Self-perception of communicative competence and personality traits in university professors

Autopercepção de competência comunicativa e traços de personalidade em professores universitários

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ABSTRACT

Purpose: to analyze the **association** between self-perceived communicative competence and personality traits in university professors. **Methods:** observational, cross-sectional study conducted with 100 university professors. The instruments used were the Self-Assessment Test of Communicative Competence (TACCom), the HEXACO-60 Personality Inventory, and a questionnaire with sociodemographic questions. The instruments were sent to participants via the Google Forms platform. The response variable was based on TACCom, the explanatory variable was the response obtained from HEXACO-60, with sex and age as covariates. **Results:** the group of university professors with higher scores in self-perceived communicative competence also showed higher scores in the Honesty-Humility and Conscientiousness domains of HEXACO. Conscientiousness was the personality domain associated with self-perceived communicative competence in the multivariate model. Each unit increase in the Conscientiousness score was associated with a 2% increase in the likelihood of having a more positive perception of communicative competence. **Conclusion:** university professors who perceive themselves as good communicators tend to score high in Conscientiousness. Thus, characteristics of the Conscientiousness trait, such as time management, organization, commitment, and focus on work/goals, appear to favor university professors' self-perception of oral communication skills.

Keywords: Teachers; Communication; Speech; Voice; Personality

RESUMO

Objetivo: analisar a relação da autopercepção de competência comunicativa com os traços de personalidade em professores universitários. **Métodos:** estudo observacional, transversal, realizado com 100 professores universitários. Os instrumentos utilizados foram o Teste de Autoavaliação de Competência Comunicativa (TACCom), o Inventário de Personalidade HEXACO-60 e um questionário com perguntas sociodemográficas. Os instrumentos foram enviados aos participantes por meio da plataforma Google Forms. A variável resposta foi baseada no TACCom, a variável explicativa, na resposta obtida pelo HEXACO-60. O gênero e a idade foram as covariáveis. **Resultados:** o grupo de professores universitários com maiores pontuações na autopercepção de competência comunicativa também apresentou pontuações mais elevadas nos domínios Honestidade-Humildade e Conscienciosidade do HEXACO-60. A Conscienciosidade foi o domínio de personalidade que se associou à autopercepção de competência comunicativa no modelo multivariado. Cada unidade de aumento na pontuação de Conscienciosidade esteve associada a um aumento de 2% na chance de apresentar uma percepção mais positiva da competência comunicativa. **Conclusão:** professores universitários que se autopercebem como bons comunicadores tendem a apresentar altas pontuações no domínio Conscienciosidade do HEXACO-60. Assim, características do traço de conscienciosidade como planejamento de tempo, organização, compromisso, foco no trabalho/objetivos parecem favorecer a autopercepção da habilidade de comunicação oral dos professores universitários.

Palavras-chave: Docentes; Comunicação; Fala; Voz; Personalidade

INTRODUCTION

Communication is the dynamic process of conveying and receiving messages that influences the behavior of participants in a context of continuous interaction[1-5]. An effective speaker has well-developed speaking and listening skills[6], balances the verbal and nonverbal elements of communication[7-10], and conveys clear and coherent messages[2,9,11]. These aspects contribute to good communicative competence[8].

Moreover, oral communication is essential to professors' work and didactics[3,7,12,13], relevant for transmitting messages, dialoguing, and facilitating learning in the classroom[9,14-16]. Thus, education benefits from both competence in the content they teach and their communication skills[3,8,11-13,15].

In addition to communication skills, the professor's personality affects teaching and influences classroom dynamics, the teaching-learning process[16,17], and students' learning, affecting their academic, personal, and social performance[16,18].

Personality encompasses unique characteristics, which differentiate them from others through consistent patterns of feelings, thoughts, and behaviors at different times and in different situations[19-21]. Thus, personality traits help explain each person's behavior[19-22] and allow us to understand why people behave the way they do, in personal and emotional terms[19,22], since they influence various aspects of their lives. These aspects include the way people communicate[21,23-25], especially regarding expressiveness, organization, and emotional regulation, such as extraversion and conscientiousness.

Since the way individuals express themselves and communicate with others is influenced by their personality traits[26], it is important to understand this relationship. HEXACO is a promising scale for investigating the personality of professors and analyzing relevant professional behaviors at university, such as cooperating, communicating, and sharing knowledge[21,27].

The scale is a theoretical and empirical model of personality that assesses six dimensions: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. This model has been valued for its ability to capture traits associated with moral, interpersonal, motivational, and socioemotional aspects, allowing a more comprehensive understanding of human behavior in different contexts. Its application has proven useful in studies seeking to understand how personality traits influence interaction, decision-making, emotional expression, and communication patterns[28].

