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## **Correlational study of the factors that influence in the recommendation and loyalty of patients of aesthetic medicine Medellín Colombia, 2014**

Estudio correlacional de los factores que influyen en la recomendación y la lealtad  
de pacientes de medicina estética Medellín Colombia, 2014

Étude corrélationnelle des facteurs qui influencent la recommandation et la loyauté  
de patients de médecine esthétique à Medellin, Colombie, 2014

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### **Abstract**

Aesthetic procedures have gained high relevance within health services offer, becoming consolidated as an attractive market that requires assessment in order to improve its services and thus attracting and keeping its users. This research identified the factors that influence processes of recommendation and loyalty produced within the medic-patient relationship in aesthetic medicine, among which the quality of the relationship, trust, satisfaction and perceived value are addressed. Afterwards, a model of relationships among constructs was proposed, which is contrasted against a sample of 391 patients of Medellín's (Colombia) metropolitan area. A confirmatory factorial analysis was carried out in order to guarantee the reliability and validity of the measurement scales, which allowed to contrast the hypotheses by means of a structural equations analysis. Once the factorial correlation is revised, proof is shown for the existence of

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an influence relationship of constructs such as perceived value, satisfaction and the quality of the medic-patient relationship in loyalty, and also that satisfaction and loyalty, in turn, directly influence recommendations.

**Keywords:** Health, Aesthetic medicine, Satisfaction, Trust, Loyalty, Recommendation, Relationship quality, Perceived value.

## Resumen

Los procedimientos estéticos han tomado gran relevancia dentro de la oferta de servicios de salud, consolidándose como un mercado atractivo que requiere evaluarse para mejorar el servicio y así atraer y mantener sus usuarios. Esta investigación identificó los factores que influyen sobre los procesos de recomendación y lealtad que se producen en la relación médico-paciente en la medicina estética, entre los que se abordaron la calidad de la relación, la confianza, la satisfacción y el valor percibido. Posteriormente se propuso un modelo de relaciones entre los constructos, el cual es contrastado con una muestra de 391 pacientes del área metropolitana de Medellín (Colombia); se desarrolló un análisis factorial confirmatorio para garantizar la fiabilidad y validez de las escalas de medida, permitiendo contrastar las hipótesis mediante un análisis de ecuaciones estructurales. Una vez revisada la correlación factorial se evidencia que existe una relación de influencia de constructos como el valor percibido, la satisfacción, y la calidad de la relación médico-paciente en la lealtad; y que la satisfacción y la lealtad a su vez, influyen de forma directa en la recomendación.

**Palabras clave:** Salud, Medicina estética, Satisfacción, Confianza, Lealtad, Recomendación, Calidad de la relación, Valor percibido.

## Résumé

Les procédures esthétiques ont pris une grande importance dans l'offre de services de santé, se consolidant comme un marché attractif qui doit être évalué pour améliorer le service et ainsi attirer et maintenir ses usagers. Cette recherche a identifié les facteurs qui influencent les processus de recommandation et de loyauté qui se produisent dans la relation: médecin-patient en médecine esthétique, parmi lesquels la qualité de la relation, la confiance, la satisfaction et la valeur perçue ont été abordées. Par la suite, un modèle de relations entre les construits a été proposé, ce qui contraste avec un échantillon de 391 patients de la zone métropolitaine de Medellín (Colombie); une analyse factorielle confirmatoire a été développée pour garantir la fiabilité et la validité des échelles de mesure, permettant de tester l'hypothèse par le biais d'une analyse d'équations structurelles. Une fois la corrélation factorielle soit examinée, il est évident qu'il existe une relation d'influence entre les concepts tels que la valeur perçue, la satisfaction et la qualité de la relation médecin-patient dans la loyauté: la satisfaction et la loyauté, à leur tour, influencent directement la recommandation.

**Mots-clés:** Santé, Médecine esthétique, Satisfaction, Confiance, Loyauté, Recommandation, Qualité de la relation, Valeur perçue.

## 1. Introduction

Health services' accelerated growth, aesthetic medicine among them, creates interesting concerns surrounding the patients' behavior before their physician, particularly with regards to loyalty and the following possibility of positively recommending such surgeon. From this sector's business standpoint, for service providers it is imperative to identify what is the value geared towards the patients and to what extent a competitive advantage is generated through improving services (Chen, Lin, Lee and Chen, 2010).

According to the last study performed by the International Society of Plastic surgery and Aesthetics- ISAPS- there are around 40 thousand certified plastic surgeons worldwide of which close to 7 thousand are in South America and out of these, 950 professionals have their practice in Colombia (Hack worth, 2015).

