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Original Research

Affect and cognition as antecedents of patients' trust in the dentist: cross-sectional study

Lilian Rigo[1*], Kenny Basso[2], Jandir Pauli[2], Michele Natara Portilio[3]

[1] Departament of Dentistry School, Meridional Faculty/IMED, RS, Brazil.

[2] Department of Business School, Meridional Faculty/IMED, RS, Brazil.

[3] Meridional Faculty/IMED, Brazil

Corresponding author:
Lilian Rigo
Meridional Faculty/IMED, Passo Fundo, Rio Grande do Sul, Brazil
Senador Pinheiro Street, 304
Passo Fundo (RS) – Brazil
99070-220
(+55 54) 99927-0441
E-mail: lilian.rigo@imed.edu.br

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Aim: to evaluate the association of the patients' perception about dentist's affect and cognition on trust and, consequently, on intention to return and patient satisfaction with life. **Methods:** Analytical cross-sectional study conducted in patients' adults and elderly at of two dentistry clinics in the south of Brazil. Patients had to have a previous relationship with the dentist (at least one previous consult) and 18 years of age or older. The data were collected through self-administrated questionnaire using measures adapted from other research, using structural equation modeling. We test using a chi-square difference test (p-value<0,05). **Results:** The mean age of the 197 patients was 37.0 years (σ = 15.5). The affect perceived by the patient at the dentist had a positive effect (β = .53) on the trust that the patient develops in relation to the dentist. The same is true for the effect of the rational or cognitive aspects perceived by the patient at the dentist (β = .41). The trust positively influences the patient's intention to return to that dentist (β = .82). In addition, the intention to return to the dentist positively influences the patient's satisfaction with life (β = .49). **Conclusions:** Affective and cognitive aspects positively influenced the patient's trust in the dentist. The greater the patient's trust in the dentist, the greater the intention to return to that dentist. Furthermore, a good relationship with the dentist improve the patient's satisfaction with life.

Keywords: Affect. Cognition. Patient satisfaction. Trust.

Introduction

Although recent decades in the field of dentistry have been characterized by an evolution of the technologies and procedures of intervention, the interactional aspects of the patient-dentist relationship remain a central aspect of the trust perception in the work developed. In this sense, themes such as trust, affect and cognition begin to cross the provision of this service, and it cannot be disregarded that the quality of this relationship can also significantly impact on the patient's satisfaction with life[1].

In medical service research, trust is considered to be a vital element of the physician-patient relationship[2]. Trust is an acceptance of vulnerability by the patient and a belief that the service provider will take care of their interests[3,4]. Corroborating with these authors, Maynard and Bloor[2] (2003) and Hupcey and Miller[5] (2006) argue that despite the various definitions of trust that are proposed, a central element would be the acceptance of vulnerability and belief that the doctor will do the best for the patient. The authors add that the doctor will be the "guardian" of the patient and will ensure that the best treatment is provided[5].

Trust is maintained if expectations are confirmed; however, if they are disconfirmed, trust will likely be lost or minimized. The difference between satisfaction and trust would be that satisfaction refers to an evaluation of an experience already lived and trust refers to a future-oriented vulnerability provision[3]. McAllister[6] (1995) states that interpersonal trust has two main forms: interpersonal trust based on affect and interpersonal trust based on cognition. Johnson and Grayson[7] (2005) argue that cognitive trust would be based on competence and accumulated knowledge, and affective trust based on the feelings generated by the level of care, attention and concern shown by the partner.

Levels of trust between patient and professional can reveal systematic failures or possible individual communication obstacles. Thom et al.[8] (2004) emphasized that low levels of trust can be changed and, consequently, improved trust can reduce some disparities, increase access and notably improve health outcomes. In addition, Jacquot[9] (2005) reported that trust helps significantly in reducing patient anxiety and even reducing fear of dental procedures. Therefore, patient trust in the dentist is a key predictor of continuity of treatment, and of whether the patient will believe in the dentist's assessments and follow the dentist's guidelines and prescriptions, returning for other consults[10]. Several studies have placed trust as a determinant of relational commitment[11-13]. Authors have sought to relate trust to intention to return and focus on the consequences of development and conquest of trust in relationships; the main consequences studied are loyalty (intention to return) and cooperation[12].

