



## Evaluation of social support and stress in nursing students

Avaliação do apoio social e estresse em estudantes de enfermagem  
Evaluación del apoyo social y el estrés en estudiantes de enfermería

Letícia Yamawaka de Almeida<sup>1</sup>, Marília Orlandelli Carrer<sup>2</sup>, Jacqueline de Souza<sup>3</sup>, Sandra Cristina Pillon<sup>1</sup>

### How to cite this article:

Almeida LY, Carrer MO, Souza J, Pillon SC. Evaluation of social support and stress in nursing students. Rev Esc Enferm USP. 2018;52:e03405. DOI: <http://dx.doi.org/10.1590/S1980-220X2017045703405>

<sup>1</sup> Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto, Ribeirão Preto, SP, Brazil.

<sup>2</sup> Universidade de São Paulo, Escola de Enfermagem, Programa de Residência em Enfermagem na Atenção Básica em Saúde da Família, São Paulo, SP, Brazil.

<sup>3</sup> Universidade de São Paulo, Escola de Enfermagem de Ribeirão Preto, Departamento de Enfermagem Psiquiátrica e Ciências Humanas, Ribeirão Preto, SP, Brazil.

### ABSTRACT

**Objective:** To analyze the perception of stress and social support of nursing students considering the number of supporters and the satisfaction with them. **Method:** Quantitative, cross-sectional study performed with nursing students from a public university in the state of São Paulo, Brazil. We used the Stress Evaluation in Nursing Students scale and the Social Support Questionnaire. We performed the chi-squared test and analyzed the structure of the support network using software Gephi version 0.9.1. **Results:** 192 students participated. Family and friends were the most mentioned supporters. Despite counting on a low number of supporters, most participants were satisfied with the perceived support. The students presented high intensity of stress in the “professional training” domain. Furthermore, the students who were pleased with the perceived social support presented low intensity of stress in accomplishing the theoretical activities of the undergraduate course. **Conclusion:** The creation of more welcoming spaces in the academic environment, the qualification of the social support, and the employment of strategies to improve the transition from the student stage to the professional stage are important recommendations that will contribute for positive outcomes regarding the coping with student stress.

### DESCRIPTORS

Students, Nursing; Stress, Psychological; Social Support; Mental Health.

### Corresponding author:

Letícia Yamawaka de Almeida  
Avenida dos Bandeirantes, 3900,  
Bairro Monte Alegre  
CEP 14049-900 – Ribeirão Preto, SP, Brazil  
[leyamawaka@gmail.com](mailto:leyamawaka@gmail.com)

Received: 11/17/2017  
Approved: 07/10/2018

## INTRODUCTION

The adaptation to the process of teaching and learning in the university scope and throughout the professional training is a constant concern in the trajectory of students<sup>(1)</sup>. The unpreparedness to face these situations may implicate elevated stress levels, culminating in situations of mental health vulnerability and even in prejudice to the academic performance and well-being of the subjects<sup>(2)</sup>.

By “stress” or “stressor” it is understood any demand, internal or external, that exceeds the available individual resources to deal with a given situation. Thus, it is about the relation between the subject and the environment and the attribution of meanings to daily events<sup>(3)</sup>.

Regarding the knowledge produced concerning stress among nursing students, two study perspectives were identified in the literature: the first refers to the investigation of potentially stressor factors/elements in daily life and the implications for the mental health of these subjects<sup>(4-9)</sup>, while the second branch composes the coping strategies for maintaining the well-being in the university context<sup>(10-18)</sup>.

The studies that fit the first perspective point that the potential stressor factors/elements in the nursing course are related to the curriculum of theoretical activities, laboratory practices, and immersion into the practical scenario<sup>(4-6)</sup>. It is understood that the course’s dynamics, the performance of welfare actions to different populations, and other activities aimed at improving the knowledge and abilities specific to the nursing care may generate high tension levels, strain, exhaustion, stress, and psychic suffering in students<sup>(7-9)</sup>.

Furthermore, as stress predictors among nursing academics, the elaboration of reports, the exposure to practical activities in internships (which generate failure/error-related fears), the constant evaluations, and the contact with human suffering stand out. To this are added the time constraints to fulfill multiple roles and the difficulty to conciliate work, studies, leisure, and family, besides financial problems, expectations regarding the professional future, and some sociodemographic features<sup>(4-5,7-9)</sup>.

