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The Effect of Social Media Marketing Capability on International Patient Satisfaction through Perceived Risk in the Medical Tourism Context

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ABSTRACT

Purpose: The purpose of the research is to explore the role of social media in attracting international patients for cosmetic services in South Korea during the COVID-19 pandemic. The study aims to conceptualize social media as an effective marketing tool for minimizing perceived risks associated with cosmetic services and increasing patient satisfaction.

Methods: The study validated proposed hypotheses using the PROCESS macro for SPSS with overseas patients who received cosmetic treatment in private Korean plastic surgery clinics in Busan.

Results: This study found that information delivery capability reduced perceived risk and contributed to patient satisfaction, while communication capability did not show any significant relationship with perceived risk and satisfaction. In addition, information delivery capability had a significant direct effect on patient satisfaction, but communication capability did not.

Conclusion: It is expected that the outcomes of this study will broaden our understanding of the use of social media in reducing perceived risk and increasing satisfaction.

Key Words: Social Media Marketing Capability, Perceived Risk, Satisfaction, Protection Motivation Theory, Medical Tourism

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1. Introduction

Medical tourism is not a completely novel term because people have always been visiting other countries in pursuit of better, more affordable, and more convenient medical care (Lunt, Neil et al. 2011). Currently, many Asian nations are attracting a lot of interest from medical tourists as the most likely destinations for medical procedures and treatments (Jang, 2018), with South Korea being one of them. Thanks to its highly qualified doctors and excellent and affordable medical services, South Korea has become a magnet for medical tourism (Jang, 2018). Officially, South Korea started attracting international patients in 2009, and by 2014, the number of international patients visiting South Korea for medical treatment had significantly increased by 34.7% annually over the period from 2009 to 2014 (Jin, 2016). However, COVID-19 has entirely transformed every single sphere of life (Um, 2021). From an economic perspective, such a pandemic has precipitated major global socioeconomic disturbances not only in emerging economies but also in advanced and developed markets (Sharma, 2020). Consequently, many service industries, including medical tourism services, are facing multiple restrictions (social distancing, mandatory self-quarantine, and limitations in the gathering size) (Paul, 2020). These restrictions have necessitated businesses to modify their systems of value generation, communication, and delivery to customers (Paul, 2021). In order to overcome such challenges, many businesses are actively searching for productive methods and devising strategies. This is because the COVID-19 crisis has changed the way customers and service providers interact and communicate due to restrictions (Mason, 2021). When it comes to medical tourism, the COVID-19 pandemic has created a climate of fear and uncertainty, which has led to a decreased willingness among international patients to seek medical treatments abroad. In this sense, social media can be a powerful tool for attracting potential international patients by providing high-quality visuals and interactive content, such as virtual consultations, which enable them to better understand the cosmetic services offered by the hospital located in Korea and to alleviate their concerns about medical treatments offered in South Korea. In addition, social media can provide a convenient and accessible means of communication between hospitals and international patients. This can include remote consultations, appointment scheduling, and regular updates about promotions and services. By providing convenient and timely communication channels, hospitals can offer international patients better accessibility and communication, which can reduce their perceived risk and increase their confidence in the hospital. Despite the potential benefits of social media, limited research has been conducted on the effectiveness of social media in reducing perceived risks for international patients seeking medical treatments in South Korea during the COVID-19 pandemic. Studying the role of social media as a marketing tool for reducing perceived risk could provide valuable insights for hospitals and policymakers seeking to attract more medical tourists to South Korea, especially during the ongoing pandemic. Previous research has shown that these two dimensions are particularly important in the context of medical tourism, where patients may face higher levels of perceived risk due to factors such as cultural differences, language barriers, and unfamiliarity with the healthcare system in the destination country. By focusing on these two dimensions, the study seeks to explore how social media can be leveraged as a marketing tool to address these specific challenges and minimize perceived risk for international patients seeking cosmetic

services in South Korea. In addition, the practical motivation for focusing on the two dimensions (information delivery and communication capability) of marketing capability is to provide a deeper understanding of how social media can effectively attract international patients for cosmetic services in South Korea during the COVID-19 pandemic, by reducing perceived risks and increasing patient satisfaction. The two dimensions were chosen based on their importance in the marketing capability of hospitals, and their potential impact on patient decision-making.