In the field of dentistry, patient-centered care (PCC) requires assessment of the influence of subjective dimensions involving the dentist-patient interaction[13]. The relationship between communication skills and empathy of health professionals influences more effective treatment[14], the perception of service value[15] and customer loyalty[16]. However, a systematic review of the literature by Mills et al.[17]

(2014) has shown that research is still needed to understand the most important features of PCC.

The relationship between loyalty and satisfaction with health services is known in the literature[18-20]. A recent study by Zhou et al.[21] (2017) reaffirmed the idea that loyalty is the key to the business success of professionals in this area. The research developed a conceptual model integrating the different determinants of loyalty from the literature on the subject, emphasizing the role of organizational citizenship satisfaction and behaviors[21].

The studies presented show, therefore, the influence of subjective aspects on the perception of satisfaction with the services provided by the dentist, as well as their contribution to generating trust for continuity of treatment (intention to return and loyalty). Although satisfaction is a multidimensional concept[22], the literature demonstrates the psychometric properties of the measure of satisfaction with life[23], the relationship between oral health and life satisfaction[24,25], and satisfaction with health services and life satisfaction[26]. On the other hand, there is a gap between the formation of trust in the dentist, the intention to return (loyalty) and the perception of satisfaction with life. In our research, the problem is approached and presented whit a quantitative analytical method, correlating the various variables, which differs from other studies.

The theoretical framework of this study adopted 4 hypotheses:

H1: There will be a positive effect of affect shown by the dentist on patient trust.

H2: There will be a positive effect of cognition shown by the dentist on patient trust.

H3: There will be a positive effect of patient trust on intention to return to that dentist.

H4: There will be a positive effect of intention to return to that dentist on the patient's satisfaction with life.

The objective of the present study was to evaluate the association of the patients' perception about dentist's affect and cognition on trust and, consequently, on intention to return and patient satisfaction with life.

Methods

Ethical aspects

This research was approved by the Ethics Research Committee under the number CAAE 50601915.9.0000.5319 and approval number 1.372.040 (December 16, 2015).

Design and setting

Analytical cross-sectional study conducted at of two dentistry clinics in the south of Brazil, located in the city center and serve only private patients and do not have health insurance.

The sample was not probabilistic containing all patients who were present on the days of the research during the months of August to November 2016 (four months)

The participants were patients' adults and elderly of two dentistry clinics private in the city of Passo Fundo, Rio Grande do Sul, Brazil.

Participants and data collection

To participate in the study, the patient had to have a previous relationship with the dentist (at least one previous consult). As criteria of this study, all patients who were being seen by the dentist for the first time were excluded from the study during the four months of data collection. Patients 18 years of age or older were invited to participate in the study, and those who agreed to participate signed the Informed Consent Form (ICF). An ICF copy was delivered to the respondent. We obtained written consent from the parents/guardians of all participants involved in the study under 18 years of age, which was approved by the Ethics Research Committee.

Data were collected through a self-administered questionnaire applied by researchers in the dentistry clinics. Before data collection, a pretest was done in order to test the methodology in the application of the research instrument to ten (10) patients. The pretest subjects were not included in the final sample, as the purpose of the pilot test was only to verify the participants' understanding. Patients filled out the questionnaires while waiting for service in the waiting room of the dentistry clinics. In this room, there was a box in which the patient anonymously, deposited the completed questionnaire. There were no problems in filling out the instrument by the patients, so it was approved for its application in the sample of this research.

Measures

The affect and cognition scales were adapted from Thom[27] (2001); the trust scale was adapted from Dagger et al.[28] (2009), the scale of intention to return was adapted from Balkrishnan et al.[29] (2003), and satisfaction-with-life scale of Diener et al.[1] (1985).

We based the affection and cognition scales on Thom[27] (2001), having been adapted and published in a study carried out with the population of a hospital in Brazil by Silva et al.[30] (2015). Regarding affection, the patients were asked how much they agree with the following statements: "The dentist tells me everything, being truthful and honest", "The dentist comforts and reassures me, making me feel cared for", "The dentist is someone I can count on". The cognition scale requested the participant to evaluate the following statements: "The dentist is one of the best in his/her area", "The dentist has good experience in his/her area of expertise", "The dentist demonstrates up-to-date knowledge in his/her area of expertise".

The trust scale was adapted from Dagger et al.[28] (2009) adapted and published in Brazil by Silva et al.[30] (2015) and requested the patient to evaluate the following statements: "This doctor can be trusted", "This doctor can be counted on to do what is right", "This doctor has integrity" and "This doctor is trustworthy".