Given these premises, there is a need for emotional and behavioral adaptations for coping with such stressors so to maintain satisfactory levels of well-being and quality of life throughout the undergraduate course and the professional life. In this sense, the second branch of studies has been exploring the coping responses used by the students to alleviate stress<sup>(10-14)</sup>, and performing interventions with the purpose of attenuating their psychic suffering<sup>(15-18)</sup>.

We emphasize that the support of family, friends, neighbors, or colleagues has been described in the literature as an important tool for coping with stress, given that it aids the individual in overcoming their problems, relieves their situational vulnerability, and may contribute for the adoption of healthy lifestyles and more responsible decision-making<sup>(13-14,19-20)</sup>.

Therefore, we understand that investigating the perception of stress and emotional support among the nursing undergraduate students may provide subsidies for the development of strategies for intervention and mental health

promotion that provide improvements in their quality of life, make the academic environment healthier, and offer conditions for maintaining a good personal and professional performance during the academic education.

Furthermore, previous studies that investigated the effect of social support in the outcome of stress have highlighted the importance of analyzing whether the social support has a direct action or if it exerts a moderator effect on stress<sup>(19-21)</sup>. We deduce that such analyses may provide important signals for planning future interventions regarding the coping with stress. That is, if the direct effect of social support is identified, interventions for increasing and/or qualifying this support will be beneficial for the studied group. On the other hand, if such an effect is indirect, it indicates that other factors must be considered in the analyses to obtain more concrete subsidies for the phenomenon and the studied group.

Studies about social support developed with students have used instruments that do not discriminate the aspects related to the number of supporters and the satisfaction<sup>(13-14,22)</sup>. Hence, this study sought to analyze the perception of stress and social support of nursing students considering the number of supporters and the satisfaction with them. The use of these two dimensions of social support (number of supporters and satisfaction) brings an original contribution to this investigation.

## METHOD

A cross-sectional quantitative study developed in a campus of a public university in the state of São Paulo, Brazil. We collected the data from December 2014 to March 2015. The study’s population was the students of the nursing undergraduate courses, and the sample was composed by a conglomerate in two stages, considering the classroom as the sampling unit. The first stage consisted in the division of the phases of the course (initial or advanced), and the second stage, in the draw of classrooms.

Regarding the first stage, the initial phase of the course comprehended the students in the first and second years of the undergraduate nursing course, while the advanced phase counted with the students in the third to the fifth years. At the studied university, there were four classrooms in the initial phase and five in the advanced phase of the course and, in each classroom, there were between 30 and 80 students.

Considering the second stage of sampling per conglomerate, we drew two classrooms of each course phase, of which all students were invited to participate in the study. The participation criteria were: being enrolled in the undergraduate nursing courses and being in the classroom in the period designated for data collection. The exclusion criteria were: being under 18 years old and having some health problem that precluded the completion of the questionnaires. All the eligible students accepted to participate in the study, composing a final sample of 192 participants.

For the data collection, we used instruments validated for use in Brazil, namely the Stress Evaluation in Nursing Students (SENS) scale (in Portuguese, *Avaliação de Estresse em Estudantes de Enfermagem – AEEE*)<sup>(3)</sup>, and the reduced version of the Social Support Questionnaire (SSQ6)<sup>(21)</sup>. The average time for filling out the instruments was of 20 minutes.

The SENS scale evaluates the specific stressors of nursing students. This instrument presents an internal consistency of the domains with Cronbach's alpha varying from 0.71 to 0.87. The scale is composed of thirty items grouped in six domains: 1) performance of practical activities; 2) professional communication; 3) time management; 4) environment; 5) training; 6) theoretical activities<sup>(3)</sup>.

Each item's score varies from zero (when the student does not experience stress with the situation portrayed in the item) to three points (when they feel a high intensity of stress with the situation). The final score is obtained from the summation of the items in each domain, classified in four groups of stress intensity: low, medium, high, and very high<sup>(3)</sup>.

In this study, such groups were compiled into two big classes denominated low intensity of stress (referring to individuals who present low or average stress levels) and high intensity of stress (composed of individuals who exhibit high or very high stress levels).

We emphasize that this intensity classification was based on the cut points determined by the authors of the questionnaire for each of the six domains: twelve points for domain 1, 6 for domain 2, twelve for domain 3, ten for domain 4, ten for domain 5, and eleven for domain 6<sup>(3)</sup>.