The number of aesthetic procedures performed worldwide had a 37.6% increment in 2014 with respect to 2011, reaching the figure of 20.236.901 procedures carried out by plastic surgeons throughout the year. The first place in surgical procedures was occupied by eyelid surgery (14.8%), then came liposuction (14.2%), breast augmentation (14%), fat grafting (10%) and rhinoplasty (8.8%) (Hackworth, 2015). In this classification, Colombia occupies the eighth place worldwide with 357 thousand surgeries a year and the second place in Latin America after Brazil, managing a 68.6% increment regarding 2011 (Hackworth, 2015). The above is due to cutting-edge technology, infrastructure, competitive prices, specialists' prestige and the offer of complimentary services (Camara de Comercio de Cali, 2012).

Despite of sector's growth and research about aesthetic procedures, there are few studies analyzing patients' perceptions and satisfaction rates with regards to the services provided by their plastic surgeon which, directly or indirectly, create loyalty. If this sector is in accelerated growth, it's impera-

tive to implement strategies that add value to provided services in order to draw more patients, attain loyalty and generate higher profitability; since patients do not conceive plastic surgery as a simple aesthetic treatment, but as procedure adding to people's life quality (Bolton, Pruzinsky, Cash and Persing, 2003; Klassen, Jenkinson, Fitzpatrick and Goodacre, 1996).

Therefore, this research gains value inasmuch as the constructs of loyalty and recommending gain strength and become specialists' focus of attention, since they bring about profitability to their business and consolidate their services in an ever more competitive market.

## 2. Objective

To identify the factors that influence loyalty and recommendation behaviors of aesthetic medicine patients of Medellín, Colombia, from a study of variables correlation such as loyalty, trust, satisfaction, medic-patient relationship quality and perceived value.

## 3. Conceptual framework

After reviewing the literature, the results found on the constructs preceding customer loyalty and recommending are presented below. This theoretical framework consolidates some definitions set forth by different authors regarding the constructs of interest and those adopted by this research for analysis, as well as existing relationships of direct and indirect influence so as to propose a relational model.

### 3.1. Loyalty

This concept is understood as the client's predisposition to purchasing from the same organization again (Edvardsson, Johnson, Gustafsson and Strandvik, 2000) or as the interest to maintain a relationship with the company and being inclined to buying repeatedly (Oliver Richard, 1997). According to some authors, loyalty can manifest in the willingness of a customer, decrease of complaints and low predisposition towards prices (Bennett, Härtel and McColl-Kennedy, 2005; Dick and Basu, 1994; Yi and Jeon, 2003; Zeithaml, Be-

rry and Parasuraman, 1996). Loyal clients are, therefore, easier to reach, since they are willing to purchase and spend more. They prefer to pay whatever it takes in their favorite stores, rather than incurring in additional searching expenses (Harris and Goode, 2004; Reichinheld and Sasser, 1990). In this regard, loyalty from a psychological link is related to feelings and attachment to a company's products and services (Hallowell, 1996).

### 3.2. Recommendation (WOM)

WOM is deemed as one of the most powerful forces in the market (Bansal and Voyer, 2000), and has traditionally been defined as informal communication between people expressed around the use and characteristics of certain goods and services or about a company's salesforce (Westbrook, 1987). Thanks to its informal character, consumers believe that recommendations offer higher trust and reliability and bestow a greater value with respect to other sources of information (Day, 1971). This is why it represents one of the most effective ways to attract and maintain clients in an organization (Duhan, Johnson, Wilcox and Harrell, 1997).

Against the relationship of the WOM to loyalty, there are some researches in service sector pointing to customer's favorable intentions being linked to casting positive communications about a supplier and its recommending (Dick and Basu, 1994; Roberts, Varki and Brodie, 2003; Sirohi, McLaughlin and Wittink, 1998; Zeithaml *et al.*, 1996). Loyal customers are more prone to recommending and for that reason it is possible to state loyalty favors the WOM (Hallowell, 1996).