The scale of the intention to seek a second opinion included the following items, which were based on our in-depth interviews and Balkrishnan et al.[29] (2003), adapted and published in Brazil by Silva et al.[30] (2015): "I would consider this dentist as my first

choice to treat this type of problem", "If necessary, I would make further consults with this dentist in the future", "I would return to this dentist if I had health problems similar to what led me to look for him or her".

All scales were measured using the 7-point Likert scale and are presented in Table 1 and a higher score represents better results.

Table 1. Confirmatory Factor Analysis

Constructs / Indicators	Average Variance Extracted	Composed Reliability	Factor Loadings	Mean (SD)
Trust	**.88**	**.97**		**6.54 (.94)**
This doctor can be trusted.			.93	
This doctor can be counted on to do what is right.			.94	
This doctor has integrity.			.95	
This doctor is trustworthy.			.93	
Intention to return	**.88**	**.96**		**6.45 (1.04)**
I would consider this dentist as my first choice to treat this type of problem.			.90	
If necessary, I would make further consults with this dentist in the future.			.96	
I would return to this dentist if I had health problems similar to what led me to look for him or her.			.95	
Satisfaction with life	**.59**	**.87**		**5.56 (1.12)**
In most ways my life is close to my ideal.			.72	
The conditions of my life are excellent.			.82	
I am satisfied with my life.			.90	
So far I have gotten the important things I want in my life.			.77	
If I could live my life over, I would change almost nothing.			.58	
Affect	**.70**	**.87**		**6.36 (.95)**
The dentist tells me everything, being truthful and honest.			.84	
The dentist comforts and reassures me, making me feel cared for.			.89	
The dentist is someone I can count on.			.77	
Cognition	**.78**	**.91**		**6.28 (.97)**
The dentist is one of the best in his/her area.			.88	
The dentist has good experience in his/her area of expertise.			.93	
The dentist demonstrates up-to-date knowledge in his/her area of expertise.			.84	

SD = standard deviation.

The scale of positive Satisfaction with life was adapted from Diener et al.[1] (1985). In the Brazilian validation, the scale presented a Cronbach's α value of 0.89[31], and contained the following items: "In most ways my life is close to my ideal", "The con-

ditions of my life are excellent", "I am satisfied with my life", "So far I have gotten the important things I want in my life", "If I could live my life over, I would change almost nothing". Participants answer it based on a 7-point scale, ranging from 1 (totally disagree) to 7 (totally agree).

Data analyses

Once collected, data were processed using the SPSS® software, version 20.0 (Armonk, New York). The missing values were replaced by the maximum expectancy in each variable. The normality of the data was verified through a Kolmogorov-Smirnov test; multicollinearity was verified by the bivariate correlation and by the Variance Inflation Factor (VIF), and the homoscedasticity was verified by Levene's test[32]. No cases of non-normality, multicollinearity or homoscedasticity were found.

The data were analyzed using structural equation modeling with AMOS® software, version 20.0. To the matrix of data entry, a maximum likelihood estimation model was used. We test for the common method bias using a chi-square difference test between one factor and the multiple factor solution.

To analyze the measurement model according to Anderson and Gerbing[33] (1988), reliability and validity were measured using a confirmatory factor analysis. The goodness-of-fit indexes found for the model (χ^2 = 340.37, df = 125, p < .001, GFI = .84, NFI = .91, CFI = .94, RMSEA = .09) indicated appropriate adjustment. All constructs showed satisfactory levels of composed reliability (> .70). Regarding average variances extracted, all the measures showed levels above .50, as indicated by the literature[33]. We test using a chi-square difference test (p-value< .05).

To test the study hypotheses, we used structural equation modeling using maximum likelihood (ML) estimation with the AMOS (v. 20) software. The model adjustment was appropriate, following the indications of Hair et al.[32] (2005) (χ^2 = 275.33, df = 124, P < .001, GFI = .87, NFI = .93, CFI = .96, RMSEA = .07). This adjustment of the model indicated that the solution of the structural equation model has quality and enable us to follow with the test of the hypotheses.

Results

Sample profile

The mean age of 197 respondents was 37.0 years old (σ = 15.5 years old). More than half (58.9 %) were female. Educationally, almost half (48%) of respondents had completed or were currently enrolled in high school; 42% were single. Regarding monthly household income, 67.0% of individuals reported an income of US $1,000 at maximum.