Regarding the perception of social support, we used the reduced version of SSQ6<sup>(21)</sup>. The instrument is composed of six questions that evaluate the number of people that form the subject's social network (SSQN factor) and the degree of satisfaction with the perceived social support (SSQS factor). The participant must list up to nine people per question, with it also being possible to answer "no one", and classify their satisfaction with the support in the respective situations in a six-point scale from very satisfied (6) to very unsatisfied (1). This instrument has high levels of internal consistency evaluated by Cronbach's alpha, which varied from 0.90 for SSQN to 0.93 for SSQS<sup>(21)</sup>.

From the results, we identified the mean values of these variables (SSQN and SSQS factors) which, afterward, allowed dividing the participants into classes. Regarding the SSQN factor (number of supporters), we classified the participants who presented scores higher or equal to the group mean as "good number of supporters", and those with a score lower than the group mean as "low number of supporters". Considering the SSQS factor, we identified the participants with scores lower than the group mean as "low support satisfaction level", and those with scores equal to or higher than the group mean as "high support satisfaction level".

We elaborated a database in the Statistical Package of Social Sciences (SPSS) version 20. In the descriptive analysis of the data, we used simple and percentage frequency, mean, standard deviation, and the chi-squared test for variable comparison. We considered the significance level of  $p < 0.05$  and the confidence interval (CI) of 95%. We analyzed the structure of the support network in software Gephi 0.9.1 (Common Development and Distribution License and General Public License version 3; 2008-2016).

This project was approved by the local Research Ethics Committee (protocol no. 859.743). The study followed the directives preconized by the CNS 466/12 resolution for the development of research with human beings. We emphasize

that, after accepting to participate in the study, the students signed a Free and Informed Consent Form.

## RESULTS

Regarding the students' characteristics, there was a predominance of women, whites, singles, with family incomes of up to two minimum wages, and in the advanced stage of the nursing course, as shown in Table 1.

**Table 1** – Sociodemographic characteristics and social support perceived by the students – Ribeirão Preto, SP, Brazil, 2015.

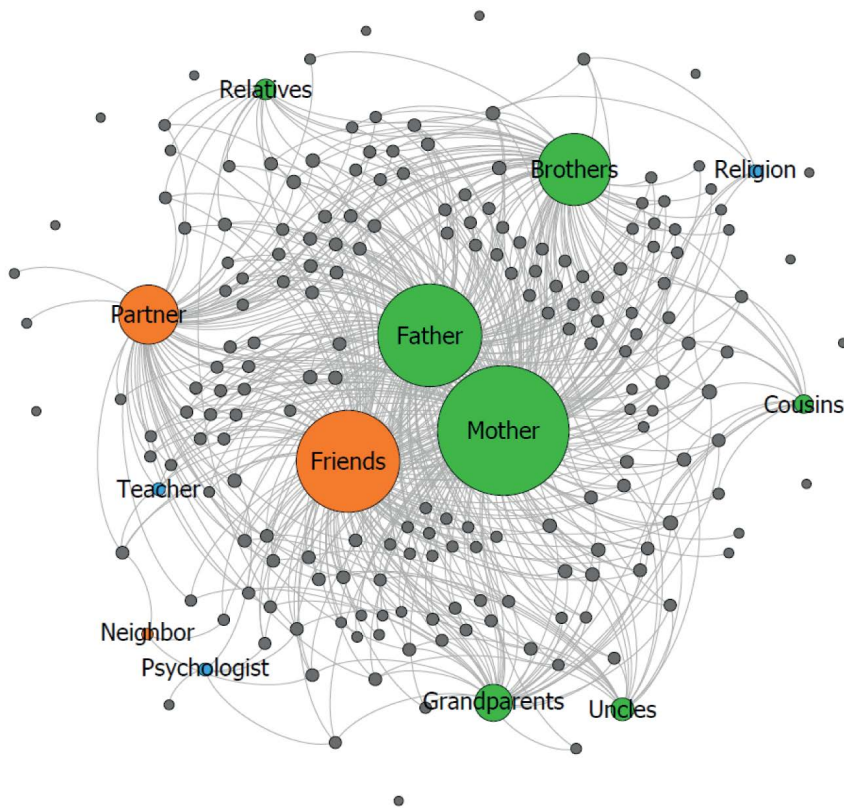
Characteristics	n(%)
<b>Gender</b>	
Female	169 (88.0)
Male	23 (12.0)
<b>Age range</b>	
18-20 years	104 (54.2)
21-38 years	88 (45.8)
<b>Skin color</b>	
White/Yellow	146 (76.0)
Black/Brown	40 (20.8)
Not informed	06 (3.2)
<b>Monthly Family Income</b>	
Up to 2 MW (< 1,448.99)	70 (36.4)
From 2 to 5 MW (1,449.00 – 3,620.99)	55 (28.6)
Over 5 MW (> 3,621.00)	63 (32.8)
Not informed	04 (2.2)
<b>Marital status</b>	
Without a partner	181 (94.2)
With a partner	10 (5.2)
Not informed	01 (0.6)
<b>Stage of the course</b>	
Beginning (1st or 2nd year)	86 (44.0)
Advanced (3rd, 4th, or 5th year)	106 (56.0)
<b>Number of supporters</b>	
Low	115 (59.9)
Good	77 (40.1)
<b>Level of support satisfaction</b>	
Low	73 (38.0)
High	119 (62.0)