Hence, this study sought to answer the following question: "Is there an association between self-perception of communicative competence and personality traits in university professors?"

The study hypothesis was that university professors with better self-perception of communicative competence have higher Extraversion and Conscientiousness levels on the aforementioned scale, as these dimensions involve greater ease in social interactions and organization, contributing to more effective communication.

It is believed that investigating self-perception of communicative competence, while not necessarily reflecting the perception of others, is valuable because it offers insight into how professors perceive their own abilities, which can influence their teaching practice. By associating this variable with personality traits, it is possible to understand how these factors interact and impact communication. This integrated analysis can help identify elements that favor or hinder professors' communication,

guiding the development of strategies to improve interactions and assertiveness in teaching practice.

Thus, this study aimed to analyze the relationship between self-perception of communicative competence and personality traits in university professors.

METHODS

This is an observational, analytical, cross-sectional study with a convenience sample of 100 university professors from a Brazilian public university who agreed to participate voluntarily in response to announcements made at the institution. The study was approved by the Research Ethics Committee of the Federal University of Minas Gerais (CEP-UFMG), under approval No. 4.803.005/2021. All participants signed an informed consent form.

The sample included Brazilian professors of both sexes working at the university in question. It excluded speech-language-hearing professors, those on leave from teaching for any reason during the data collection period, who self-reported stuttering, and those with neurological disorders combined with communication problems.

This information was collected through a questionnaire to determine the eligibility of participants for this study. Sent via Google Forms, it included the Self-Assessment Test of Communication Competence (SACCom), which defined the response variable; the HEXACO-60 Personality Inventory, for the explanatory variable; and sociodemographic questions regarding sex and age, for the covariates.

The (SACCom)[6] provides self-assessment of speaking and listening skills. It reflects their opinion, with no right or wrong answer. The first nine questions relate to message transmission (speaking), and the remaining 10 to message reception (listening). Its 19 yes/no items score 1 point for "yes" and 0 points for "no". SACCom scores range from 0 to 100 and are calculated based on theta (Θ) values, estimated using Item Response Theory (IRT). The higher the score, the more positive the self-assessment of communicative competence[6]. Although the instrument presents established psychometric properties, such as item discrimination, difficulty, and information curves, it does not establish an interpretative cutoff for classifying scores into performance categories. Therefore, this study used the sample median as the categorization criterion. This procedure allowed us to compare participants with relatively more or less positive communicative self-assessment, considering the sample's internal distribution.

The HEXACO–60 Personality Inventory[28,29] is a shortened version of the HEXACO Personality Inventory Revised (HEXACO-PI-R), validated for use in Brazilian Portuguese by authors in a study with a Brazilian sample[30]. It assesses six personality factors: Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O). Each dimension has 10 items, with the following facets: 1) Honesty-Humility (H) has the facets Sincerity, Fairness, Greed Avoidance, and Modesty; 2) Emotionality (E) has the facets Fearfulness, Anxiety, Dependence, and Sentimentality; 3) Extraversion (X) has the facets Social Self-Esteem, Social Boldness, Sociability, and Liveliness; 4) Agreeableness (A) has the facets Forgiveness, Gentleness, Flexibility, and Patience; 5) Conscientiousness (C) has the facets Organization, Diligence, Perfectionism, and Prudence; 6) Openness to Experience (O) has the facets Aesthetic Appreciation, Inquisitiveness, Creativity, and

Unconventionality. Each HEXACO item presents a 5-point scale, where 1 means "strongly disagree" and 5 means "strongly agree." The study with a Brazilian sample[30] identified that the internal consistency of the instrument varies between 0.64 (Emotionality) and 0.80 (Honesty-Humility).

The present study verified a hexafactorial HEXACO structure through exploratory factor analysis (weighted least square mean factor extraction method) and parallel analysis. This was expected, since, when an instrument has only been validated, it is necessary to observe whether it maintains psychometric properties similar to its original proposal for use in the study.

The Mann-Whitney test was used to compare differences in medians across personality domains and SACCom scores due to the non-normality of the data. Pearson's chi-square test was used to estimate coefficients of association. The odds ratio was used to measure the association between personality traits (high and low intensity) and self-perception of greater or lesser communicative competence. The standard error, p-value ($p \leq 0.05$), and 95% confidence interval (CI) were calculated. A multivariate logistic regression model was used, adjusted for the covariates sex and age. These were not the focus of the study but were controlled for to allow a more precise analysis of the relationship between the independent variable of interest and the dependent variable. Variables with a significance level of up to 20% in the bivariate analysis were included in the multivariate model, and those that maintained this level of significance remained. The variance inflation factor (VIF) was used to assess the presence and degree of multicollinearity among predictor variables in the regression models. VIF quantifies the extent to which the variance of an estimated regression coefficient is inflated due to multicollinearity. VIF values above a certain threshold (usually 5 or 10) were used as an indication of potentially problematic multicollinearity, guiding the decision to exclude or retain variables in the final model. Variables with a 20% significance level in the bivariate analysis were eligible for the multivariate model. Those with a 20% significance level remained.