Related to dentistry care, on average the patients had consulted with the same dentist during the last 13.9 months (σ = 24.9 months). Most patients informed that their dentist was a woman (65.5%) of less than 30 years old (65.0%). Most patients indicated that they frequently visited the dentist, more than one time per month (39.6%) or monthly (37.1%).

Measurement model

Along the average variance extracted and composed reliability, all the factor loadings were significant and higher than .50, which indicate that all variables are significantly linked to the respective construct, evidencing convergent validity. Further detail of the scales can be observed in Table 1. Based on the correlation analysis, we verify the discriminant validity. For this, we compared the extracted and the shared variance (square of the correlation) between constructs[34]. The correlation and the extracted variance are presented in Table 2.

Table 2. Square of the Correlation

Constructs	Trust	Intention to return	Satisfaction with life	Affect	Cognition
Trust	**.88**				
Intention to return	.72	**.88**			
Satisfaction with life	.52	.50	**.59**		
Affect	.81	.80	.42	**.70**	
Cognition	.78	.75	.42	.70	**.78**

From the comparison between the average extracted variance and the shared variance, all constructs present evidence of discriminant validity. Specifically, the higher shared variance is between trust and affect (.65), which is lower than the average extracted variance of both trust and affect scales.

Test of hypotheses

To verify the hypotheses, Figure 1 presents the coefficient of each structural path, along with the t-value and the R^2 (explication coefficient). It is important to note that all coefficients were significant at the level of $P < .01$.

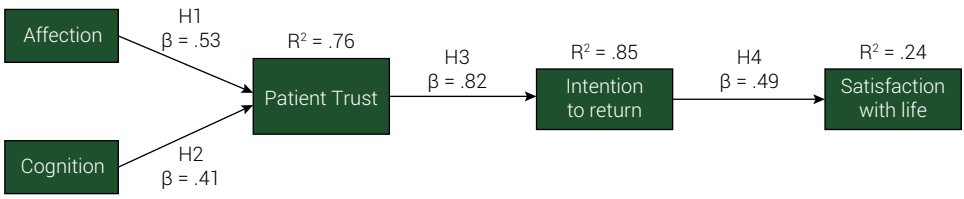

Figure 1. Test of the structural model

The affect perceived by the patient at the dentist had a positive effect (β = .53) on the trust that the patient develops in relation to the dentist. The same is true for the effect of the rational or cognitive aspects perceived by the patient at the dentist (β = .41). Both affective and cognitive aspects positively influenced the formation of patient

trust in the dentist, which offers support to hypotheses H1 and H2. Moreover, these two aspects explicate 76% of the variances identified in patient trust.

Consequently, to patient trust, in the structural model, the patient develops an intention to return to that dentist. Our model identifies a stronger and positive effect of the trust in the dentist on the intention to return (β = .82). This implies that the more trust the patient has in that dentist, the higher will be his or her intention to return to that dentist. This finding supports H3. It is important to also highlight that 85% of the variance of the intention to return is directly explained by the perceived affect, cognition and trust in the dentist.

Finally, in the model, the relationship between patient and dentist can have a broad influence on satisfaction with life. Specifically, the intention to return to the dentist positively influences the patient's satisfaction with life (β = .49). This finding supports H4. The complete model can explain 24% of the satisfaction with the life of the patients, evidencing that, despite the results of the treatment, the relationship between dentist and patient is important to increase the patient's satisfaction with his or her life.

The following is a summary of the testing of the four hypotheses.

H1: There is a positive effect of affect shown by the dentist on patient trust – Corroborated.

H2: There is a positive effect of cognition shown by the dentist on patient trust - Corroborated

H3: There is a positive effect of patient trust on intention to return to that dentist – Corroborated.

H4: There is a positive effect of intention to return to that dentist on the patient's satisfaction with life - Corroborated

Discussion

The present study identified that the affect perceived by the patient from the professional assumes a positive effect on the trust developed by the patient and, in addition, the same goes for the effect of the cognitive aspects. Thus, these two aspects positively influence the formation of trust that the patient develops in the dentist. In addition, we observed in the research that there was a positive effect of the patient's trust on the intention to return to that dentist, corroborating Thom et al.[8] (2004), who reported that the healthcare professional who establishes trust with the patient ensures, in this way, a greater likelihood of the patient seeking the care offered again. Thus, the greater and more solid the trust established between the patient and the professional, the greater the chances that the patient will return in search of other treatments.