MW: minimum wages.

Note: (n= 192)

The mean number of supporters identified in the sample was of 5 ( $\pm 2.40$ ), the majority of the participants presented a low number of supporters, with 12 students reporting to not count on any supporters. Regarding the satisfaction with the social support received, the mean score was of 5.5 ( $\pm 0.85$ ), and most students reported a high satisfaction level with the support.

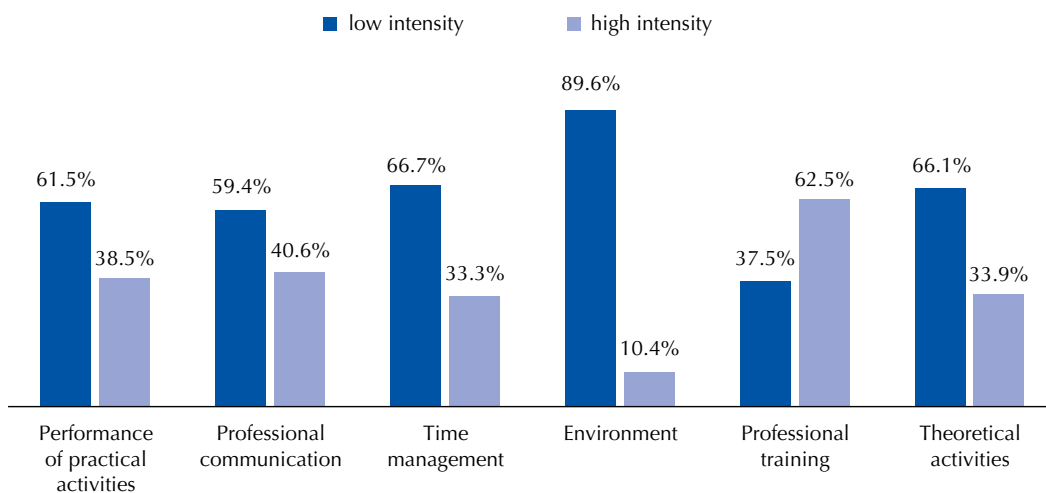
Figure 1 presents the mentioned supporters. Each gray circle corresponds to a participant, and the other colors refer to the supporter's category - family in green, formal supporters in blue, and informal supporters in orange. The size of the circles corresponds to the number of times each supporter was mentioned. Hence, the structural composition of the network denotes a predominance of family relations, especially of the mother figure. Furthermore, an expressive number of friends compose the students' networks.



**Figure 1** – Structural composition of the students’ support network – Ribeirão Preto, SP, Brazil, 2015.

Regarding stress, most presented low intensity in the different domains of the SENS instrument, except in the “Professional Training” domain. The situations

evaluated by the students as less stressful were those that composed the “Environment” domain, as presented in Figure 2.



**Figure 2** – Distribution of students according to the intensity of stress in the SENS domains – Ribeirão Preto, SP, Brazil, 2015.

The number of supporters was not associated with any of the evaluated stress domains, and the satisfaction with the social support was associated only to the theoretical activities

domain ( $p=0.02$ ), that is, the students that reported a high satisfaction level with the social support presented low intensity of stress in this domain.



## DISCUSSION

As observed in the results, despite counting on a small number of supporters, most students were satisfied with the support and presented low intensity of stress in the majority of the measured domains.

Some studies have been pointed out a certain relevance of the satisfaction with social support in detriment of the number of supporters itself<sup>(23-24)</sup>. Thus, it is understood that the reduced number of supporters may be a characteristic of contemporaneity, seeing that such result has been described in previous studies with other population groups<sup>(24-25)</sup>. Therefore, we understand that the number of supporters of the students seems not to have a specificity compared to the other populations.