Thus, the purpose of this study is to analyze the effectiveness of the social media marketing strategy of medical organizations in South Korea in the decision-making process of international patients. More notably, we attempt to explore (1) how two sub-dimensions of social media marketing capability affect the perceived risk of overseas patients; (2) how reduced perceived risk influences patient satisfaction; and (3) whether the mediating effect of perceived risk on the relationship between social media marketing capabilities and patient satisfaction is salient. Our hypotheses are established based on the protection-motivation theory. Subsequent sections provide the pertinent literature review and present several hypotheses. Then, the research methodology and hypothesis testing results are presented. Finally, theoretical and managerial implications, research limitations, and future research directions are discussed.

2. Literature Review

2.1 Dimensions of social media marketing capability

Social media are deemed as platforms typically in the marketing areas where individuals connect with one another and exchange knowledge and/or opinions (Kaplan and Haenlein, 2010). Social media have caused three significant changes in business activities due to their unique characteristics such as dynamic, interconnected, egalitarian, and interactive. For example, social media make it feasible for businesses and customers to connect in ways that weren't before conceivable (Lee and Kim, 2018). Different channels, such as social networking sites like Facebook and Instagram, microblogging services like Twitter, and content communities like YouTube and Tiktok, establish and improve this connectivity by enabling social relationships to develop from shared values and interests (Kaplan and Haenlein, 2010; Kwon and Cho, 2019). In addition, social media have changed how businesses and customers interact with and affect each other. Social interaction entails active (i.e., through communication) and passive (i.e., observations) actions that directly or indirectly affect the decisions and consumption patterns of others (Chen et al., 2011). Due to those reasons, social media are actively being utilized by firms and organizations for a variety of purposes such as leveraging marketing activities, increasing brand awareness, promoting products or services, and managing customer relationships (Parveen, Jaafar et al., 2015). Existing studies also report that social media promotes social interactions that provide firms with financial value (Muller and Peres, 2019). While several scholars have sought to conceptualize social media, their findings are mixed (Tarsakoo and Charoensukmongkol, 2019) because different contexts are used in conceptualizing the construct of social

media: Thus, it is vital to identify the dimensions of social media, in part because the dearth of a common understanding of this term makes it challenging for scholars to understand our findings as intended. In this study, we limit our current view to social media marketing capability from the service organization's point of view. Academic literature abounds with numerous different definitions and oftentimes decentralizes the definition of social media due to the fact that the nature of technologies is dynamically changing. For example, Kaplan and Haenlein (Reddy, York et al., 2010) view social media as a group of Internet-facilitated applications that are based on the ideological and technological foundations of Web 2.0. They argue that social media enable the creation and exchange of different contents produced by users. In addition, Van De Velde, Meijer et al. (Han and Hyun, 2015) accentuate the nature of message creation in defining the term social media. In terms of the dimensions of social media marketing capability, Fuchs (2021) has revealed several sub-factors such as information, communication, communities, and collaboration. In addition, Whiting and Williams (2013) identify seven factors including social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, and convenience utility. This study focuses on two distinct characteristics of social media marketing capability: namely, information delivery capability and communication capability for the following reasons. Our literature review found that previous studies have examined various factors in social media marketing, such as social media engagement, trust, and reputation. However, these factors may not necessarily apply to our specific research context. Additionally, there is a scarcity of studies focusing on the specific context of cosmetic services in South Korea during the COVID-19 pandemic. To address this gap, we have chosen to focus on two capabilities: information delivery and communication capabilities. Information delivery capability is crucial for providing timely and accurate information about cosmetic services offered by Korean hospitals, helping to reduce perceived risk. Communication capabilities are essential for building trust and establishing personal connections with patients, especially given the travel restrictions and social distancing measures imposed during the pandemic. During these uncertain times, providing timely and accurate information about hospital safety measures on social media can increase patient confidence in the safety of cosmetic services. Social media platforms also enable hospitals to showcase their services through visual and interactive content, including virtual consultations, which helps international patients understand and choose the services available in Korea. Furthermore, social media provides convenient communication channels for remote consultations, appointment scheduling, and updates, improving accessibility and convenience for overseas patients. In the subsequent sections, we will provide further details on each of these capabilities.