Regarding medical services, loyalty is defined as the tendency to turn to the same hospital service when the need arises (Moliner, 2009). Specifically for aesthetic medicine services, recommendations attain greater relevance inasmuch as the patient does not count with personal experience in this kind of medical services, and because of that he tends to turn to and inquire about other patients' experience and advice (Amyx and Bristow, 2001). Some researches state that patients become defenders of the organization and participate in informal positive communication processes that enable the arrival of new patients (Ferguson, Paulin and Leiriao,

2007). Through this research, it is sought to understand patients' loyalty in the health sector as their predisposition to have another procedure with the same medic. Based on the aforementioned, the following hypothesis is sought to be proved:

*H1: within health's sector aesthetic medicine, patients' loyalty has a positive influence on the recommending of a medic.*

### 3.3. Satisfaction

The concept of satisfaction is defined as the emotional state resulting from the overall evaluation of the aspects that make up the client-service supplier relationship (Severt, 2002). The studies point to two kinds of satisfaction: the one given in the face of a product or service, and it makes reference to specific transactions; the other is the one given in the face of customer's experience and it becomes present from the relationship held between client and suppliers, namely, the accumulative result of continuous encounters between both parties over a specific period of time (Bitner and Hubbert, 1994; Oliver Richard, 1997; Rust and Oliver, 1994).

According to some studies, the satisfaction of a customer is an imperative condition for loyalty (Heskett and Schlesinger, 1994; Reichheld, 1992) and one of two key drivers for business success (Oliver Richard, 1997); since the higher a consumers' satisfaction rate is, the greater his loyalty will be (E. W. Anderson and Sullivan, 1993; Hallowell, 1996; Petrick and Backman, 2002; Yoon and Kim, 2000).

Within the health sector, in the medical area specifically, a patient's satisfaction gains significant value since it is the consequence of value judgements made by patients about their clinical experience (Kane, Maciejewski and Finch, 1997). Such rate of satisfaction permits to reduce the costs of drawing in new patients, given that those who are satisfied are easily withheld and become a favorable indicator in the face of future financial outcomes (Friesner, Neufelder, Raisor and Bozman, 2009). This is why the following hypothesis is sought to be proved:

*H2: in aesthetic medicine, a patient's satisfaction has an influence in his loyalty towards the medic.*

With regards to the aforementioned, satisfied customers can be efficient boosters and disseminators of an organization's products and services; if satisfaction increases, so does the probability that consumers make positive affirmations and recommend to other clients the services or suppliers of a company (Betencourt, 1997; Dabholkar, 1995; Van Dolen, Dabholkar and De Ruyter, 2007).

In the medical sector, having the liberty to pick and specialist or be attended by the physician of preference can positively on customer satisfaction, an experience leading to the generation of recommendation behaviors (Amyx and Bristow, 2001). Consequently, this research analyses the influence of a patient's satisfaction in the recommendation parting from the following hypothesis:

*H3: In aesthetic medicine, a patient's satisfaction influences the recommendation of the medic.*

### 3.4. Quality of the relationship

Diverse studies agree that the quality of the relationship does not enjoy a precise and formal definition, nor sufficient clarity of the elements that make it up (Athanasopoulou, 2009; Holmlund, 2008; Huntley, 2006; Woo and Ennew, 2004). Before this absence of specificity, academic literature holds definition aimed at the interaction between a company and the consumer. Based on it, this research assumes that the quality of the relationship is the overall assessment of the vendor-buyer relationship (Woo and Ennew, 2004). Said assessment must be performed from episodes of contact (Grönroos, 2007) which propose diverse evaluations of the relationship according to the interactions of the company and personnel (Anderson and Narus, 1990). In this regard, Smith (1998) defines this concept as the general force of a relationship and the degree to which it meets the needs and expectations of the parties.

Some studies suggest that customer satisfaction is the principal basis for the perception of the relationship's quality (Moliner, Sánchez, Rodríguez and Callarisa, 2007); other studies state that, besides satisfaction, trusting the company, and commitment, are also key variables to measure the quality of the relationship (Baker, Simpson and Siguaw,



1999; Crosby, Evans and Cowles, 1990; Dorsch, Swanson and Kelley, 1998; Garbarino and Johnson, 1999; Palmer and Bejou, 1994; Smith, 1998). Particularly within the health sector, some authors state that after the first medical consultation a patient's satisfaction is strongly influenced by the medic-patient communication variable (Jackson, Chamberlin and Kroenke, 2001), and hence we propose that:

*H4: in aesthetic medicine, the satisfaction of the patient influences the quality of the medic-patient relationship.*

Despite counting with little research linking the relationship's quality to loyalty directly, (for instance Palmatier, Dant, Grewal and Evans, 2006), there in fact are studies proposing relationships between elements of behavior and attitudes of loyalty with the quality of the relationship (for instance Alejandro, Souza, Boles, Ribeiro and Monteiro, 2011). In these relationships, customer loyalty is an important manifestation of relational marketing's results and a motivation to keep relationships with the company (Zeithaml *et al.*, 1996). In medical attention, Safran, Montgomery, Chang, Murphy and Rogers (2001) found that the quality of the medic-patient relationship is influenced by the fidelity of the patients; because of that it is proposed that:

*H5: in aesthetic medicine, the quality of the patient-medic relationship has an influence of the patient's loyalty towards the medic.*

### 3.5. Trust

Acknowledged as the basis for every human interaction (Gundlach and Murphy, 1993), customer trust arises from the belief on good intentions from the supplier, honest, sincere and constant communication between the parties and promises without uncertainty on the buyer (Czepiel, 1990), this why it's fundamental to exchange (Nooteboom, Berger and Noorderhaven, 1997; Verhoef, Franses and Hoekstra, 2002).

Trust is defined as an individual's expectation before the word of another (Rotter, 1967) and could be an affective construction based on a subjective long-term valuing against the supplier (Moliner *et al.*, 2007). In this regard,

several studies argument it as an essential element with the relation model and may be understood as the existence of positive interests among peers (Wilson, 1995), that is why it is deemed as one of the constructs of greatest importance to the quality of the relationship (Crosby *et al.*, 1990; Dorsch *et al.*, 1998; Dwyer, Schurr and Oh, 1987; Garbarino and Johnson, 1999; Hennig-Thurau, 2000; Hennig-Thurau and Klee, 1997; Kumar, Scheer and Steenkamp, 1995; Wulf, Odekerken-Schröder and Iacobucci, 2001). In the medical sector some studies suggest that the role of the patient's trust is of the essence to interpersonal relationships with the medic (Platonova, Kennedy and Shewchuk, 2008) and they become the main determinants of satisfaction and fidelity of patients in medical attention (Medicine, 2002). This is why the following hypothesis is proposed:

*H6: in aesthetic medicine, patients' trust influences the quality of the patient-medic relationship.*

Likewise, trust bears a positive and direct relationship with loyalty (Harris and Goode, 2004) and satisfaction (Anderson and Srinivasan, 2003; Bloemer and Odekerken-Schroder, 2002; Delgado-Ballester and Munuera-Aleman, 2001; Garbarino and Johnson, 1999; Singh and Sirdeshmukh, 2000), it is also key to dynamics of services (Hoffman, Novak and Peralta, 1999; Stewart, 2003). In the health sector, a patient's trust is leveraged by the quality of a relationship in terms of trust towards the medic and good communication (Safran *et al.*, 2001), this is why the following hypothesis is proposed:

*H7: in aesthetic medicine, a patient's trust influences trust towards the medic.*

In the same way, the trust of the patient is a significant, dominant, direct and indirect determinant of the trust on healthcare services (Alrubaiee and Alkaa'ida, 2011). This why it is considered that:

*H8: in medical aesthetics, the satisfaction of a patient influences his level of trust towards the medic.*

### 3.6. Perceived value

It is defined as the overall assessment of

the utility of a product or service, utility understood from what is received and what is given in terms of benefits received against sacrifice (Zeithaml, 1988). For some consumer, value exists when prices are low, while for other it exists when there is balance between price and quality; it is due to these reasons that perceived value is understood by multiple authors as the result of an economic and rational analysis from the comparison between benefits and sacrifices (Cronin, Brady, Brand, Hightower Jr. and Shemwell, 1997; Rust, Zeithaml and Lemon, 2000).

Perceived value is an important concept since it precedes customer satisfaction (McDougall and Levesque, 2000; Oliver Richard, 1997; Oliver, 1996; Parasuraman, 1997; Woodruff, 1997). The relationship established between perceived value and satisfaction emerges from a condition of complementarity: while value may be perceived in the different stages of the pre-purchase and purchase processes (Woodruff, 1997), satisfaction is a post-purchase and post-consumption appraisal (Hunt, 1977; Oliver, 1981). Hence, perceptions of value may be generated even without having bought or used the product, whereas satisfaction is generated from the value perceived and the usage experience of the product or service (Parasuraman, 1997; Ravald and Grönroos, 1996).

