concerns about confidentiality, and technical difficulties [29]. Unlike older adults, college students are digital natives and prefer online over face-to-face interactions, so they may better understand the concept of telemedicine and be more willing to use it when necessary [28]. However, as younger individuals are less interested in health and less willing to use healthcare services than older adults with disease, it cannot be expected that college students will certainly want to use telemedicine services. To persuade college students to become telemedicine users, understanding why they want to use telemedicine and what motivates them is important. Thus, this study attempts to identify influential factors that encourage telemedicine acceptance by employing UTAUT and the Behavioral Model of Health Service Use.

Research on telemedicine acceptance among college students can be seen as timely now because the demand for telemedicine may change after the COVID-19 pandemic, so the user group needs to expand from medically vulnerable groups to young and healthy groups. Conflicting research results exist regarding telemedicine demands, such as that demand will increase post-COVID-19 because of telemedicine's benefits [30] and interest in telemedicine will gradually decline post-COVID-19 [31]. Thus, to achieve more stable growth and expansion of the telemedicine industry, it is necessary to expand targets beyond the medically vulnerable groups, which are currently the main target of telemedicine. In addition, it is necessary to encourage active acceptance of telemedicine by identifying the intention to use telemedicine and the factors influencing its acceptance. Therefore, this study aims to explore college students' determinants of telemedicine acceptance and the mechanisms involved in how the determinants lead to stronger acceptance intentions of telemedicine. In addition, as health service utilization behavior differs depending on the user's characteristics, it researches the effect of predisposing and needs factors, such as demographics and health status, on telemedicine acceptance.

## 2. Research model and hypotheses

The research model contains nine factors in total: two constructs and three sub-constructs from UTAUT, two reflecting telemedicine's unique characteristics, two regarding users' health, and a variable regarding users' demographic characteristics. The first construct is performance expectancy, which refers to the extent to which an individual believes telemedicine helps manage their health. Previous studies have found that individuals perceive telemedicine as useful and helpful for health management and that this perception of usefulness positively affects their willingness to accept telemedicine [32]. In addition, telemedicine reflects the uniqueness nature of digital technology, allowing users to access medical services without time and spatial limitations. Users can conveniently receive medical services anytime and anywhere, and this perception of convenience makes users more willing to accept telemedicine [4,33,34]. Due to the convenience of telemedicine, users can receive medical services without having to visit medical centers in person, saving travel time, hospital costs, and related opportunity costs for receiving care [35]. Healthcare cost savings positively impact users' intention to accept telemedicine [36]. Therefore, performance expectancy in this study is a multilevel construct with three sub-constructs, including users' perception of usefulness, convenience, and cost-

saving for telemedicine.

H1: When individuals perceive telemedicine as useful, their intention to use it increases.

H2: When individuals perceive telemedicine as convenient, their intention to use it increases.

H3: When individuals perceive that they can save on medical expenses by telemedicine, their intention to use it increases.

The second construct is effort expectancy, which refers to the degree to which the user perceives the ease of using telemedicine, which directly impacts the user's intent to use it [4]. The third construct is social influence, which is the degree to which an individual believes that other people who are important to him or her have a positive perception or opinion of telemedicine [37]. The impact of these influential people is more substantial when the group has a strong sense of community [32]. Given the characteristics of college students with a strong sense of community [38], social influence is highly likely to impact their telemedicine acceptance behavior.

H4: When individuals perceive telemedicine as easy, their intention to use it increases.

H5: Social influence has a positive impact on the intention to use telemedicine.

The fourth influential factor is trust, which has been studied as an essential factor in acceptance in the online domain where there is no in-person interaction [32]. Since telemedicine provides medical prescriptions online without in-person contact, the medical center and doctors providing telemedicine services must be trustworthy providers [37]. The following construct is privacy concerns. Since telemedicine services collect information about an individual's health, it is important to protect their sensitive information. Users want to be able to control the flow of their personal information, and they are concerned about infringement and secondary use of personal information. When sensitive health information is not well protected, and people perceive themselves to have lost control of their personal information, they are less willing to use telemedicine [39].