Patients who trust their health care providers report better health outcomes. Regarding this, trust in the health professional has been currently suggested as the basis for effective treatments[35]. In different studies, health outcomes encompass different dimensions, such as objectively measured indicators, clinical observations

(e.g., clinical diagnoses) and subjective self-assessments of patients (e.g., patient satisfaction)[35]. From the clinical point of view, patients reported more beneficial health behaviors, fewer symptoms and higher quality of life, and were more satisfied with treatment when they trusted their health care provider[36].

In the present study, the intention of the patient to return to the dentist positively influences satisfaction with life, or else, the established relationship between the patient and the professional influences broad aspects of life, as satisfaction with life. That is, the relationship between dentist and patient is important to increase the patient's satisfaction with his or her life. Moreover, Hurst et al.[37] (2004) revealed that the interpersonal skills present in the health professional, including recommendations and searches for health care, can influence the aspects related to the behavior of the patient.

Coulter[38] (2002) stated that sick people need to establish relationships with practitioners who offer empathy, support and honesty about their health condition and treatment options, as well as being open to listening to their concerns and preferences. Research by Hall et al.[3] (2002) and Hupcey and Miller[5] (2006) emphasized the importance of elements such as care, concern, attention and interest in building patients' trust in doctors and nurses. Trust is related to the support of the professionals, the importance of the communication of support in terms of emotional and informative support. Rempel et al.[39](1985) argue that trust in interpersonal relationships has a fundamental element of faith, which promotes a sense of emotional security that allows one to go beyond the physical evidence and feel that the partner takes care of and responsibility for it[40].

In addition, trust can be considered as a collective good, similar to "social capital," that is necessary for a health care system. There is evidence that patient trust is linked to desired or reported adherence to treatment recommendations[8]. With this, interpersonal competence involving caring, concern and compassion were the most commonly reported aspects of trust in the research of Mechanic and Meyer[41] (2000), with individual listening as the central focus.

This research analyzed the patient-dentist relationship under the prism of the social and behavioral issues involved. Thus, trust as a central mechanism for the maintenance of longstanding relationships is a key element for evaluating the durability of the patient's relationship with his or her dentist. Based on this, it is important verify how cognitive and affective cues from the dentist influence patient trust and, consequently, how this trust creates intentions to return and greater satisfaction with life in the patients. Therefore, this research has important findings for both dentists and patients. For dentists, this paper presents evidence for how a patient's intention to return is created, developing cognitive (e.g., competence) and affective aspects (e.g., attention) that influence trust and consequently create an intention to return. For patients, this research examines how the characteristics of dentists influence their satisfaction with life.

The limitations of this study are that we conducted a survey in private clinics. The sample convenience was restricted to patients from two dentistry clinics private in in the South of Brazil. Therefore, the results cannot be generalized to all patients. Future

research could extend this sample to other health-care settings, including public health-care services.

The present study has a cross-sectional design, which does not allow us to establish the temporal relation between the observed correlations to assess the continuing trend of dental care. Thus, the interpretation of the findings is limited. However, since this is an unexplored topic, the study has the role of contributing to the construction of knowledge regarding aspects of the patient-dentist relationship. Despite the limitations, we do not know of any other study that has examined the influence of the two dimensions of trust, cognitive and affective, which makes our findings suggest that the role of the professional dental surgeon in establishing trust is a determinant for the return of the patient and their satisfaction with life. In addition, our study provides important findings for future longitudinal research needed to better follow the causal factors directly related to the aspects investigated here in this study, and to better understand the complex interaction between trust and health outcomes.

With the confirmation of the four hypotheses proposed, the study allows dentists to establish a comprehensive and integrative model to correlate different dimensions that involve the provision of dental services. This study promotes an advance in the literature on the subject because it relates elements related to satisfaction, such as affectivity and cognition, with loyalty generation and satisfaction with life. In other words, the study articulates, in a model, a link between subjective factors of the dentist-patient relationship, with an objective indicator of this satisfaction: the intention to return to the clinic. In this sense, a second contribution of the study is to show that loyalty is strongly related to subjective aspects. This study therefore corroborates the findings of previous studies on the importance of good communication and empathy by the dentist for satisfaction with the service provided, while incorporating the dimension of satisfaction with life as a factor related to the intention to return (loyalty).