On the one hand, social media as information delivery capability refers to all activities by which cosmetic service hospitals present and deliver information on their services. It is assumed that presenting and delivering information through social media is an effective strategy to raise brand recognition and awareness (Gunelius, 2011). When it comes to our research setting, because overseas patients are not familiar with Korean cosmetic medical services, they are more likely to seek more information about Korean cosmetic medical services. Since information presented via social media is effective in increasing service awareness, visualizing medical treatment processes, and reaching millions of people beyond geographical constraints at a lower cost. Thus, whether hospitals offer genuine and timely information is likely to increase their serv-

ice recognition and attract the customer's attention. On the other hand, social media as a communication capability indicates that the utilization of social media enables businesses to control how customers perceive their value. According to Santos -Vijande et al. (2012), communication via social media aids companies in managing customer expectations by enhancing their perceived value and image. This study views social marketing communication capability in the context of medical tourism as the hospitals' ability to shape customer value perceptions by employing social media channels for communication activities (i.e., sales promotions, public relations, micro-marketing, and personal selling). For example, hospitals can use various social media platforms for advertising by offering exclusive discounts to certain clients to make them feel special (Gunelius, 2011): thus, customers are highly engaged in their marketing activities. Communication with customers can be more effective when there is an interaction between the service provider and the consumer (Sharma and Patterson, 1999). For example, after receiving information about a particular medical procedure, customers have a tendency to have questions and explore more about that certain procedure or might be interested in the interaction with the medical staff or coordinators to discuss the details of the procedures (Gardner, Dowden et al., 2010). At this stage, it is imperative for medical organizations to be able to respond quickly and engage in interaction with potential customers.

Based on previous findings and reasonings, we develop a multi-dimensional construct of social media marketing capability and divide social media into two sub-dimensions: information delivery capability and communication capability. Thus, this study explores how each dimension works towards perceived risk.

2.2 Perceived risk

Before conceptualizing perceived risk, it is important to define the term "risk". According to the definition by Singh and Bhowal (2011), risk is a term that indicates a possible negative effect on an asset or value that can happen from some current situation or future process. Perceived risk is defined as the subjective assessment that individuals make about the characteristics and seriousness of a risk (Kim et al., 2020; Singh and Bhowal, 2011). Many previous studies on risk and perceived risk were conducted in numerous different fields including banking, tourism (Le and Arcodia, 2018; Barger and Grandey, 2006) food service (Hwang and Choe, 2020) education, e-commerce, agriculture, and healthcare. When predicting consumer behavior in healthcare services, previous studies have paid special attention to patient's perceived risk because healthcare services are replete with life-or-death situations (Um and Lau, 2018). According to Paek and Hove (2017), it is very important to pay attention to perceived risk and risk communication in health care because it tells what types of risk most people care about and cope with Paek and Hove (2017). While many experts calculate risk as the likelihood of the occurrence of a risky event and its possible negative effect, customers evaluate the risk based on their various experiences and they tend to estimate higher risk levels than the experts do (Rahman, Khattak et al., 2013). When faced with risk, customers are likely to engage in information-seeking behaviors to mitigate their subjective risks (Nam, 2019) because more information reduces anxiety. Unlike other services, healthcare services inherently involve high risks and moving to another country to receive a healthcare service (i.e., medical tourism) involves more time

and costs. As a result, individuals need more information and need to communicate with hospital managers to ensure that their physical and financial risks are minimized. In this sense, we assume that reducing perceived risk is a critical factor in making a decision on receiving a Korean cosmetic service. Thus, consistent with previous findings (Dowling and Staelin, 1994; Stone and Gronhaug, 1993), we refer to perceived risk in this study as an individual's overall anticipation of negative consequences and feelings of uncertainty about the cosmetic service offered by the Korean hospitals and consider that individual perceived risk is formed before the actual service is consumed.