H6: When individuals perceive telemedicine providers as trustworthy, their intention to use telemedicine increases.

H7: When individuals perceive that telemedicine does not protect their privacy, their intention to use telemedicine decreases.

Next, because telemedicine is a medical service, an individual's perception of health may affect the intention to use telemedicine. In the case of traditional medical services, when users are in poor health or have severe health anxiety, they have a strong need for health services, which leads to increased demand for health services [37]. However, some studies present contrasting results; for example, individuals with better health or lower health anxiety have a strong need for technology-enabled health services and are more willing to accept it [40,41]. Despite such contradictory results, the effect of health-related need factors on the intention of college students to accept telemedicine has not been studied. Therefore, examining the effect of health-related need factors on it is necessary. The hypotheses regarding health status and health anxiety were established based on the literature about traditional medical services.

H8: The worse an individual's health status, the higher the intention to accept telemedicine.

H9: The stronger an individual's health anxiety, the higher the intention to accept telemedicine.

Furthermore, we hypothesized that the influence of the determinants of telemedicine acceptance may be moderated by the user's demographic characteristics. In this study, we focused on the moderation effect of gender, as the ages of the college students were not significantly different. We hypothesized that the impact of the determinants on the intention to accept telemedicine varies depending on users' gender. The impact of gender on health service use has been studied both online and offline. In the case of offline health services, it was found that women use more health services than men, but in the case of online health services, there was no significant difference in acceptance and use by gender [42].

H10: Gender moderates the effect of performance expectancy, effort expectancy, and social influence, trust, privacy concerns, health anxiety, and health status on the telemedicine acceptance intention.

Based on these theories and hypotheses, the research model of this study is shown in Fig. 1.

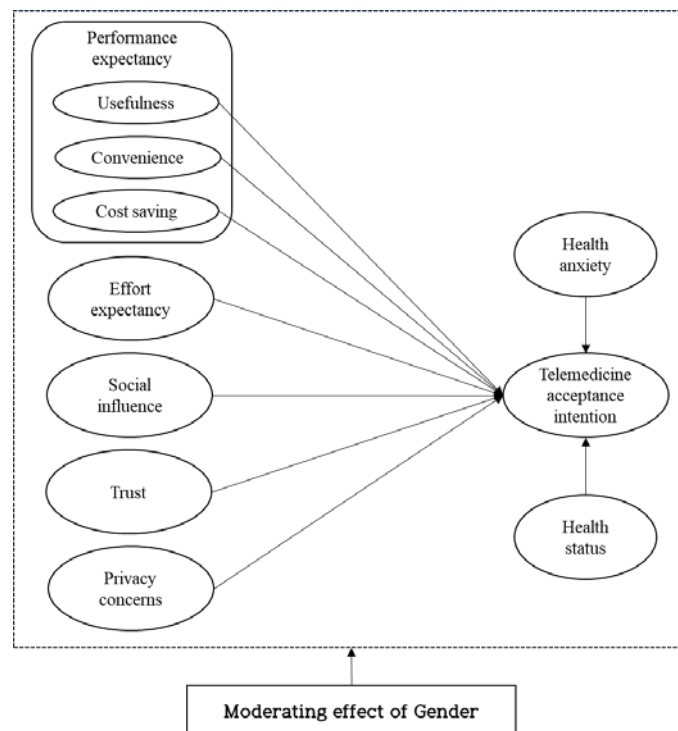


Fig. 1. The research model

### 3. Materials and Methods

The subject of this study is college students with no experience in telemedicine services. We recruited the respondents from the online community for college students. Before starting the online survey, we introduced the background and objective of this study and the concept of telemedicine. Next, we provided the consent form, including personal information protection. After receiving consent from participants, we provided a questionnaire. The questionnaire includes motivations for accepting telemedicine, personal characteristics, and intention to accept telemedicine. A total of 166 college students were recruited and remunerated with USD 5.