It is worth highlighting that in the medical sector, perceived value has been defined, from different studies, as the comparison made by patients between the benefits received and the sacrifices suffered while being attended in one or more hospital centers (Sanchez, Callarisa, Rodriguez and Moliner, 2006), which is why it is suggested that:

*H9: in aesthetic medicine, patients' perceived value has an influence on his satisfaction with the medical service.*

Following along the line of the aforementioned, perceived value also bears a positive and direct relationship with trust (Harris and Goode, 2004; Singh and Sirdeshmukh, 2000), which is why this study pretends to prove that:

*H10: in aesthetic medicine, patients' perceived value has an influence on his trust towards the medic.* There are different scales of value that range from simple transac-

tion value to the co-creation of value between companies. In order to reach a higher scale of value there must be an important alignment between partners, induced by good quality of the relationship (Ribeiro, Brashear, Monteiro and Damázio, 2009). From the interaction between client and supplier, the quality of their relationship may be interpreted in terms of accumulated value (Gummesson, 1987), so that the perceived value of a purchase precedes the quality of the relationship with the supplier (Moliner *et al.*, 2007). Based on the above, the following hypothesis is sought to be demonstrated within the health sector:

*H11: in aesthetic medicine, patients' perceived value has an influence over the quality of the patient-medic relationship.*

Academic research shows that value precedes satisfaction and loyalty behavior (Moliner *et al.*, 2007). Within the health sector, specifically in aesthetic medicine, patients assume the costs of the procedures not only in money but in time as well; that's why this study seeks to prove that:

*H12: in aesthetic medicine, patient's perceived value has an influence on his relationship with the medic.*

#### 4. Methodology

Matter subject of study was to identify which were the constructs that influence loyalty and recommending on aesthetic medicine patients. To that end, a bibliography reviewing process was carried out initially and fieldwork in order to formulate 12 hypotheses that were contrasted thereafter from quantitative analysis, by employing as instrument a structured survey to be filled out online by 391 people picked at convenience; all of which are patients of plastic surgeons in the city of Medellin who had aesthetic procedures performed over the last 5 years. The questionnaire measured the variables of added value, satisfaction, trust, quality of the medic-patient relationship, loyalty and recommending to which statistical tests were applied in order to verify relationship and influence levels among them. The highest proportion of the sample were women (96.4% against 3.6% of men) aged between 25 and 32 (42.7%) whose marital status is single (48.6%) and their educational placement pro-

fessional, namely, a college degree (61.1%). 74% of those surveyed count with an income higher than \$1.500.000 (COP).

1 Picked according to observational results and interviews carried out during fieldwork, which made it evident that female population is the most recurrent in aesthetic processes due to their marked interest for bodily caring.

#### 4.1. Measuring

The variables used in the empirical study have been measured with 5 points Likert scales. Loyalty was measured by adapting the scale used by Harris and Goode (2004) and the one proposed by Srinivasan, Anderson and Ponnnavolu (2002) and Verhoef *et al.* (2002). Satisfaction was measured with a 4 items scale, 3 of them were adapted from the scale utilized by Hui, Zhao, Fan and Au (2004) and the other item from scales by (Oliver and Swann, 1989). The WOM was measured from the adaptation of the scale employed by (Brown, Barry, Dacin and Gunst, 2005). Relationship quality was measured by adapting the scales proposed by Roberts *et al.* (2003). Perceived value has been measured by adapting the scale utilized by Grewal, Monroe, and Krishnan (1998). Lastly, trust has been measured by taking the studies by Hui *et al.* (2004) as reference.

### 5. Data analysis and results

With the purpose of verifying the measurement instrument's reliability and validity, a Confirmatory Factorial Analysis was carried out by using the SPSS 19 and EQS 6.2 software by means of the MLE method, mainly to this method being a better fit for samples with certain data abnormalities (Joreskog and Sorbom, 1989).

In order to ensure convergent validity, it was evaluated for all the items to bear factorial charges over 0.6 (Bagozzi and Yi, 1988) and that in the test of Lagrange's multipliers did not arise significant relationships different to that of which they were indicators (Hatcher and Stepanski, 1994). The items which didn't comply were suppressed from the measurement model (CR3-CR4-CR5); this permitted to attain a debugged model (Table

1) with all its significant factorial charges ( $t > 2,56$ ) and over 0.6, thus obtaining a sound goodness of fit for the model (S-B Chi Square = 605,1 g.l.=260,  $p < .05$ ; BBNFI=0,880; BBNFI=0.916; CFI=0.927; IFI=0.928; RMSEA=0.058).

Discriminant validity (Table 2) was assessed by checking the 1 value not to be in the confidence interval of the correlations among different scales (Anderson and Gerbing, 1988), and the Variance Extracted Index-VEI of each factor being higher than the square of the covariance between each pair of factors (Fornell and Larcker, 1981).

The VEI and square of the covariance criteria were met for most of the situations, except for the case between satisfaction- perceived value and WOM- loyalty. Despite the aforementioned, the scales' validity was assumed given that the rest of the validity and reliability checks were satisfactory, and because the measurement scales have been used multiple times within academic literature on marketing.