2.3 Satisfaction

A growing amount of research has been conducted in the investigation and exploration of the concept of customer satisfaction. One of the primary reasons why customer satisfaction has drawn much attention is because it plays a critical role in determining firm performance (Um and Lau, 2018). Many researchers from various academic fields have contributed greatly to the conceptualization of the term customer satisfaction. For example, Torres and Kline (Canales, Kasiske et al., 2006) view customer satisfaction as a person's evaluation or perception of how a particular product or service is provided. Oliver (1980) emphasizes that satisfaction is a result of and a judgment about a product or service after its consumption. In this sense, Um and Lau (2018) argue that satisfaction is generated when products or services meet an individual's favorable level. From the provider's point of view, customer satisfaction matters for three reasons. First, satisfied customers show a strong tendency to repurchase the product or service, the repurchase intention that may contribute to financial performance (Barger and Grandey, 2006). Second, satisfied customers are willing to attract new customers by sharing their experiences and giving positive word-of-mouth (Barger and Grandey, 2006). Finally, service providers keep their satisfied customers from switching to their counter partners and can convert them into loyal customers (Gounaris, Dimitriadis et al., 2010; Leverin and Liljander, 2006). Given that the healthcare industry is a service-oriented industry with an inherent motivation to concentrate on satisfying the needs of customers, we treat satisfaction as a key outcome variable in this research. Therefore, in accordance with previous research findings, we conceptualize satisfaction as the overall evaluation and judgment of international patients about a Korean cosmetic service after receiving Korean cosmetic services.

3. Hypothesis Establishment

3.1 Theoretical Background

This study establishes several hypotheses by adopting the protection motivation theory. Protection motivation theory is one of the many theories that attempt to explain perceived risk and risk tolerance (Rogers 1975; Trujillo-Barrera, Pennings et al., 2016). The theory denotes that people are more likely to defend

themselves when they expect undesirable outcomes and want to avoid them: thus, they desire to take preventive action (Rogers, 1975). According to protection motivation theory, people tend to take protective action when they are motivated and have the agency to do so, and when there is a relationship between perceived risk and injuries and events. For instance, Sheeran, Harris et al. (Han and Hyun, 2014) discovers that improving risk appraisal components (e.g., perceived risk and perceived severity) has a positive impact on changing intentions and behavior toward safety. Thus, protection motivation theorists argue that the motivation to protect oneself necessitates not only managing the risk but also possessing the knowledge and abilities to take preventative measures. The main tenet of this theory leads us to explore how the use of information delivery capability and communication capability reduces the perceived risk of cosmetic services and such reduced perceived risk could contribute to satisfaction in return. We will introduce each hypothesis with theoretical evidence.

3.2 The effect of information delivery capability on perceived risk

This study assumes that delivery capability can lower perceived risk. Protection motivation theory postulates that individuals have a tendency to protect themselves when they notice or expect undesirable consequences, and try to avoid those types of events and think that doing so can help them protect themselves (Rogers, 1975). Applying the mechanism of protection motivation theory to our research context, this study assumes that international patients, who desire to receive a cosmetic service in South Korea, may have a certain level of risk due to a lack of knowledge about the procedures and outcomes of cosmetic service (Seow, Choong et al., 2021) that they are going to undergo in South Korea. Therefore, they are likely to rely on information provided by the Korean medical clinic from which they receive a cosmetic service in order to reduce the risk of negative outcomes of the cosmetic procedure in South Korea (Wang, Liu-Lastres et al., 2019; Seow, Choong et al., 2021). Consistent with protection motivation theory (Rogers 1975; Hwang and Choe, 2020; Seow, Choong et al., 2021), this study anticipates that the international patients who are seeking cosmetic services in South Korea during the COVID-19 pandemic are likely to gain the motivation to take preventive action by actively accessing social media channels provided by the hospital to minimize their perceived risk associated with the cosmetic services. The information delivered via social media by the clinics is (1) effective in visualizing procedures and outcomes (before- and after treatment), (2) easy to reach millions of people with little cost, and (3) more genuine than that via other traditional marketing channels (i.e., because it also presents the feedback of users who already receive the cosmetic service) (Taubenheim, Long et al. 2008, Kim, Lee et al. 2017). In addition, information via social media is free of linguistic, geographical, and temporal constraints (Okazaki and Taylor, 2013). Those characteristics make information delivered on social media more persuasive to international patients who hold a higher level of risk on a cosmetic service and have a lack of access to the details of its procedures and outcomes. Thus, we establish the following hypothesis that:

H1: Information delivery capability can reduce perceived risk

3.3 The effect of communication capability on perceived risk

Protection motivation theory contends that people tend to act in risk-averse ways when they perceive the occurrence of an event to be serious and vulnerable (Rippetoe and Rogers, 1987). An individual forms protection motives through a thorough appraisal of threats and coping mechanisms and decides whether he or she intends to take protective actions (i.e., such as information seeking and communication with service providers) against potential threats (Seow, Choong et al., 2021). Applying this logic to our research contexts, this study argues that, in terms of communication, hospitals can not only shape and manage their customers' expectations by offering detailed information regarding their cosmetic service via social media channels but also lower their customers' perceived risk by providing a two-way communication through which interactions between the hospitals and their customers are stimulated. In addition, the extent to which hospitals utilize social media can determine their capabilities for responding quickly to their customer's requests and offering personalized solutions in return (Huang, Baptista et al., 2015, Wang and Kim 2017). By communicating with potential customers and answering their questions about cosmetic procedures and other inquiries, hospitals could allow international patients to lower their perceived risk through two-way communication and interaction. Thus, this study establishes the following hypothesis that:

H2: Communication capability can reduce perceived risk

3.4 The effect of perceived risk on satisfaction

Focusing on the medical tourism context, we pay special attention to perceived risk when international patients make a decision on receiving a cosmetic service in Korea. Unlike general healthcare services, medical tourism involves more uncertain and risks because individuals have concerned about not only moving to another country where different cultures and languages appear but also receiving a cosmetic service there (e.g., medical procedures are typically complicated and treatment outcomes are not fully certain) (Um and Lau, 2018). Those circumstances allow overseas patients to rely on more information and communication with medical service providers to make sure that their financial and physical risks are under control (Belanche, Casaló et al., 2012). Thus, hospitals seek to present visual information regarding their services (i.e., price, procedures, before- and after- treatment) and interact with potential international patients in order to mitigate their individual risk levels (Kim, Lee et al., 2017; Bae and Chang, 2021; Li, Larimo et al., 2021). Thus, the social media information delivery and communication capabilities of a hospital may contribute to lowering perceived risk and those capabilities may lead to higher satisfaction through perceived risk mitigated by social media marketing capabilities. Thus, we test the following hypotheses:

H3: Both marketing capabilities can contribute to patient satisfaction via perceived risk

4. Research Methodology

This section provides (1) data collection procedures, (2) the measurement items of each variable, (3) the results of non-response bias and common method bias, and (4) Measurement reliability and validity.

4.1 Sampling and data collection

The online and offline (paper-based) survey was designed and carried out in South Korea. As the main target of this survey, we selected international patients who visited Korea to receive cosmetic surgical and non-surgical treatment at private Korean plastic surgery clinics located in Busan Metropolitan City, South Korea. We created a survey in two languages: English and Russian. The reason why we added the Russian version of the survey is because Russian-speaking customers accounted for the majority of the customer base in our survey samples. To make the process of data collection easier, we asked the hospital staff for cooperation. As a result, we could get the patients' email addresses, and we sent a survey link to their emails. On the very first page of the survey, we introduced respondents to all the details and goals of this research. In addition, we also informed the respondents that all the information they provide will be utilized only during this study, and their responses will certainly be kept confidential. Before the analysis of the results, we examined if there were any missing answers multiple times. In the end, we could obtain 203 responses from the medical visitors. Table 1 presents our sample demographics.

Table 1. Sample Demographics

<i>N=203</i>	Characteristics	Percentage
Age	18 years and under	0.5
	20–29	34
	30–39	32.5
	40–49	23.6
	50 older	9
Sex	Man	16.7
	Woman	83.3
Education	High school	30.6
	Undergraduate	38.9
	Graduate	30.5
Employment	1–39h per week	36.5
	More than 40h	43.8
	Unemployed	15.3
	Retired & disabled	4.4

<i>N</i> =203	Characteristics	Percentage
Types of cosmetic procedures	Surgical procedures	32
	Non-surgical procedures	68
Annual income	\$0 - \$19.999	45.8
	\$20.000 - \$29.999	27.6
	\$30.000 - \$39.999	14.8
	Over \$40.000	11.8
SNS	Facebook	37.9
	Instagram	36.9
	YouTube	7.9
	Others	17.3
Total amount spent on procedures	\$0 - \$2499	74.4
	\$2,500 - \$5,000	16.3
	Over \$5,000	9.4

