

# Association between quality of life and stress in speech, language, and hearing sciences students

## Associação entre a qualidade de vida e o estresse em estudantes de Fonoaudiologia

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### ABSTRACT

**Purpose:** To verify the association between quality of life - from the physical and material well-being domains; relationships with other people; social, community and civic activities; personal development; achievement and recreation -, with stress in Speech, Language, and Hearing Sciences. **Methods:** 40 students (34 females) from an undergraduate course in Speech, Language, and Hearing Sciences, aged between 19 and 39, answered the Flanagan Quality of Life Scale and Lipp's Stress Symptoms Inventory. The results were analyzed using binary logistic regression. **Results:** The domains related to the quality of life with the worst results were "physical and material well-being" and "personal development and achievement," and the domain that showed the best results were "relationships with other people", being able to predict 21.2% of the cases of stress. The quality of life in the "relationships with other people" domain was a significant predictor of the study, being considered as protective for stress in the investigated sample. **Conclusion:** A good quality of life in the domain "relationships with other people" was a protective factor of stress in students of the Speech, Language, and Hearing Sciences.

**Keywords:** Quality of life; Indicators of quality of life; Psychological stress; Student health; Students

### RESUMO

**Objetivo:** Verificar a associação entre a qualidade de vida - a partir dos domínios "bem-estar físico e material"; "relações com outras pessoas"; "atividades sociais, comunitárias e cívicas"; "desenvolvimento pessoal e realização" e "recreação" -, com o estresse em estudantes de Fonoaudiologia. **Métodos:** Quarenta estudantes (34 do gênero feminino), de um curso de graduação em Fonoaudiologia, com idades entre 19 e 39 anos, responderam às questões da Escala de Qualidade de Vida de Flanagan e do Inventário de Sintomas de Stress para Adultos de Lipp e os resultados foram analisados por meio de regressão logística binária. **Resultados:** Os domínios relacionados à qualidade de vida com piores resultados foram "bem-estar físico e material" e "desenvolvimento pessoal e realização" e o domínio que apresentou melhores resultados foi "relações com outras pessoas", sendo capaz de prever 21,2% dos casos de estresse. A qualidade de vida no domínio "relações com outras pessoas" foi uma preditora significativa do estudo, sendo considerada como protetora para o estresse na amostra investigada. **Conclusão:** Uma boa qualidade de vida no domínio "relações com outras pessoas" apresentou-se como fator protetor do estresse em estudantes do curso de Fonoaudiologia.

**Palavras-chave:** Qualidade de vida; Indicadores de qualidade de vida; Estresse psicológico; Saúde do estudante; Estudantes

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## INTRODUCTION

In undergraduate studies, students experience transformations that vary according to the difficulty in adapting to new demands. This can affect motivation and self-esteem, generate stress, and impact the quality of life (QoL)<sup>(1-3)</sup>.

University students frequently experience stress<sup>(1,3,4)</sup>, which is defined as the body's search to adapt to a situation perceived as threatening to their life and internal homeostasis<sup>(5)</sup>. Some aspects are common among the students regarding the transition faced in the university phase, such as expectations with career, need for several study hours, and interpersonal relationships. However, factors associated with individual, social, and economic differences<sup>(6)</sup> may contribute to the onset or worsening of stress, a condition that can compromise academic performance, affect health, and generate feelings of disability in students<sup>(4)</sup>.

Studies indicate a relationship between stress and QoL in university students<sup>(1)</sup>, demonstrating that the higher the QoL of students, the lower the stress levels. QoL can be defined as an individual's perception of his or her position in life; in the context of culture, it includes the value system in which he/she lives and his/her goals, expectations, standards, concerns, and desires<sup>(7)</sup>.

Considering the complexity of stress prevention in university students and knowing the association between stress and QoL, it is necessary to verify if there are QoL domains related to students' stress, especially in speech-language pathology (SLP) students. Such information is essential to direct the work with the mental health of these future professionals.

Moreover, few Brazilian studies are dealing with this theme. Researchers<sup>(8)</sup> have verified, using the World Health Organization Quality of Life (WHOQOL)-Bref instrument, that SLP students generally presented good QoL. The domains with good scores were health and social relations, while that with the lowest score was the environment. Others<sup>(9)</sup> found a high stress index in SLP students. Thus, coping with stress to provide better QoL to SLP students is relevant today, as pointed out in the literature<sup>(10)</sup>. However, studies on SLP students that analyze the two variables together (QoL and stress) have not been published to date; thus, this study is particularly important.