In order to guarantee reliability, Cronbach's Alfa was calculated for each scale of each factor, and they were verified to be higher than 0,7 (Churchill Jr, 1979; Nunnally and Bernstein, 1994). Since this coefficient tends to underestimate reliability (Bollen, 1989) the Composite Reliability Index (CRI) and the Variance Extracted Index (VEI) were calculated, verifying them to be close or higher than 0.7 and 0.5 respectively (Fornell and Larcker, 1981) (Table 3).

#### 5.1. Hypothesis Contrast

After checking the model's reliability and validity, the modelling of the proposed structural relationships among the factors subject of study proceeded, seeking to prove the hypotheses. The EQS 6.2 software was utilized by means MLE method once again, attaining sound indicators of goodness of fit (S-B  $\chi^2 = 613,253$ ; g.l.=263;  $p < 0.01$ ; BBNFI=0.878; BBNFI=0.916; CFI=0.926; IFI=0.927; RMSEA= 0.058). Table 4 shows the results from the contrast of the hypotheses proposed in the conceptual model set forth.

The hypotheses contrast carried out allowed to validate 10 out of 12 hypotheses set



**Table 1. Convergent Validity analysis**

Construct	Item	Standardized Factorial charges	Mean Standardized Factorial charges	T value
Perceived Value (VP)	VP1	0,845	0,903	12,104
	VP2	0,967		18,048
	VP3	0,973		18,085
	VP4	0,825		12,823
	VP5	0,904		17,025
Satisfaction (S)	S1	0,937	0,962	16,641
	S2	0,968		17,466
	S3	0,965		18,604
	S4	0,977		18,155
Trust (C)	C1	0,917	0,938	13,730
	C2	0,876		11,436
	C3	0,969		15,170
	C4	0,962		14,983
	C5	0,966		16,478
Relationship quality (CR)	CR1	0,975	0,917	21,237
	CR2	0,859		19,738
Loyalty (L)	L1	0,905	0,889	18,811
	L2	0,847		16,320
	L3	0,948		23,411
	L4	0,959		21,613
	L5	0,788		18,956
Word of Mouth (W)	W1	0,860	0,898	17,899
	W2	0,830		14,225
	W3	0,974		21,321
	W4	0,929		15,321

S-B Chi square (g.l. = 260) = 605,1 (p<0,01); BBNFI = 0,880; BBNNFI = 0,916; CFI = 0,927; IFI = 0,928; RMSEA = 0,058 (0,052 - 0,064)

Source: Author's own elaboration.

**Table 2. Discriminant validity analysis**

	VP	S	C	CR	L	W
<b>VP</b>	0,905	0,923	0,899	0,833	0,877	0,873
<b>S</b>	[0,896;0,95]	0,962	0,885	0,839	0,877	0,869
<b>C</b>	[0,868;0,93]	[0,846;0,924]	0,939	0,855	0,866	0,877
<b>CR</b>	[0,78;0,886]	[0,788;0,89]	[0,808;0,902]	0,919	0,883	0,873
<b>L</b>	[0,844;0,91]	[0,844;0,91]	[0,827;0,905]	[0,844;0,922]	0,892	0,943
<b>W</b>	[0,836;0,91]	[0,82;0,918]	[0,832;0,922]	[0,826;0,92]	[0,919;0,967]	0,900

Under the diagonal: confidence interval for the correlation among factors.

Diagonal: square root of the variance extracted. Over the diagonal: estimated correlation between factors.

Source: Author's own elaboration.

**Table 3. Reliability, composite reliability and variance extracted from the scales of measurement**

Constructs	Chronbach's Alpha	Composite Realibility Index (CRI)	Variance Extracted Index (VEI)
Perceived Value (VP)	0,955	0,833	0,819
Satisfaction (S)	0,979	0,928	0,925
Trust (C)	0,972	0,888	0,881
Quality of the relationship (CR)	0,911	0,855	0,844
Loyalty (L)	0,950	0,813	0,795
Word of Mouth (W)	0,947	0,825	0,810

Source: Author's own elaboration.