The measurement items in this study were developed based on the existing scales whose validity and reliability were verified. Some questions have been partially modified to reflect the characteristics of telemedicine. This study set usefulness, convenience, and cost-saving as sub-constructs of the performance expectancy construct. First, usefulness is the perception that telemedicine helps manage users' health more effectively than in-person care, and it was measured by four items [32,34,43]. For example, the respondents were asked if telemedicine would be helpful for health management and if it would be possible to provide high-quality healthcare, improve health status, and effectively manage health. Second, convenience is the expectation that users can use telemedicine more efficiently without time and spatial limitations. Four items were used to measure the convenience perception of telemedicine, and the items included whether the respondents perceived they could save travel time to medical centers, use their time more efficiently, and save unnecessary travel distance to the medical centers through telemedicine [33,34]. Third, cost-saving was measured by three items, including whether the respondents perceived they could save medical expenses, use medical services cheaper, and cost medical expenses more efficiently through telemedicine [44]. The questions of effort expectancy and social influence were used from earlier studies, and each construct was measured by three items [4,45]. For effort expectancy, the respondents' perception of the ease of use of telemedicine was asked, and the social influence items included perception of the telemedicine use by important people around the respondents. Next, the degree of trust in telemedicine providers, such as the accuracy of medical activities and reliable information provided, was measured by four items [37]. Privacy concerns were measured with four questions, indicating the extent to which respondents were concerned that third parties would expose or use their personal information [39]. Health anxiety was measured by each of the four items using the existing scales [46,47]. Subjective health status was measured by evaluating the respondent's health status on a 5-point scale [48]. Telemedicine acceptance intention was measured using four items, including use plan and preference for telemedicine [34,49]. All items were measured on a five-point Likert scale.

## 4. Results

### 4.1 Demographics of respondents

A total of 166 data were collected, and the gender of the respondents was 77 males (46.4%) and 89 females (53.6%), similar to the gender ratio of college students in Korea. The respondents' birth years were between 1997 and 2003, with 35 people (21.1%) born in 2002, followed by those born in 2001, 2000, and 1998 with 29 (17.5%) each.

### 4.2 Measurement model

The measurement model was evaluated by assessing internal consistency reliability, convergence validity, and discriminant validity. We calculated composite reliability and Cronbach's alpha to evaluate internal consistency reliability, calculated average variance extracted (AVE) for assessing convergence validity. After we compared the square root of the AVE to inter-construct correlations to evaluate discriminant validity. Since the correlations between effort expectancy and usefulness were higher than 0.6, the measurement items were reviewed and reanalyzed. Tables 1 and 2 show that the measurement model is acceptable [50,51].

**Table 1.** The results of reliability and convergent validity test

Latent Variable	Composite Reliability	Cronbach's Alpha	AVE
Performance expectancy (Usefulness)	0.936	0.909	0.786
Performance expectancy (Convenience)	0.897	0.864	0.592
Performance expectancy (Cost-saving)	0.960	0.938	0.890
Effort expectancy	0.881	0.730	0.788
Social influence	0.944	0.911	0.849
Trust	0.935	0.907	0.783
Privacy concern	0.858	0.890	0.609
Health anxiety	0.788	0.837	0.521
Acceptance intention	0.936	0.909	0.786

**Table 2.** Results of discriminant validity analysis

	1	2	3	4	5	6	7	8	9
1	0.886								
2	0.339	0.769							
3	0.241	0.278	0.943						
4	0.542	0.392	0.047	0.888					
5	0.526	0.144	0.459	0.303	0.921				
6	0.556	0.251	0.297	0.511	0.439	0.885			
7	0.058	0.082	0.070	0.082	0.055	0.313	0.780		
8	0.075	0.099	0.133	0.079	0.088	0.109	0.102	0.722	
9	0.729	0.439	0.418	0.516	0.633	0.598	0.060	0.045	0.886