An interesting finding was that the family constituted the main category of supporters, a result which corroborates previous studies performed with different populations<sup>(26-27)</sup>. However, seeing that the undergraduate nursing courses of public universities are generally offered full time, we expected that other supporters (formal and informal) would assume relevance in the participants' networks.

This hypothesis was partially confirmed in the studied sample because, despite the significant number of friends and family (informal supporters), the professors, for example, were mentioned as supporters albeit by a small portion of the students. This result emphasizes the importance of institutional investment to create more welcoming and humanized spaces in the university scope so to increment the availability of formal supporters who exert an important role concerning the academic and emotional requirements of these students.

This recommendation confirms previous studies, which pointed out the benefits of a more diversified support network for undergraduate students. That is, networks whose compositions are not restricted to family and friends help in the more effective coping of the typical adaptations of this life cycle<sup>(13-14,22)</sup>.

The fact that some students reported not having supporters may indicate an important situation of vulnerability in different scopes, given that low social support is considered a predictor of precarious physical and psychological health conditions<sup>(28-29)</sup>, besides negatively impacting the academic and social performance of such students<sup>(30)</sup>. Therefore, it is recommended strategies for developing social skills relative to the widening and/or qualification of the support networks with the purpose of preventing other difficulties that may enhance the daily stress or even culminate in conditions of illness.

Another important factor identified in our sample is that the students presented low intensity of stress in most of the evaluated domains, which contradicts the results of other studies, which have been highlighting theoretical-practical activities, time management, and professional communication as potential stressors<sup>(2,4-9)</sup>. This result may signal that such students count on a good repertoire of strategies for coping with stress, a repertoire that has been effective in dealing with the challenges of the academic environment and the course. On the other hand, such result may indicate that the support networks are being contingent and effective, or even that the institution to which the students belong

itself has made possible a teaching-learning process that considers the well-being of its academics.

Nevertheless, we observed that a large number of students reported the "professional training" domain as very stressful. This fact may be related, therefore, to student insecurity both in regards to the transition from the student role to the professional role and regarding the future entry into the highly competitive labor market, factors also observed in nursing students from other Brazilian universities<sup>(7,9)</sup>. The offering of support strategies for insertion into the labor market is a dimension of utmost importance to be explored by the universities, which could intensify actions that promoted information about the labor market, public tenders, and professional residency programs, as well as serve as an intermediary with potentially employing institutions.

Almost 90% of the students in this study reported a low intensity of stress in the environment domain, which concerns the distances between the home and the university and the use of public transport. In contrast, the literature shows divergent results in which this domain was evaluated as an element of high stress, justified by the long distances traveled by the students between home, practical activity locations, and theoretical classes, as well as slow traffic and precarious access to public transportation<sup>(5)</sup>.

We understand that such a result is related to the location of the students' homes, considering that most students live around the university. Besides, the easy access to public and/or private transportation, the existence of a system of hitchhikes among students, the dislocation in groups of individuals, and the location of the internship camps mostly in neighborhoods close to the university are particular characteristics of the studied sample and may undoubtedly have influenced this result.

Also, the results show that the students with higher levels of satisfaction with the social support presented lower intensity of stress regarding the fulfilling of theoretical activities proposed in the undergraduate course. In this sense, a previous study pointed out that peer support is effective in the accomplishment of theoretical activities, be it through study groups or by the help in managing other activities, allowing proper study time and constituting as a significant predictor of academic performance<sup>(30)</sup>.

The fact that social support was only associated with the theoretical activity domain suggest a possible direct effect between these variables and indirect in regards to the other domains. Thus, the reduction of student stress regarding theoretical activities would certainly be reached through interventions focused on the qualification of the social support available for these individuals. However, regarding the stressors of the other domains, additional studies are necessary to identify the possible mediators of this process, since increasing social support alone will probably not be effective.

In summary, the focus of this research was stress among nursing students, based on the understanding that this type of study contributes to the planning of strategies for mental health promotion in student daily life. Previous studies pointed out effective strategies to minimize stress and improve the well-being of students, such as Mindfulness<sup>(15-16)</sup>, the biofeedback method<sup>(17)</sup>, and auriculotherapy<sup>(18)</sup>. However,

this study advanced in the sense of making explicit that the coping resources such as social support have different effects on each type of stressor and that this should be considered in the planning of actions to promote mental health. Thus, the proposed discussions are of great relevance for nurses that work on promoting health in a school/academic context as well as those involved in teaching management.