**Table 4. Hypotheses contrast**

Hypothesis	Standardized Coefficient	Robustt value	Conclusion
H1 Loyalty => WOM	0,806	10,299*	Not rejected
H2 Satisfaction => Loyalty	0,178	2,057*	Not rejected
H3 Satisfaction => WOM	0,162	2,118*	Not rejected
H4 Satisfaction => Relationship Quality	0,305	2,828*	Not rejected
H5 Relationship Quality => Loyalty	0,418	5,99*	Not rejected
H6 Trust => Relationship Quality	0,468	5,152*	Not rejected
H7 Trust => Loyalty	n=s	1,569	Rejected
H8 Satisfaction => Trust	0,372	3,693*	Not rejected
H9 Perceived value=> Satisfaction	0,923	14,737*	Not rejected
H10 Perceived value => Trust	0,555	6,031*	Not rejected
H11 Perceived value => Relationship Quality	n.s.	1,173	Rejected
H12 Perceived value => Loyalty	0,245	3,24*	Not rejected

Source: Author's own elaboration.

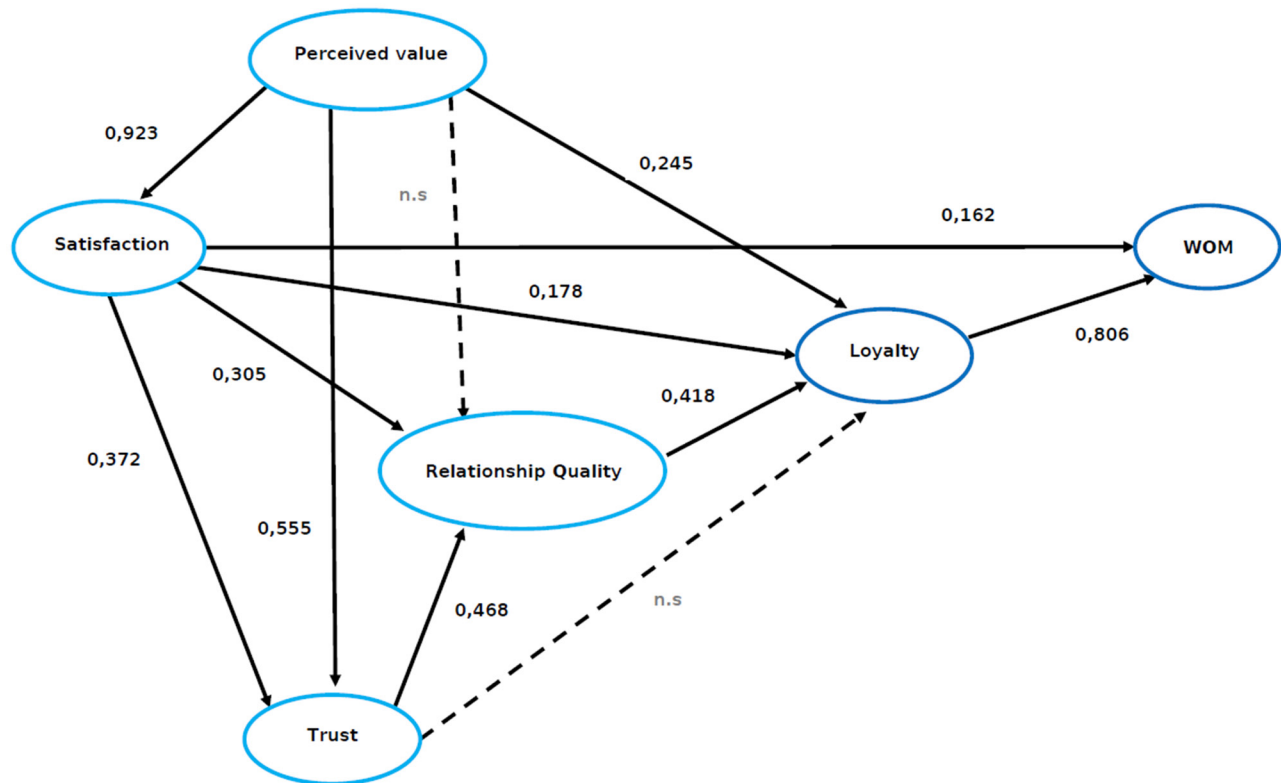
forth (Figure 1), thus ratifying all the hypotheses of the model (H1;  $\beta=0,806$ ;  $p<0,0$ - H2;  $\beta=0,178$ ;  $p<0,0$  - H3;  $\beta=0,162$   $p<0,01$ - H4;  $\beta=0,468$ ;  $p<0,01$ - H5;  $\beta=0,372$ ;  $p<0,01$ - H6;  $\beta=0,305$ ;  $p<0,01$ - H7;  $\beta=0,923$ ;  $p<0,01$  - H8;  $\beta=0,555$ ;  $p<0,01$ - H11;  $\beta=0,418$ ;  $p<0,01$ - H12;  $\beta=0,245$ ;  $p<0,01$ ) except the relationship between perceived value with relationship quality (H9;  $\beta=0,069$ ) and trust with loyalty (H10;  $\beta=0,069$ ).