The analyses were performed using Stata 16.0 software, considering a 5% significance level.

RESULTS

Table 1 shows the results of the factor analysis by dimension and the internal consistency of the HEXACO-60 scales. It was found that all domains had adequate internal consistency.

Table 2 shows that the group of university professors with higher scores in self-perceived communicative competence also had higher scores in Honesty-Humility and Conscientiousness than the group of professors with lower scores in self-perceived communicative competence.

Since there was a statistically significant association between self-perceived communication competence (SACCom) and the Honesty-Humility and Conscientiousness personality domains, a logistic regression analysis was performed, including sex and age, to adjust the multivariate model. Table 3 shows that Conscientiousness was associated with higher levels of self-perceived communication competence in the sample. Each unit increase in the Conscientiousness score was associated with a 2% increase in the odds ratio of having a more positive self-perception of communication competence, compared to those with lower scores in this domain, regardless of sex and age. Honesty-Humility had only a marginal level of significance (p-value = 0.057).

DISCUSSION

This study analyzed the relationship between self-perception of communicative competence and personality traits, using the HEXACO-60 model as a theoretical reference, in a convenience sample of university professors, whose voices and communication are tools of their trade.

Most professors with a more positive perception of communicative competence also obtained higher scores in the Honesty-Humility and Conscientiousness domains. Self-perception of communication plays an essential role in their improvement, providing valuable information for decision-making. Awareness of one's own communicative patterns, aligned with the demands of personal and professional life, contributes to more efficient message transmission[10]. Authors point out that the development of appropriate communicative styles enhances the positive impact of certain personality traits on teaching and student learning[21].

The honesty-humility trait encompasses characteristics such as fairness, modesty, and sincerity, in contrast to arrogance, manipulation, and greed[31,32]. It is inferred that professors with this profile tend to establish authentic and persuasive interactions, which can positively influence classroom dynamics. Studies indicate that this trait influences teaching behavior[31] and favors fair and genuine communication[33]. A study with teachers found that honesty-humility and affability significantly impact their communication, albeit to a lesser extent than conscientiousness and extraversion[21]. However, caution is recommended when interpreting these findings, as the Honesty-Humility domain

Table 1. Internal consistency assessment of the personality domains of the HEXACO-60 inventory

Domains	Standardized 0-to-100 score							
	Cronbach's alpha	Proportion of explained variation PCA	KMO	Mean	SD	Q_1	Median	Q_3
Honesty-Humility	0.7274	0.333	0.7008	69.2	23.7	50.6	76.5	87.3
Emotionality	0.7246	0.2912	0.7014	49.9	15.2	40.7	48.6	58.8
Extraversion	0.7899	0.3505	0.7395	48.3	15.8	38.8	48.4	59.6
Agreeableness	0.7996	0.3592	0.7884	62.0	18.2	52.4	62.1	72.6
Conscientiousness	0.7299	0.3076	0.7107	57.2	20.9	43.6	58.9	69.5
Openness to Experience	0.7299	0.3093	0.7354	65.9	19.3	51.5	65.5	80.1

Subtitle: PCA = principal component analysis; SD = standard deviation; KMO = Kaiser–Meyer–Olkin test; Q1 = quartile 1; Q3 = quartile 3

Table 2. Relationship between self-perception of communicative competence in the SACCom test and personality domains

Domains	Coefficient	95% CI		SACCom ≤ 87.8			SACCom ≥ 87.8			
				Mean	SD	Median	Mean	SD	Median	p-value
Honesty-Humility	9.10	-0.2	18.4	64.62	23.14	67.35	73.72	23.62	82.35	**0.039***
Emotionality	2.83	-3.2	8.9	48.53	16.95	47.35	51.36	13.16	50.31	0.200
Extraversion	1.64	-4.7	7.9	47.46	18.59	46.20	49.10	12.59	49.65	0.435
Agreeableness	3.91	-3.3	11.1	60.02	20.32	59.85	63.93	15.69	64.52	0.353
Conscientiousness	9.30	1.2	17.4	52.54	23.24	54.85	61.83	17.31	60.72	**0.047***
Openness to Experience	4.87	-2.8	12.5	63.48	19.75	63.46	68.35	18.71	71.85	0.263