Considering the importance of the theme, this study aimed to verify the association between QoL — from the domains of physical and material well-being; relationships with other people; social, community, and civic activities; personal development; and realization and recreation — and stress in SLP students.

## METHODS

This was an observational, cross-sectional, and analytical study. The Research Ethics Committee of the Universidade Federal de Sergipe (opinion no. 2,377,894) approved the study. Data collection was performed in a city in the northeastern countryside until 2019. Students from an SLP course, aged >18 years, who provided written informed consent were recruited. Participants who left the instruments incomplete and were attending the first year of the course were excluded. Exclusion of first-year students was justified, considering that students from the initial grades may present prodromes of anxiety, depression, and difficulties to help, inherent to the adaptation to university life<sup>(11)</sup>; thus, this analysis bias was avoided.

The sample size was calculated using the confidence interval (CI) for a mean test. The following parameters were considered: 95% CI, 5% margin of error, and estimated standard deviation of the population of SLP students of the Universidade Federal de Sergipe, campus Lagarto, for an independent variable of 14.9. This standard deviation was considered because it is the largest presented for QoL. The estimated sample size was 37. After applying the eligibility criteria, the final sample of SLP students in the present study was 40.

Data collection was performed through self-response of identification data, completion of the Flanagan's Quality of Life Scale (QoLS), proposed by Flanagan<sup>(12)</sup> in the United States, translated and validated for the Brazilian Portuguese<sup>(13)</sup>, and the Lipp's Stress Symptoms Inventory for Adults (LSSI), following the indications of application and analysis of the authors for categorizing the students into "with stress" and "without stress" groups.

The participating university students were aged between 19 and 39 years (mean, 25±5.18 years), and a majority were female (n=34.85%) and single (n=31, 77.5%), did not work as a paid function (n=33, 82.5%), lived with family members (n=22.55%), and moved from the city due to the course (n=18.45%).

The independent variable was QoL, which was evaluated using the QoLS. The instrument consists of 15 questions, answered on a seven-point Likert scale, in which "1" indicates very dissatisfied and "7" indicates very satisfied. Thus, the total score can range from 15 to 105 points. The domains "physical and material well-being," "relationships with other people," "social, community, and civic activities," "personal development, and achievement," and "recreation" were analyzed, and the total score was obtained.

The dependent variable was the presence of stress. To identify the presence of stress, the LSSI was applied<sup>(14)</sup>. The instrument consists of 55 items, for which participants should report the symptoms they have experienced in a given period (last 24 h, last week, and last month), and was analyzed by a psychologist author. Only the presence or absence of stress was used.

Binary logistic regression analysis and odds ratios were calculated to verify whether the QoL domains were associated with stress. In the first adjusted model, the coefficients of the variables "physical and mental well-being," "social, community, and civic activities," "personal development and achievement," and "recreation" were not significant. Thus, a model was adjusted without these variables. The significance level of 5% was adopted, and the software used was SPSS 25.0.

## RESULTS

Most students presented stress (n=34.85%). Table 1 shows the characteristics of independent variables related to QoL domains. The domain that presented the best QoL was "relationships with other people" (Table 1).

Regression analysis resulted in a statistically significant model in which the domain "relationships with other people" was able to predict 21.2% of the variability of the stress variable [ $X^2(1) p=0.023$ ; Nagelkerke's  $R^2 = 0.212$ ]. The QoL in the domain "relationships with other people" was a stress protection factor (OR = 0.253; 95% CI = 0.058–1.094). The risk of stress in individuals with good QoL in the domain "relationships with other people" was 25.3% lower than that in individuals without this condition. The results are presented in Table 2.

**Table 1.** Descriptive analysis of quality of life domains in speech-language pathology students

Domains	Mean	SD	Minimum	Maximum	1Q	Median	3Q
Physical and material well-being	4.8	1.5	1.5	7.0	4.0	5.5	6.0
Relationships with other people	5.3	1.0	2.3	6.8	4.9	5.5	6.3
Social. community and civic activities	5.2	1.0	2.0	7.0	4.9	5.3	6.0
Personal development and achievement	4.8	1.2	1.5	7.0	4.4	5.0	5.6
Recreation	5.1	1.4	1.7	7.0	4.6	5.3	6.0
Total	75.8	14.9	36.0	102.0	69.0	78.5	84.5