4.2 Measurement items

Measurement items for each variable were created by adopting previously validated measures from the relevant literature. Two sub-dimensions of social media marketing were measured with three items each. They were modified from the study by Seo and Park (2018). The perceived risk construct was measured with six items, which were adopted from the work of Kim et al., 2009. Lastly, we measured satisfaction with four items, which were derived from the work conducted by Bae and Chang (2021). A 5-point Likert scale (1 is for strongly disagree, and 5 is for strongly agree) was used to measure each construct. In addition to main variables, such variables as COVID-19 perceived risk, kinds of cosmetic procedures, and the number of receiving cosmetic services abroad served as control variables for the following reasons. At first, COVID-19 perceived risk was selected to control because, regardless of the quality of cosmetic service, a higher level of COVID-19 perceived risk may discourage customers from giving up information-seeking and communicating with service providers. A single item was used to measure a personal level of COVID-19 a higher level of COVID-19 perceived risk in South Korea with a 5-point Likert scale (i.e., 1=low, 5=high). Second, types of cosmetic services (i.e., non-surgical and surgical ones) are another significant factor in determining the decision-making process because people tend to rely on more information and communication if a cosmetic service is deemed complicated and complex. To treat this variable as a dummy, we transformed it into 0= non-surgical and 1=surgical. Finally, the number of receiving cosmetic services abroad was selected to control because personal oversea cosmetic service experiences also determine decision-making processes and consequent behaviors: more experiences reduce a level of a higher level of COVID-19 perceived risk on cosmetic services in Korea. Thus, actual numbers were entered.

4.3 Non-response bias and common method bias

This study tests the presence of non-response bias by comparing the answers (i.e. ages, the number of visits, incomes, and marital status) of 20 early respondents with those of the 20 last respondents. The t-test results present no significant difference in their answers, thereby concluding that non-response bias is less likely. Moreover, common method bias is another issue to be tested because a single source was used for the data collection. A common latent factor test was performed (N. Podsakoff, 2003; P. M. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and its results show that the produced model fit for the original measurement model and that for the same one with a common latent factor added were found to be similar, showing that common method bias is not a threat to this study (Satorra, 2001).

4.3 Measurement reliability and validity

Several statistical procedures were undertaken before hypothesis testing. First, confirmatory factor analysis (CFA) was conducted to show the validity of the variables. (Refer to Table 2).

Table 2. Confirmatory Factor Analysis Results

Constructs	Measurement items	SFL
Information Delivery Capability CR= 0.870 AVE= 0.690 Cronbach's α=0.847	I think cosmetic information from SNS is very useful.	0.929
	I think cosmetic information from SNS is very timely.	0.882
	I think visualized information of before and after treatment is very helpful.	0.665
Communication Capability CR= 0.859 AVE= 0.670 Cronbach's α=0.845	I think remote consultation with a plastic surgeon has decreased my worries.	0.671
	I think regular promotional updates on the homepage are very helpful.	0.916
	I think arranging appointments via SNS is very convenient.	0.854
Perceived Risk CR= 0.889 AVE= 0.580 Cronbach's α=0.855	I was worried about the results of cosmetic procedures in Korea.	0.809
	I was worried about being overcharged for cosmetic procedures in Korea.	0.743
	I was worried about post-procedure care in Korea.	0.901
	I was worried about the communication with the medical staff during procedures.	0.597
	I was worried about being treated unfairly compared to local patients.	0.614
Patient Satisfaction CR= 0.897 AVE= 0.690 Cronbach's α=0.894	I was worried about the safety of methods of cosmetic procedures	0.844
	I am willing to recommend this clinic to my family members, relatives and friends.	0.911
	I am planning to revisit this clinic for other cosmetic procedures in the near future.	0.728
	I am willing to write a positive review about my experience at this clinic.	0.775
	I am very pleased with the overall results from cosmetic procedures.	0.889

Notes: (1) CMIN = 301.852, DF = 97, p = .000, CMIN/DF = 3.112, comparative fit index (CFI)= .912, Incremental fit index (IFI) = .913, Tucker- Lewis's index (TLI) = .891, Root mean squared error of approximation (RMSEA) = .0102 (2) SFL stands for standardized factor loadings; CR, composite reliability; AVE, average variance extracted, α, Cronbach's coefficient alpha value.