\* Diagonal values represent square root of average variance extracted. 1: Usefulness, 2: Convenience, 3: Cost-saving, 4: Effort expectancy, 5: Social influence, 6: Trust, 7: Privacy concern, 8: Health anxiety, 9: Acceptance intention

### 4.3 Structural model

To assess the relationship among the constructs, we evaluated the multicollinearity, coefficient of determination ( $R^2$ ), cross-validated redundancy ( $Q^2$ ), and statistical significance of path coefficients [51,52]. We found no multicollinearity between variables, as the variance inflation factors (VIFs) values were below 5. The adjusted  $R^2$  value of acceptance intention is 0.593, illustrating adequate explanatory power. The  $Q^2$  value of acceptance intention is 0.535, demonstrating acceptable predictive accuracy of the research model. Last, we evaluate the path coefficients to examine the hypotheses. **Table 3** illustrates the results of assessing the structural model. The predictors of college students' telemedicine acceptance intention are usefulness, convenience, social influence, and trust. On the other hand, we found that cost saving, effort expectancy, privacy concerns, health status, and health anxiety did not significantly affect college students' acceptance of telemedicine.



**Table 3.** The results for evaluating the structural model

		Original sample	Sample mean	Standard deviation	T statistics
H1	Performance expectancy (Usefulness) → Intention	0.329	0.327	0.07	4.664***
H2	Performance expectancy (Convenience) → Intention	0.164	0.164	0.05	3.299**
H3	Performance expectancy (Cost-saving) → Intention	0.103	0.097	0.058	1.76
H4	Effort expectancy → Intention	0.065	0.056	0.074	0.877
H5	Social influence → Intention	0.269	0.262	0.061	4.395***
H6	Trust → Intention	0.183	0.194	0.083	2.21*
H7	Privacy concern → Intention	-0.06	-0.063	0.074	0.812
H8	Health anxiety → Intention	-0.077	0	0.1	0.769
H9	Health status → Intention	-0.005	0.01	0.063	0.083

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \* $p < 0.05$

Next, in order to determine whether there is a moderating effect of gender in this research model, a multi-group analysis (MGA) was conducted. We attempted to reveal whether the effects of factors influencing telemedicine acceptance have notable variations between male and female college students. For this purpose, the sample was divided into two groups based on the respondent's gender. The path coefficients of each group were compared. As a result, it revealed that the effect of social influence on telemedicine acceptance intention was stronger in female college students than in male college students. **Table 4** illustrates the results of the multi-group analysis.

**Table 4.** The results for multi-group analysis (gender)

H	Relationship	Path male	Path female	Path difference	p-value
H1	Performance expectancy (Usefulness) → Intention	0.282	0.361	-0.079	0.286
H2	Performance expectancy (Convenience) → Intention	0.248	0.126	0.121	0.124
H3	Performance expectancy (Cost-saving) → Intention	0.119	0.078	0.041	0.359
H4	Effort expectancy → Intention	0.095	0.018	0.077	0.297
H5	Social influence → Intention	0.151	0.364	-0.214	0.045*
H6	Trust → Intention	0.167	0.171	-0.005	0.487
H7	Privacy concern → Intention	-0.029	-0.063	0.035	0.409

H8	Health anxiety → Intention	0.083	-0.081	0.164	0.141
H9	Health status → Intention	0.085	-0.078	0.163	0.083

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \* $p < 0.05$

## 5. Discussion

This study found that college students are motivated to accept telemedicine when they perceive it is useful and convenient for taking care of their health. These results suggest which benefits telemedicine should provide when it targets college students. However, we should consider that the telemedicine studied in this research was a concept where college students without significant health problems asked medical staff for a simple medical condition diagnosis and received a prescription. In addition to this basic telemedicine model, telemedicine has different service models depending on the disease's chronicity or severity and the treatment department. Telemedicine can also be utilized in all stages of the disease, such as prevention, diagnosis, treatment, care, and nursing. Benefits such as usefulness and convenience need to be planned and provided in more detail by reflecting these characteristics of telemedicine.