**Subtitle:** 1Q = first quartile; 3Q = third quartile; SD = standard deviation

**Table 2.** Analysis of stress predictive factors

	B	S.E.	Wald	df	p-value	OR	CI 95% OR	
							Lower	Upper
Relationships with other people	-1.375	0.748	3.384	1	0.066	0.253	0.058	1.094
Constant	9.592	4.504	4.536	1	0.033			

Binary logistic regression model

**Subtitle:** B = Non-standard coefficient; S.E. = standard error; Wald = Wald's statistics; df = degrees of freedom; OR = odds ratio; CI = confidence interval

## DISCUSSION

This study aimed to verify the association between QoL and presence of stress in SLP students, identifying possible protective and/or risk factors for the presence of stress. These aspects have been explored in the literature due to their strong influence on the students' academic performance<sup>(2)</sup>. However, studies that discuss these findings in SLP students in light of the literature are scarce. Brazilian researchers<sup>(15)</sup> compared the QoL of students of medical and SLP courses, concluding that, in the psychological and physical domains, SLP students presented lower scores but better results in the perception of the teaching environment, as well as in balancing commitments (personal and academic), especially in the final grades of the course. According to the researchers, these results point to the need for greater attention for students.

In this study, the domains with the worst results were "physical and material well-being," which is related to physical disposition, comfort, and tranquility, and "personal development and achievement," which expresses self-acceptance, autonomy, sense of dominance, good relationship with others, and demand for goals<sup>(16)</sup>. The best answers were observed in the "relationships with other people" domain. These data agree with the findings of a study on QoL of nutrition students, who obtained better results<sup>(17)</sup>.

The results obtained in this study through the LSSI indicated that 85% of students presented stress. A study with students from different courses in the health field<sup>(3)</sup>, using the LSSI to assess stress, showed lower stress than did the present study. One of the factors that may have contributed to this finding was that a majority of the sample comprised women, as there are strong indications in the literature that women are more susceptible to stress<sup>(18)</sup>.

It was evidenced that a good QoL in the domain "relationships with other people" was a protective factor for stress; that is, students who can establish good personal and professional relationships are more likely to not present stress. It is noteworthy that the participants of this study were SLP students, and communication and social interaction are discussed throughout the SLP course. Therefore, studying this domain and its influence on the QoL can facilitate the knowledge of challenges and facilitators in

stress management, and personal relationships are possibly a powerful facilitator.

A Brazilian study that aimed to investigate the effect of soft skills training on social skills and stress levels of university students concluded that these skills could significantly reduce stress among the participants of the study<sup>(19)</sup>. These findings agree and justify that, in the present study, a good score referring to the relationship with other people presented itself as a protector for stress.

It is important to discuss other variables related to the present study, among which stand out: sex, work activity, marital status, and place of residence of the sample participants. In relation to sex, the sample was composed mostly of women, ratifying the above discussion in the literature<sup>(20)</sup>, that, although in recent decades, there has been an increase in male freshmen in the SLP course, most of them are still female. Moreover, there is evidence that stress impacts sex differently, considering that authors<sup>(21)</sup> reported stress in men when they held leadership positions or were liberal professionals and in women when they held office positions or were academic, in addition to less stress when the marital status was single, agreeing with the data obtained in this study since the majority of the sample did not work in paid employment and was single.

In relation to housing, other living conditions (e.g., the situation of life in childhood, relationship of the student with his or her family, socioeconomic conditions) affect mental health and student QoL<sup>(11)</sup>, limiting a more in-depth analysis on the subject, considering that these conditions were not informed. However, the majority lived with the family, which may favor a better QoL, because family rituals positively affect both QoL and relationship<sup>(22)</sup>, ratifying the importance of "relationship with other people" as a protective factor of stress and, consequently, improvement of QoL.

The obtained results alert us to the need for university actions aimed at students' mental health and emphasize the importance of social relations. The students' well-being directly influences their education, interfering with planning, organization, and attention to studies<sup>(2)</sup>.

In the form of brief communication, the present study shows as a limitation the fact that it was developed only for SLP students who used active teaching methodologies, which

made it difficult to extrapolate the results. Thus, new studies have been developed by the team, expanding the target audience.

Regardless of this limitation, it is suggested that coping with stress in SLP students can be based on actions promoting QoL, which is associated with healthy social relationships. Know-how need to coexist harmoniously so that academic performance does not deliver vulnerability to disease to job market professionals.

## CONCLUSION

Good QoL in the domain “relationships with other people” was presented as a protective factor of stress in students in the SLP course.

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