This study also contributes to widening the debate about the proposals of reformulating the curriculum of nursing courses, assuming that understanding the issues related to student stress and well-being should be taken into consideration in this reformulation. The need to intensify the teaching strategies that enable the assimilation of knowledge in practical terms should be considered, seeing they may provide more safety to the students regarding their future professional lives. Besides, the implementation of support strategies for insertion into the labor market is indispensable due to the stress this challenge entails, especially in the current conjuncture of economic instability.

Regarding this study's limitations, we understand that a broader sample including students from public and private universities could promote more promising results about the population of nursing students in general and would make possible the discussion about possible institutional differences concerning the provision of social support. Also, the inclusion of a qualitative component to this investigation would widen the possibilities of debate in regards to more subjective aspects related to the reported stressors and the possible mediators in the relation between this stress and social support.

## CONCLUSION

Considering stress and social support as relevant indicators of the subjects' mental health, we identified that, although students reported a small number of supporters, most were satisfied with the perceived social support. Family support assumed relevance in the participants' network, with the maternal figure standing out. Regarding the number of supporters, we did not identify specificities concerning the populations analyzed in previous studies.

In regards to stress, the students presented low intensity for the majority of measured domains, with the exception of the "professional training" domain, thus suggesting insecurity about the transition from the student role to the professional role, and the entry into the highly competitive labor market.

This study's findings also denote that the level of satisfaction with social support was related to the low intensity of stress regarding the fulfillment of theoretical activities of the undergraduate course, thus signaling the direct effect of social support in this aspect. The possible indirect effect of social support on the other evaluated stress domains emphasizes the importance of considering that the coping resources have different effects according to the type of stressor, a factor that the planning of health promotion actions in the academic environment must take into account.

The creation of more welcoming spaces in the academic environment, as well as strategies to improve the transition from the student stage to the professional phase are important recommendations to increment the coping and adaptation modes of these students to the stressing situations, and will undoubtedly contribute to positive outcomes regarding their emotional well-being, academic performance, and future professional practice.

## RESUMO

**Objetivo:** Analisar a percepção de estresse e de apoio social dos estudantes de enfermagem, considerando o número de apoiadores e a satisfação com eles. **Método:** Estudo quantitativo, transversal, realizado com estudantes de enfermagem de uma universidade pública do interior de São Paulo. Utilizou-se da Escala de Avaliação de Estresse em Estudantes de Enfermagem e do Questionário de Suporte Social. Foi empreendido o teste de qui-quadrado, e a estrutura da rede de apoio foi analisada no *software* Gephi 0.9.1. **Resultados:** Participaram 192 estudantes. A família e os amigos foram os apoiadores mais mencionados. Apesar de contarem com baixa quantidade de apoiadores, a maioria dos participantes estava satisfeita com o apoio percebido. Os estudantes apresentaram intensidade alta de estresse no domínio "formação profissional". Além disso, os estudantes que estavam satisfeitos com o apoio social percebido apresentaram baixa intensidade de estresse no cumprimento das atividades teóricas da graduação. **Conclusão:** A criação de espaços mais acolhedores no ambiente acadêmico, a qualificação do apoio social e as estratégias para melhorar a transição da etapa de estudante para a de profissional são importantes recomendações que contribuirão para desfechos positivos em relação ao enfrentamento do estresse dos estudantes.

## DESCRITORES

Estudantes de Enfermagem; Estresse Psicológico; Apoio Social; Saúde Mental.

## RESUMEN

**Objetivo:** Analizar la percepción de estrés y de apoyo social de los estudiantes de enfermería, considerando el número de apoyadores y la satisfacción con ellos. **Método:** Estudio cuantitativo, transversal, realizado con estudiantes de enfermería de una universidad pública del interior de São Paulo. Se utilizó la Escala de Evaluación de Estrés en Estudiantes de Enfermería y el Cuestionario de Soporte Social. Fue emprendida la prueba de Chi cuadrado, y la estructura de la red de apoyo fue analizada en el *software* Gephi 0.9.1. **Resultados:** Participaron 192 estudiantes. La familia y los amigos fueron los apoyadores más mencionados. A pesar de contar con baja cantidad de apoyadores, la mayoría de los participantes estaba satisfecha con el apoyo percibido. Los estudiantes presentaron intensidad alta de estrés en el dominio "formación profesional". Además, los estudiantes que estaban satisfechos con el apoyo social percibido presentaron baja intensidad de estrés en el cumplimiento de las actividades teóricas del pregrado. **Conclusión:** La creación de espacios más acogedores en el entorno académico, la calificación del apoyo social y las estrategias para mejorar la transición de la etapa de estudiante a la de profesional son importantes recomendaciones que contribuirán a resultados positivos con relación al enfrentamiento del estrés de los estudiantes.