Besides these two advantages, other factors are needed to motivate college students to use telemedicine because college students have relatively less strong healthcare needs than older adults or patients with special needs. The social influence found in this study, which has a positive and significant impact on telemedicine acceptance by college students, can be used to increase their acceptance intention. In other words, telemedicine acceptance by college students is influenced by the perceptions and opinions of others who are important and valuable to them. These influences of important people can be used to promote and encourage telemedicine acceptance and use by college students. In general, influential people may be prominent community members, famous doctors, and politicians, but to college students, influential people are peers [53], social media influencers [54], and interactive media [53]. In particular, these influencers may influence college students more strongly when considering the characteristics of college students with a strong sense of community. Therefore, to increase college students' willingness to accept telemedicine, it is necessary to identify their influencers and develop strategies to promote acceptance using them. In addition, considering telemedicine should be long-term healthcare rather than a one-time diagnosis service, users should be engaged in it longer and continuously. In this case, influencers can motivate college students' continuous use of telemedicine by encouraging or using it together in the online social network. We found this social influence on telemedicine intention was stronger in female college students. This result can be interpreted as consistent with the tendency of women found in many studies, such as valuing social factors and respecting the opinions of others. However, it should be considered that individuals put importance on others' opinions when they find it difficult to objectively and precisely judge a specific product or technology because they have little prior experience with it [55]. If individuals, including females and males, have direct experience using telemedicine, they can evaluate it based on their experience and perception, and the direct effect of social influence gradually decreases. Therefore, further research should be conducted to explore the determinants of the continuous use of telemedicine regardless of gender.

The last influencing factor is trust in medical centers and doctors that provide telemedicine. Research has shown that the younger generation emphasizes what types of telemedicine services doctors can provide and whether medical prescriptions are reliably provided [37]. In

general, trust in doctors or medical institutions providing medical services increases satisfaction and intention to use the medical service. Therefore, a lack of trust in telemedicine will inevitably lead to a low willingness to use telemedicine, weakening the potential to alleviate health disparities by telemedicine. The earlier studies suggested ways to increase trust in telemedicine by providing various medical services, ubiquitous telemedicine service access [32], and improving concordant doctor-patient matching [56]. Offline patients often cannot see the doctor they want due to distance or time constraints. However, telemedicine users can connect with their preferred doctors and build solid relationships and trust in doctors and medical centers that provide telemedicine. Therefore, trust in doctors and medical centers affects telemedicine acceptance and further improves medical equity for the medically underprivileged by increasing physician-patient pairings, which were difficult to achieve in offline medical settings [56].

This study found that users' concerns about health information infringement did not affect their willingness to accept telemedicine. The insignificant effect of privacy concerns may be because the telemedicine concept in this study was a one-time service that diagnoses diseases with low severity, so the respondents thought that health information with a very high level of security would not be collected. If telemedicine targets diseases with high severity, health information security will become important, and additional research on data security will need to be conducted [57].

This study was conducted on college students who have not received attention as telemedicine users. Telemedicine has been mainly studied for vulnerable groups such as the medically underprivileged. However, active use of telemedicine by the digital native generation is needed to expand the user base and attract future users. These findings on the factors influencing college students' telemedicine acceptance can provide implications for expanding the telemedicine user group to the younger generation.

Since this study's subjects are young and do not have significant health problems, they only use telemedicine occasionally when their health worsens. However, the sustainability of the telemedicine industry should be approached from a healthcare management perspective, which is an ongoing management of health rather than a one-time treatment. Therefore, strategies to encourage young populations to continue using telemedicine are essential. We need to explore areas such as mental health management and obesity management by medical professionals, which are receiving increasing attention from the younger generation so that the younger generation can continuously manage their mental and physical health remotely. In order to achieve this continuous management, a long-term, and more dedicated relationship should be established between telemedicine providers and users.

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