Conclusions

It can be concluded that:

A. affective and cognitive aspects positively influenced the patient's trust in the dentist;

B. the greater the patient's trust in the dentist, the greater the intention to return to that dentist. Affect, cognition and trust in the dentist are important factors for the intention to return to the dentist; and

C. the relationship between the patient and the dentist influenced the patient's satisfaction with life, highlighting the importance of a good relationship with the dentist in satisfaction as a broad aspect of the individual's life.

Data availability

Datasets related to this article will be available upon request to the corresponding author.

Conflict of interest

Authors do not have any conflicts to declare.

Author's participation

Basso K worked in structuring the article, designed the method, preparation of database and analysis of results. Pauli J worked in project design, in data collection and entering the database. Portilio MN worked in discussion of the methodology, in the statistical analysis. Rigo L worked in review of the English language and the final wording of article.

References

1. Diener E, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. J Pers Assess. 1985;49(1):71-5. doi: 10.1207/s15327752jpa4901_13.
2. Maynard A, Bloor K. Trust and performance management in the medical marketplace. J R Soc Med. 2003;96(11):532-9. doi: 10.1258/jirsm.96.11.532.
3. Hall MA, Zheng B, Dugan E, Camacho F, Kidd KE, Mishra A, et al. Measuring patients' trust in their primary care providers. Med Care Res Rev. 2002;59(3):292-318. doi: 10.1177/1077558702059003004.
4. Dugan E, Trachtenberg F, Hall MA. Development of abbreviated measures to assess patient trust in a physician, a health insurer, and the medical profession. BMC Health Serv Res. 2005;5:64. doi: 10.1186/1472-6963-5-64.
5. Hupcey JE, Miller J. Community dwelling adults' perception of interpersonal trust vs. trust in health care providers. J Clin Nurs. 2006;15(9):1132-9. doi: 10.1111/j.1365-2702.2006.01386.x.
6. McAllister DJ. Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. Acad Manag J. 1995;38(1):24-59. doi: 10.2307/256727.
7. Johnson DS, Grayson K. Cognitive and affective trust in service relationships. J Bus Res. 2005;58(4):500-7. doi: 10.1016/S0148-2963(03)00140-1.
8. Thom DH, Hall MA, Pawlson LG. Measuring patients' trust in physicians when assessing quality of care. Health Aff. 2004;23(4):124-32. doi: 10.1377/hlthaff.23.4.124.
9. Jacquot J. Trust in the dentist-patient relationship: a review. J Young Investig. 2005 Jun 1 [cited 2019 Sep 9]. Available from: https://www.jyi.org/2005-june/2005/6/8/trust-in-the-dentist-patient-relationship-a-review.
10. Trachtengerg F, Dugan E, Hall MA. How patients trust relates to their involvement in medical care. J Fam Pract. 2005;54(4):344-52.
11. Nooteboom B, Berger H, Noorderhaven NG. Effects of trust and governance on relational risk. Acad Manag J. 1997;40(2):308-38. doi: 10.2307/256885.
12. Garbarino E, Johnson MS. The different roles of satisfaction, trust, and commitment in customer relationships. J Mark. 1999;63(2):70-87. doi: 10.2307/1251946.
13. Ebn Ahmady A, Pakkhesal M, Zafarmand AH, Lando HA. Patient satisfaction surveys in dental school clinics: a review and comparison. J Dent Educ. 2015;79(4):388-93.
14. Irwin RS, Richardson ND. Patient-focused care: using the right tools. Chest. 2006;130(1 Suppl):73S-82S. doi: 10.1378/chest.130.1_suppl.73S.
15. Liu SS, Amendah E, Chang EC, Pei LK. Satisfaction and value: a meta-analysis in the healthcare context. Health Mark Q. 2008;23(4):49-73.
16. Lee WI, Chang TH, Chao PJ. The relationship between quality of healthcare service and customer satisfaction-an example of hospitals in Taiwan. J Chin Inst Ind Eng. 2007;24(1):81-95. doi : 10.1080/10170660709509024.

17. Mills I, Frost J, Cooper C, Moles DR, Kay E. Patient-centred care in general dental practice-a systematic review of the literature. BMC Oral Health. 2014;14:64. doi : 10.1186/1472-6831-14-64.