The results reveal fit indices (i.e., CMIN/DF = 3.112, comparative fit index (CFI) = .912, Incremental fit index (IFI) = .913, Tucker–Lewis's index (TLI) = .891, Root mean squared error of approximation (RMSEA) = .0102). This means that all the item loadings are statistically significant and the item loading values show a value greater than the benchmark of 0.5. Moreover, we calculated the composite reliability (CR) for each construct which ranged from 0.859 to 0.889: all values being greater than the benchmark of 0.7. Lastly, the average variance extracted for each variable was calculated. The values for AVE ranged from 0.580 to 0.690, all the values being greater than the benchmark of 0.5. Additional estimation of Cronbach's α for consistency gave the result of a higher degree of internal consistency: the α value of each variable ranged from 0.855 to 0.894. We made a comparison of the square root of an AVE with the absolute value of the correlative coefficients of the latent variables. As illustrated by Table 3, the AVE value for each variable is higher than the squared correlations. Thus, it indicates that discriminant validity is established. Tables 2 and 3 present CFA results and correlation results, respectively.

Table 3. Correlation Results

	1	2	3	4	5	6	7
1 Information Delivery Capability		0.686	0.059	0.275	0.007	0.004	0.025
2 Communication Capability	.828**		0.025	0.274	0.000	0.003	0.015
3 Perceived Risk	-.243**	-.158*		0.008	0.110	0.002	0.002
4 Satisfaction	.524**	.523**	-.090		0.003	0.015	0.000
5 COVID-19 Risk	.085	.009	.331**	-.051		0.018	0.005
6 Types of cosmetic procedures	.065	.052	.048	.123	.134		0.004
7 Number of cosmetic services received abroad	.157*	.123	.046	.001	.074	.066	

Notes:

(1) N = 203; **p < .01; *p < .05

(2) Correlations are below the diagonal and squared correlations are above the diagonal.

5. Hypothesis Testing Results

Since our research model involves a mediator (i.e., perceived risk), mediation analysis was conducted with the PROCESS macro for SPSS proposed by (Hayes, 2017) to validate our proposed hypotheses. We adopted “MODEL 4” in the PROCESS macro for SPSS in validating the relationships. Regarding the control variables in this study, COVID-19 risk, types of cosmetic procedures, and frequency of receiving cosmetic procedures abroad were entered. Table 4 presents the regression results. At first, regarding the direct ef-

fects of information delivery capability and communication capability on perceived risk, only information capability was shown to be positively associated with perceived risk: information delivery capability ($\beta = 1.576^{**}$, $t = 2.700$) and (2) communication capability ($\beta = 1.576$, $t = 2.700$). Thus, H1 is supported while H2 is not. Next, the effect of perceived risk on patient satisfaction was analyzed and the results were produced as follows: $\beta = -.010$, $t = -.649$. Thus, H3 is not supported. While the mediation effect is not effective (i.e., indirect effect = $-.0156$; SE = $.0219$; LLCI (95%) = -0.0678 ; ULCI (95%) = 0.0202), we analyzed the direct effects of both information delivery capability and communication capability on patient satisfaction and found that the direct effect of information delivery capability on patient satisfaction is found to be statistically significant (i.e., $\beta = .358$, $t = 2.837$) while that of communication capability is not. We will provide theoretical and practical discussions based on our findings in the next section.

Table 4. Hypothesis Testing Results

Outcome Variables	Perceived Risk			Patient Satisfaction		
	β	SFL	T	β	SFL	T
Constant	-2.439*		-2.069	2.332**		9.207
<i>Control Variables</i>						
COVID-19 risk perception	1.106**	.200	3.292	-.050**	-.043	-.688
Types of cosmetic procedures	.411	.039	.522	-.246	-.109	-1.807
Number of receiving cosmetic services abroad	.204	.038	.535	-.067	-.059	-.960
<i>Predictors</i>						
Information delivery capability	-1.576**	-.365	-2.700	.358**	.391	2.837
Communication capability	-.618	-.142	-1.052	.174	.187	1.387
<i>Mediator</i>						
Perceived Risk				-.010	-.047	-.649
Adjusted R ²	.305			.308		
F	17.137**			14.381**		
Indirect effect	B	SE	LLCI (95%)	ULCI (95%)		
	-0.0156	0.0219	-0.0678	0.0202		

Note: **P<0.01; *p<0.05; SFL stands for standardized factor loadings

6. Discussions

The empirical results of this study emphasize the value and significance of social media marketing strategy in increasing international patients' satisfaction by minimizing patients' perceived risk in the context of

medical tourism. To be more accurate, we considered two sub-dimensions of social media marketing strategy: information delivery capability and communication capability to confirm its effectiveness in meeting patients' satisfaction with the cosmetic procedures they received. The hypotheses put forward above were tested according to the protection motivation theory. Accordingly, the results and findings from the hypotheses testing are analyzed and interpreted.