*Mann-Whitney test significant at 5%

Subtitle: SACCom = Self-Assessment Test of Communication Competence; ≤ = less than or equal to; ≥ = greater than or equal to; 95% CI = 95% confidence interval; SD = standard deviation

Table 3. Multivariate logistic regression analysis between self-assessment of communicative competence in the SACCom test and the domains of personality, sex, and age

Variables	SACCom				
	Odds ratio	Standard error	p-value	95% CI	OR
Honesty-Humility	1.02	0.01	0.057	1.00	1.03
Conscientiousness	1.02	0.01	**0.029***	1.00	1.04
Sex	0.45	0.19	0.061	0.19	1.04
Age	1.37	0.55	0.424	0.63	3.03

Subtitle: SACCom = Self-Assessment Test of Communication Competence; 95% CI = 95% confidence interval; OR = Odds Ratio

did not maintain statistical significance in the final model after adjustment with the other variables.

Conscientiousness, present in the final model, indicated that professors with higher scores in this domain are 2% more likely to have a more positive self-perception of communicative competence than those with lower scores in this personality trait. This dimension, related to self-discipline, organization, and impulse control, reflects the ability to follow rules and pursue goals[30,33,34] and is a predictor of significant results in life, academic, and professional performance[35]. These are highly desirable characteristics in teaching[9].

Teaching requires planning, autonomy, and good communication skills when conveying content. A good communicator conveys credibility, transmits information clearly, and listens attentively[6]. The association between self-perceived communicative competence and conscientiousness reinforces how important the connection is for participants, as authentic and productive communication depends on building trust, clarity, empathy, and collaboration[36].

It is believed that conscientious professors tend to be clearer when speaking and more attentive when listening and processing information. This trait is linked to responsibility, organization, self-control, and attention to detail[24,35,37,38], which favors effective communication skills. Individuals with this trait generally act thoughtfully, focus on goals, and communicate in a logical, structured, and precise manner[24,37]. These characteristics make them more likely to develop advanced communication skills[37].

Studies show that extraversion and conscientiousness influence communication skills. Conscientious individuals stand out for their confident social interactions and willingness to collaborate and lead[35]. They have a greater ability to maintain focus and precision in dialogue, which favors the understanding of information[37,39]. Being a good communicator involves speaking and listening consciously, adapting to the context and the interlocutor[6], which contributes to more effective communication[36].

It is interesting to highlight that the SACCom assesses these skills, as observed in the questions, "Do you pay attention to the verbal and nonverbal messages of what is said (voice, body language, and gestures)?", and "Can you capture and maintain the attention of others?". These reinforce the relevance of this study's association between the instrument scores and the conscientiousness trait.

Hence, it is believed that self-perception of communicative competence is influenced by factors such as professors' personalities. These findings highlight the importance of this aspect, demonstrating its direct impact on communication effectiveness, classroom management, and student academic performance.

Understanding communicative competence as a central factor can contribute to more effective professional development strategies for professors. It is noteworthy that the analysis of this study using a multivariate model allowed us to identify the relationship between self-perceived communicative competence and the domain of conscientiousness, regardless of sex and age.

Therefore, training programs and workshops for professors should include, along with other topics, content that addresses the influence of personality traits on communicative performance to foster self-awareness and behavioral adaptation strategies. They should also integrate activities that foster conscientiousness skills, such as planning, organization, and focus. These aspects underpin effective oral communication, with structural clarity, advance preparation, and the speaker's emotional engagement.

As a limitation of the study, it is worth noting that the number of participants was determined based on voluntary participation during the data collection period, without prior sample size calculation. This limits the sample's representativeness and, consequently, the generalizability of the findings. Nevertheless, the sample size was sufficient for the statistical analyses, meeting the research's exploratory objectives. Future investigations should expand the sample to different regions and randomize it to strengthen external validity and increase the generalizability of the findings.

Furthermore, the exclusive use of self-perception instruments may restrict the understanding of communicative competence, as it does not consider external or objective assessments. Because this is a relational analysis, it is not possible to infer causality. Given the above, these methodological aspects reinforce the importance of future investigations with larger and more diverse samples, as well as complementary assessments that include a multidimensional analysis of professors' communication to validate and deepen the findings.

CONCLUSION

University professors who perceive themselves as good communicators also tend to score high on the HEXACO-60 Conscientiousness domain. This factor is more strongly associated with self-perceived communicative competence in university professors than sex or age. Thus, conscientiousness characteristics such as time management, organization, commitment, and focus on work/goals appear to favor university professors' oral communication skills.

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