## DESCRIPTORES

Estudiantes de Enfermería; Estrés Psicológico; Apoyo Social; Salud Mental.

## REFERENCES

1. Deasy C, Coughlan B, Pironon J, Jourdan D, Mannix-McNamara P. Psychological distress and coping amongst higher education students: a mixed method enquiry. *PLoS One* [Internet]. 2014 [cited 2015 Jan 25];9(12):e115193. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4266678/>
2. Tomaszewski-Barlem JG, Lunardi VL, Ramos AM, Silveira RS, Barlem ELD, Ernandes CM. Signs and symptoms of the burnout syndrome among undergraduate nursing students. *Texto Contexto Enferm* [Internet]. 2013 [cited 2015 Jan 25];22(3):754-62. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-07072013000300023&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072013000300023&lng=en)
3. Costa ALS, Polak C. Construction and validation of an instrument for the assessment of stress among nursing students. *Rev Esc Enferm USP* [Internet]. 2009 [cited 2015 Jan 17]; 43(n.spe):1017-26. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0080-62342009000500005&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342009000500005&lng=en)
4. Hirsch CD, Barlem ELD, Tomaszewski-Barlem JG, Lunardi VL, Oliveira ACCD. Predictors of stress and coping strategies adopted by nursing students. *Acta Paul Enferm* [Internet]. 2015 [cited 2015 Jan 20];28(3):224-9. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0080-62342009000500005](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342009000500005)
5. Bublitz S, Oliveira Freitas E, Kirchhof RS, Lopes LFD, Azevedo Guido L. Stressors among nursing students at a public university. *Rev Enferm UERJ* [Internet]. 2013 [cited 2016 June 25]; 20(6):739-45. Available from: <http://www.e-publicacoes.uerj.br/index.php/enfermagemuerj/article/view/5992/4301>
6. Chopra ASM, Adiba S, Mithra P, Bhardwaj A, Chikkara RAP, Rathinam RD, et al. A descriptive study of perceived stress among the North Indian nursing undergraduate students. *Iran J Nurs Midwifery Res* [Internet]. 2013 [cited 2016 June 25];18(4):340-2. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3872872/>
7. Soares MH, Oliveira FS. The relation between alcohol, tobacco and stress in nursing students. *SMAD Rev Eletr Saúde Mental Álcool Drog* [Internet]. 2013 [cited 2016 June 25];9(2):88-94. Available from: <https://www.revistas.usp.br/smad/article/view/79661>
8. Bublitz S, Guido LA, Lopes LFD, Freitas EO. Association between nursing students' academic and sociodemographic characteristics and stress. *Texto Contexto Enferm* [Internet]. 2016 [cited 2016 Oct 17];25(4):e2440015. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-07072016000400327&lng=en](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072016000400327&lng=en)
9. Benavente SBT, Silva RM, Higashi AB, Guido LA, Costa ALS. Influence of stress factors and socio-demographic characteristics on the sleep quality of nursing students. *Rev Esc Enferm USP* [Internet]. 2014 [cited 2016 Oct 17];48(3):514-20. Available from: [http://www.scielo.br/pdf/reeusp/v48n3/pt\\_0080-6234-reeusp-48-03-514.pdf](http://www.scielo.br/pdf/reeusp/v48n3/pt_0080-6234-reeusp-48-03-514.pdf)
10. Silva TCD, Barros, PGD, Pinto ML, Lacerda SNB, Medeiros ALDF, Figueiredo TMRMD. Coping strategies used by students of the graduate nursing program. *J Nurs UFPE on line* [Internet]. 2015 [cited 2016 Oct. 17]; 9(9):9937-44. Available from: [http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/9128/pdf\\_8929](http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/9128/pdf_8929)
11. Shaban IA, Khater WA, Akhu-Zaheya LM. Undergraduate nursing students' stress sources and coping behaviours during their initial period of clinical training: a Jordanian perspective. *Nurse Educ Pract*. 2012;12(4):204-9.
12. Fornés-Vives J, Garcia-Banda G, Frias-Navarro D, Rosales-Viladrich G. Coping, stress, and personality in Spanish nursing students: a longitudinal study. *Nurse Educ Today*. 2016;36:318-23.
13. Reeve KL, Shumaker CJ, Yearwood EL, Crowell NA, Riley JB. Perceived stress and social support in undergraduate nursing students' educational experiences. *Nurse Educ Today*. 2013;33(4):419-24.
14. Yıldırım N, Karaca A, Cangur S, Acikgoz F, Akkus D. The relationship between educational stress, stress coping, self-esteem, social support, and health status among nursing students in Turkey: A structural equation modeling approach. *Nurse Educ Today*. 2017;48:33-9.
15. Spadaro KC, Hunker DF. Exploring The effects of an online asynchronous mindfulness meditation intervention with nursing students on stress, mood, and cognition: a descriptive study. *Nurs Educ Today*. 2016;39:163-9.
16. Song Y, Lindquist R. Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students. *Nurse Educ Today*. 2015;35(1):86-90.
17. Ratanasiripong P, Ratanasiripong N, Kathalae D. Biofeedback intervention for stress and anxiety among nursing students: a randomized controlled trial. *ISRN Nurs*. 2012;2012:827972.
18. Prado JM, Kurebayashi LFS, Silva MJP. Efficacy of auriculotherapy for the reduction of stress in nursing students: a randomized clinical trial. *Rev Latino Am Enfermagem* [Internet]. 2012 [cited 2015 Jan 17];20(4):727-35. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-11692012000400013](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692012000400013)
19. Stein ER, Smith BW. Social support attenuates the harmful effects of stress in healthy adult women. *Soc Sci Med*. 2015;146:129-36.
20. Åslund C, Larm P, Starrin B, Nilsson KW. The buffering effect of tangible social support on financial stress: influence on psychological well-being and psychosomatic symptoms in a large sample of the adult general population. *Int J Equity Health* [Internet]. 2014 [cited 2017 Sept 02];13:85. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4189745/>
21. Sarason IG, Sarason BR, Shearin EN, Pierce GR. A brief measure of social support: Practical and theoretical implications. *J Soc Pers Relat*. 1987;4(4):497-510.
22. Bíró É, Veres-Balajti I, Kósa K. Social support contributes to resilience among physiotherapy students: a cross sectional survey and focus group study. *Physiotherapy*. 2016;102(2):189-95.
23. Winefield HR, Delfabbro PH, Winefield AH, Plueckhahn T, Malvaso CG. Adolescent predictors of satisfaction with social support six years later: an Australian longitudinal study. *J Adolesc*. 2015;44:70-6.
24. Souza J, Luis MAV, Ventura CAA, Santos CB. Perception of social support: a comparative study between men with and without substance-related disorders. *J Subst Use*. 2016;21(1):92-7.
25. Goodman SH, Bakeman R, McCallum M, Rouse MH, Thompson SF. Extending models of sensitive parenting of infants to women at risk for perinatal depression. *Parent Sci Pract*. 2017;17(1):30-50.