18. Bendall D, Powers TL. Cultivating loyal patients. J Health Care Mark. 1995;15(4):50-3.

19. Holt VP, McHugh K. Factors influencing patient loyalty to dentist and dental practice. Br Dent J. 1997;183(10):365-70. doi : 10.1038/sj.bdj.4809512.

20. Kessler DP, Mylod D. Does patient satisfaction affect patient loyalty? Int J Health Care Qual Assur. 2011;24(4):266-73. doi : 10.1108/09526861111125570.

21. Zhou WJ, Wan QQ, Liu CY, Feng XL, Shang SM. Determinants of patient loyalty to healthcare providers: An integrative review. Int Jr Qual Health Care. 2017;29(4):442-9. doi: 10.1093/intghc/mzx058.

22. Naidu A. Factors affecting patient satisfaction and healthcare quality. Int J Health Care Qual Assur. 2009;22(4):366-81. doi : 10.1108/09526860910964834.

23. Arrindel WA, Meeuwesen L, Huyse FJ. The satisfaction with life scale (SWLS): Psychometric properties in a non-psychiatric medical outpatients sample. Personal Individ Differ. 1991;12(2):117-23. doi: 10.1016/0191-8869(91)90094-R.

24. Sanders AE, Spencer AJ. Why do poor adults rate their oral health poorly? Aust Dent J. 2005;50(3):161-7. doi : 10.1111/j.1834-7819.2005.tb00355.x.

25. Dumitrescu AL, Kawamura M, Dogaru BC, Dogaru CD. Relation of achievement motives, satisfaction with life, happiness and oral health in Romanian university students. Oral Health Prev Dent. 2010;8(1):15-22. doi : 10.3290/j.ohpd.a18807.

26. Sirgy MJ, Hansen DE, Littlefield JE. Does hospital satisfaction affect life satisfaction? J Macromark. 1994;14(2):36-46. doi : 10.1177/027614679401400204.

27. Thom DH. Stanford Trust Study Physicians. Physician behaviors that predict patient trust. J Fam Pract. 2001 Apr;50(4):323-8.

28. Dagger TS, Danaher PJ, Gibbs BJ. How often versus how long: the interplay of contact frequency and relationship duration in customer-reported service relationship strength. J Serv Res. 2009;11(4):371-88. doi: 10.1177/1094670508331251.

29. Balkrishnan R, Dugan E, Camacho F, Hall MA. Trust and satisfaction with physicians, insurers, and the medical profession. Med Care. 2003;41(9):1058-64.

30. Silva M, Terres CP S, Basso K. Antecedents of the client's trust in low- versus high-consequence decisions. J Serv Mark. 2015;26(1):26-37.

31. Gouveia VV, Barbosa GA, Andrade EO, Carneiro MB. [Measuring life safisfaction among physicians in Brazil]. J Bras Psiquiatr 2005;54(4):298-305. Portuguese.

32. Hair JF, Black WC, Babin BJ, Anderson RE, Tatham R. [Multivariate data analysis]. Porto Alegre: Bookman; 2005. p.688. Portuguese.

33. Anderson JC, Gerbing DW. Structural equation modeling in practice: a review and recommended two-step approach. Psychol Bull. 1988;103(3):411-23.

34. Garver MS, Mentzer JT. Logistics research methods: employing structural equation modeling to test for construct validity. J Bus Logist. 1999;20(1):33-57.

35. Birkhäuer J, Gaab J, Kossowsky J, Hasler S, Krummenacher P, Werner C, et al. Trust in the health care professional and health outcome: A meta-analysis. PLoS One. 2017 Feb;12(2):e0170988. doi: 10.1371/journal.pone.0170988..

36. Quaschning K, Korner M, Wirtz M. Analyzing the effects of shared decision-making, empathy and team interaction on patient satisfaction and treatment acceptance in medical rehabilitation using a structural equation modeling approach. Patient Educ Couns. 2013;91(2):167-75. doi: 10.1016/j.pec.2012.12.007.

37. Hurts YK, Prescott-Clements LE, Rennie JS. The patient assessment questionnaire: |a new instrument for evaluating the interpersonal skills of vocational dental practitioners. Br Dent J. 2004;197(8):497-500. doi: 10.1038/sj.bdj.4811750.

38. Coulter A. Patients' views of the good doctor. BMJ. 2002;325(7366):668-9. doi: 10.1136/bmj.325.7366.668.

39. Rempel JK, Holmes JG, Zanna MP. Trust in close relationships. J Pers Social Psychol. 1985;49(11):95-112. doi: 10.1037/0022-3514.49.1.95.