## 6. Conclusions

Understanding a patient's loyalty's behavior towards his medic has been possible thanks to this study. The results presented show that within the context of aesthetic medicine: perceived value, satisfaction and relationship quality precede customers' loyalty. Likewise, it was shown that loyalty precedes WOM.

According to the verification of the hypothesis, it was demonstrated that in aesthetic medicine the quality of the relationship and satisfaction of the patient bear a direct relationship in loyalty, and it was ratified that a patient becomes loyal to his aesthetic medic inasmuch as his rate of satisfaction increases, leading him to recommend the medic's services to family and friends. Patients value WOM due to it coming from other patients who have had their experience with the medic's service and from their appraisalment they become motivated to speak well about the specialist and to recommend him. The WOM is seen as one of the most reliable interpersonal communication practices when compared to other sources of information.

The hypotheses proposed regarding perceived value managed to be proved, since it was confirmed that when a patient of aesthetic plastic surgery perceives value in the ser-

**Figure 1. Structural empirical model of the study with contrasted hypotheses**

Source: Author's own elaboration

vice received, he feel satisfied, enabling him to stablish bonds of trust with his medic and, from that value added to his attention, a behavior of loyalty is unleashed directly from that patient towards his medic.

This research's results contribute, to a certain extent, to consolidating bibliography of the matter of customer service in the area of aesthetic medicine, which has thus far not enjoyed enough empirical studies analyzing patient's loyalty and recommending against medics' attention in this context.

Other results stablish that aesthetic plastic surgeries patients' trust does not have a direct effect on their loyalty to the medic. This determines that in this sector the patients of aesthetic plastic surgeries trust their medic first; however, they do not become loyal without first experiencing a relationship of quality, namely, that these patients' loyalty is subject to establishing a satisfactory and lasting relationship and communication with their medic.

It was also identified that there is no influence from perceived value in the quality of the patient-medic relationship due to it not being given directly, but needing a minimum level of satisfaction regarding the received procedure, thus generating a positive effect on the customer-supplier relationship. This condition does not coincide with approaches pointing that the perceived value of a purchase precedes the quality of the relationship with the supplier (Moliner *et al.*, 2007); from there it's understood that the relationship between variables of analysis regarding the matter of services and products does not have a unique behavior, but it depends on the sector's specificities and the reality and context of the market and actors (customers-suppliers). Under this premise, each sector, from its own particularities, must work on permanently qualifying and assessing its value offer in order to reach a scale of satisfaction, perceived value, trust, loyalty from its customers and recommendations for their products.

It's been exposed that a patient's loyalty to his medic is directly linked to satisfaction rates from his procedure, a fact that some authors have proved throughout different researches (Anderson and Sullivan, 1993; Hallowell, 1996; Petrick and Backman, 2002; Yoon and Kim, 2000). The results show that a patient's loyalty and satisfaction are determining elements in the development of a positive WOM the aesthetic medical context. Having understood this, aesthetic medics must procure to build up loyalty from their current patients, aiming their efforts at generating satisfaction through procedures and stablishing lasting relationships of quality, mediated by trust so as to achieve them being less resistant to prices (Lynch Jr. and Ariely, 2000) and less prone to considering other medic or clinic (Buchanan and Gillies, 1990).

It is worth highlighting the importance of evaluating and qualifying services aimed at aesthetic medicine patients in the city of Medellín, due to it being an area of the health sector presenting significant growth which to date demands, not only an effort to keep customers but additional value-adding tasks, thus making it possible for patients loyal to their medic to become strategic disseminators of an excellent service that draws in new potential customers. The relational model employed is set forth as a useful tool that serves as analysis and intervention for people and institutions interested in reviewing the state of the services aimed at their clients-patients.

## 7. Managerial implications

This study borne some limitations such as: using non-probabilistic sampling. Despite counting on a significant sample size, not using this kind of sampling prevents the full statistical generalization of this sector in Colombia.

With a view to the future, it's suggested to follow research lines that permit to link the importance of other constructs such as the perceived quality of the service and the utilization of random sampling that favors drawing potentially statistical conclusions. Likewise, analyzing the equality of the relationship between patient and medic in the health sector, specifically in aesthetic medi-

cine, from commitment rather than just satisfaction and trust, since some authors assure that relationship quality is a higher order construct made up by these three elements of first order (for instance Athanasopoulou, 2009; Woo and Ennew, 2004).

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