26. Lasebikan VO, Owoaje ET, Asuzu MC. Social network as a determinant of pathway to mental health service utilization among psychotic patients in a Nigerian hospital. *Ann Afr Med [Internet]*. 2012 [cited 2017 set. 02]; 1:12–20.
27. Leonidas C, Crepaldi MA, Santos MA. Bulimia nervosa: a link between emotional aspects and social support network. *Psicol Teor Prat [Internet]*. 2013 [cited 2017 set. 02]; 15(2): 62-75. Available from: [http://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1516-36872013000200005](http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1516-36872013000200005)
28. Holt-Lunstad J, Smith TB. Loneliness and social isolation as risk factors for mortality. a meta-analytic review. *Perspect Psychol Sci*. 2015;10(2):227-37.
29. Cacioppo JT, Cacioppo S, Capitanio JP, Cole SW. The Neuroendocrinology of Social Isolation. *Annu Rev Psychol*. 2015;66:733-67.
30. Santos AS, Oliveira CT, Dias ACG. Characteristics of the relationship between college students and their peers: implications for adjustment to college. *Psicol Teor Prat [Internet]*. 2015 [cited 2017 Sept 02]; 17(1):150-63. Available from: [http://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1516-36872015000100013](http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1516-36872015000100013)

---

### Financial support

*Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). Process no. 100611/2015-0.*

---



This is an open-access article distributed under the terms of the Creative Commons Attribution License.