40. Ommen O, Janssen C, Neugebauer E, Bouillon B, Rehm K, Rangger C, et al. Trust, social support and patient type—associations between patients perceived trust, supportive communication and patients preferences in regard to paternalism, clarification and participation of severely injured patients. Patient Educ Couns. 2008;73(2):196-204. doi: 10.1016/j.pec.2008.03.016.

41. Mechanic D, Meyer S. Concepts of trust among patients with serious illness. Soc Sci Med. 2000;51(5):657-68. doi: 10.1016/s0277-9536(00)00014-9.

Reply to reviewers

ID – 8667228

Title: Affect and Cognition as Antecedents of Patients' Trust in the Dentist: cross-sectional study

Dear Altair A Del Bel Cury

Editor-in-Chief, Brazilian Journal of Oral Science

Corrections are highlighted in the text of the manuscript and answers on a point-by-point basis are provided below.

Reviewer A	Authors
This original investigation is in accordance with focus and scope of The Brazilian Journal of Oral Sciences (BJOS). The manuscript is related to an original theme and relevant to the area.	*Thank you very much for the corrections to our manuscript!*
ABSTRACT: The abstract is intelligible and accurately describes the objective and results obtained. It is a sufficient summary of the contents of the paper	-
KEYWORDS: The keywords are available and in accordance with the study.	-
The authors indicated why the study was undertaken and the background information was provided adequate to understand the aims of the study. The authors important references about the research problem.	-
"Some studies", but the authors cite only one reference: "12".	*The text has been adjusted citing the reference number 12.* *"...Authors have sought to relate trust to intention to return and focus ....[12]"*
I suggest presenting the theoretical framework of this study before the objectives in text form. The purpose of the study is consistently stated throughout the paper.	*The text has been adjusted!*
The methods were described and organized in sufficient detail	
I suggest that the authors present a better characterization of the "two dentistry clinics in the south of Brazil".	*The text has been adjusted!* *"Dentistry clinics are located in the city center and serve only private patients and do not have health insurance."*
… in the same dentistry clinic? I suggest describing the pretest succinctly.	*The text has been adjusted!* *"Data were collected through a self-administered questionnaire applied by researchers in the dentistry clinics. Before data collection, a pretest was done in order to test the methodology in the application of the research instrument. The pretest subjects were not included in the final sample, as the purpose of the pilot test was only to verify the participants' understanding. Patients filled out the questionnaires while waiting for service in the waiting room of the dentistry clinics. In this room, there was a box in which the patient anonymously, deposited the completed questionnaire.*
The authors specified the statistical procedures used to analysis of the data.	.-

The results are interesting. The authors clearly highlighted the information collected using the methods described to meet the study objectives. The tables and the figure with the presentation of the results are organized and clear.	-
The discussion is adequate.The authors cite appropriate and actual papers in the discussion.	-
The authors identify the limitations of the study in the end of the manuscript and make suggestions for future research.	-
The conclusion is clear and adequate.	-
The authors use appropriate English grammar, but it is important a final review to check. Authors should review "Author Guidelines": https://periodicos.sbu.unicamp.br/ojs/index.php/bjos/about/submissionsThe conclusion is clear and adequate.	-
Include the year of publication.	*The year of publications were included in the citations.*
English should be improved because there are many type errors and grammatical problems.	*We send the certificate of translation of the manuscript into the English language carried out by the company "*Wiley Editing Services*".*
Reviewer B	**Authors**
Corrections made in the topic Abstract (Aim, Methods, Results and Conclusions)	All requests to change the Abstract have been made. Page 1
Corrections made in the topic Introduction: … remains to be exposed what the chosen method can differentiate in approaching the problem presented.	Ok, all requests to change the Introduction have been made. Page 3
Corrections made in the topic Methods: Ethical aspects Design and setting Participants and data collection Data analyses and measures	Ok, all requests to change the Methods have been made. Pages 4-6
Corrections made in the topic Results	All requests to change the Results have been made and references have been revised. Pages 6-7
Corrections made in the topic Discussion	Ok, all requests to change the Discussion have been made. Pages 8-10
Corrections made in the topic Conclusions	Ok! The Conclusions were reduced, according to the objectives. Page .10
Corrections made in the topic References	OK, references have been corrected! Page 11-15