Consistent with protection motivation theory, our research finds that the information delivery capability of medical organizations (hospitals, clinics, etc.) is found to reduce the level of perceived risk among international patients about cosmetic procedures and, as a result, contribute to satisfaction. Protection motivation theory has provided a useful theoretical framework to explain the relationship between information delivery capability and patients' perceived risk. Protection motivation theory suggests that people are motivated to protect themselves from threats, usually health-related risks, and search for ways to reduce potential health risks. This study proved that the information delivery capability plays a crucial role in reducing the degree of perceived risk in international customers who are willing to receive a cosmetic procedure in South Korea. As a result, information delivery capability could increase patient satisfaction. In addition, the results from our first hypothesis convey the message of the importance of delivering timely and accurate information to international patients. By doing so, medical institutions can minimize not only the perceived risk, but they are also able to contribute positively to overall patient satisfaction after cosmetic treatments.

Hypothesis 2 of the study addressed the role of communication capability in reducing patients' perceived risk. In this study, we found that communication capability did not show any statistically meaningful relationships with perceived risk and satisfaction. It was an unexpected finding from this study because it was believed that both information delivery and communication capabilities would influence perceived risk and satisfaction. Earlier studies on social media marketing strategies were limited in that they were primarily focusing on the first sub-dimension (information delivery capability) of social media marketing strategy and did not take communication capability into account. As such, the current study makes a contribution in that it is the first approach that we conceptualize social media by revealing two sub-dimensions (i.e., information and communication capabilities) and that we examine their respective effect on reducing perceived risk. While communication capability was found to be unrelated to reducing perceived risk, it is still worth revisiting this variable (communication capability) in future studies. There might exist several reasons explaining why the results were produced against our hypotheses. One possible reason is that a marketer in the clinic may have insufficient professional knowledge regarding medical treatment and procedures. A marketer in the clinic is usually not a medical doctor and thus he or she is likely to be responsible for conveying the information from doctors to patients: the marketer is more capable of communicating with customers in terms of promoting medical service rather than in terms of technical discussions about medical treatment procedures. Thus, it is assumed that communication via social media is likely to be considered neither persuasive nor informative for customers. Another reason can be related to promotional activities on social media of the clinic. Launching regular promotional events or activities on social media might give patients a false image of exaggerated advertisements and misleading claims about the

clinic. As a result, patients can form a suspicious and wrong belief about the medical services of the medical organization. To sum up, communication capability remains to be an important variable and is worth re-visiting in future studies.

Several practical findings can be obtained from the results of this study. During the midst of the Covid-19 pandemic, social media marketing capabilities can be effective in attracting international patients who are willing to visit South Korea for medical purposes. It is observed that the utilization of social media has risen even more since the Covid-19 outbreak because social media facilitates a dialogue between customers and companies during such an unexpected crisis as Covid-19 and resolves the question of uncertainty by providing timely and relevant information (Pachucki, C., Grohs, R., & Scholl-Grissemann, U., 2022). This means that businesses including medical organizations and institutions must develop effective social media marketing strategies to provide relevant information and attract new customers. In addition, the results of this study might give new insights for marketing practitioners to solve the limits and challenges traditional marketing poses. It can be concluded that social media can be a powerful weapon for businesses to meet their promotional objectives, especially when unexpected and unpredictable circumstances such as the Covid-19 pandemic in this study arise. Therefore, social media allows medical service providers to offer timely and useful information and reach a number of potential overseas patients with little cost. Furthermore, it is equally important to emphasize such merits of social media as easy access and convenience of visual information presentation. These are the quintessential elements of social media that must not be overlooked by medical service providers.

7. Limitations and considerations

The present study has several limitations that need to be addressed. Firstly, the sample size is limited as the data was collected during a period when inbound travel was restricted due to COVID-19. Additionally, the sample was drawn only from Busan, which limits the generalizability of the results. Future studies should obtain a larger and more diverse sample from different cities in South Korea. Second, the study only examined two different types of medical care (i.e., cosmetic and beauty procedures); further research into the perceived risk of different treatments might yield more insightful results. Finally, Since this study was conducted during the COVID-19 pandemic, a longitudinal approach could provide further insights into the dynamic nature of perceived risk over time.

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