



## Factors associated with well-being in primary care professionals

### *Fatores associados ao bem-estar em profissionais da atenção primária*

### *Factores asociados con el bienestar de profesionales de la atención primaria*

**Vânia Hercília Talarico Bruno** 

State University Paulista (*Universidade Estadual Paulista*) - Botucatu (SP) - Brazil

**Ivan da Silva Beteto** 

State University Paulista (*Universidade Estadual Paulista*) - Botucatu (SP) - Brazil

**Pedro Henrique Leonel Habimorad** 

State University Paulista (*Universidade Estadual Paulista*) - Botucatu (SP) - Brazil

**Hélio Rubens Carvalho Nunes** 

State University Paulista (*Universidade Estadual Paulista*) - Botucatu (SP) - Brazil

**Karina Pavão Patrício** 

State University Paulista (*Universidade Estadual Paulista*) - Botucatu (SP) - Brazil

#### ABSTRACT

**Objective:** To investigate factors associated with subjective well-being (SWB) in Primary Health Care (PHC) professionals. **Methods:** Cross-sectional study conducted in 2017 with 142 PHC professionals from a city in São Paulo State who answered the instruments: SWB Scale (SWBS), Connectedness to Nature Scale (CNS); Maslach Burnout Inventory (MBI); Self-Reported Health Status (SRHS); sociodemographic questionnaire. Statistical analysis was applied and adjusted for multiple linear regression models, with normal responses to explain scores of the three domains of the SWBS scale as a function of the statistically stronger independent variables ( $p < 0.20$ ) in former bivariate analysis. It was considered statistically significant if  $p < 0.05$ . **Results:** Sample with a predominance of females ( $n=116$ ; 81.7%), white self-assigned skin colour ( $n=123$ ; 86.6%), aged up to 35 years ( $n=77$ ; 54.2%), married or in a stable relationship ( $n=91$ ; 64.1%), graduated or postgraduate ( $n=83$ ; 58.5%) and health workers for more than 5 years ( $n=102$ ; 71.8). Higher levels of SWB associated with schooling (being undergraduate or graduate,  $p=0.039$ ) and underage (over 35 years,  $p=0.025$ ), bad or very bad SRHS ( $p=0.005$  for life satisfaction and  $p=0.028$  for positive affects), hospitalization in the last year ( $p=0.017$ ), living alone ( $p=0.007$ ) and Burnout ( $p=0.004$  in the overall score and  $p=0.030$  in the depersonalization dimension of the MBI). **Conclusion:** Sociodemographic aspects (over 35 years old and living alone) negatively impact the well-being of the professionals investigated as poor health status and work-related stress level. Having an undergraduate or graduate degree can promote life satisfaction.

**Descriptors:** Health Personnel; Primary Health Care; Burnout; Occupational Health; Environmental Health.

#### RESUMO

**Objetivo:** Investigar fatores associados ao bem-estar subjetivo (SWB) em profissionais da Atenção Primária a Saúde (APS). **Métodos:** Estudo transversal realizado em 2017 com 142 profissionais da APS de um município paulista que responderam aos instrumentos: Escala de SWB (ESWB), Escala de Conexão com a Natureza (ECN); Maslach Burnout Inventory (MBI); Estado de Saúde Autorreferido (ESA); Questionário sociodemográfico. Aplicou-se análise estatística, ajustados modelos de regressão linear múltipla, com resposta normal para explicar pontuações dos 3 domínios da escala ESWB, em função das variáveis independentes estatisticamente mais fortes ( $p < 0,20$ ), em análise prévia bivariada. Considerou-se estatisticamente significativo se  $p < 0,05$ . **Resultados:** Amostra com predomínio de pessoas do sexo feminino ( $n=116$ ; 81,7%), cor da pele autoatribuída branca ( $n=123$ ; 86,6%), idade até 35 anos ( $n=77$ ; 54,2%), casadas ou em união estável ( $n=91$ ; 64,1%), com graduação ou pós ( $n=83$ ; 58,5%) e trabalhadoras da saúde há mais de 5 anos ( $n=102$ ; 71,8). Maiores níveis de SWB associados à escolaridade (ter graduação ou pós,  $p=0,039$ ) e menores à idade (acima de 35 anos,  $p=0,025$ ), ESA ruim ou muito ruim ( $p=0,005$  para satisfação com a vida e  $p=0,028$  para afetos positivos), hospitalização no último ano ( $p=0,017$ ), morar sozinho ( $p=0,007$ ) e burnout ( $p=0,004$  na pontuação geral e  $p=0,030$  na dimensão "despersonalização" do MBI). **Conclusão:** Aspectos sociodemográficos (idade acima



This Open Access article is published under the a Creative Commons license which permits use, distribution and reproduction in any medium without restrictions, provided the work is correctly cited

Received on: 11/22/2020

Accepted on: 06/10/2021

de 35 anos e residir sozinho) impactam negativamente o bem-estar dos profissionais investigados, assim como condição ruim de saúde e grau de estresse relacionado ao trabalho. Ter graduação ou pós pode favorecer a satisfação com a vida.

**Descritores:** Pessoal da Saúde; Atenção Primária à Saúde; Burnout; Saúde do Trabalhador; Saúde Ambiental.

## RESUMEN

**Objetivo:** Investigar los factores asociados con el bienestar subjetivo (SWB) de profesionales de la Atención Primaria de Salud (APS). **Métodos:** Estudio transversal realizado en 2017 con 142 profesionales de la APS de un municipio de São Paulo que contestaron a los siguientes instrumentos: la Escala de SWB (ESWB), la Escala de Conexión con la Naturaleza (ECN); el Maslach Burnout Inventory (MBI); el Estado de Salud Auto referido (ESA); el Cuestionario sociodemográfico. Se aplicó el análisis estadístico, ajustados modelos de regresión lineal múltiple con respuesta normal para explicar las puntuaciones de los 3 dominios de la escala ESWB, según las variables independientes estadísticamente más fuertes ( $p < 0,20$ ), en análisis previo bivariado. Se ha considerado estadísticamente significativo si  $p < 0,05$ . **Resultados:** Hubo el predominio de personas del sexo femenino ( $n=116$ ; 81,7%), del color de piel blanco auto atribuido ( $n=123$ ; 86,6%), edad hasta los 35 años ( $n=77$ ; 54,2%), casadas o en unión estable ( $n=91$ ; 64,1%), con graduación o post grado ( $n=83$ ; 58,5%) y trabajadoras del área de la salud desde hace más de 5 años ( $n=102$ ; 71,8). Mayores niveles de SWB asociados con la escolaridad (tener graduación o post grado  $p=0,039$ ) y los menores de edad (por encima de los 35 años,  $p=0,025$ ), malo o muy malo ESA ( $p=0,005$  para la satisfacción con la vida y la  $p=0,028$  para los afectos positivos), la hospitalización del último año ( $p=0,017$ ), vivir solo ( $p=0,007$ ) y burnout ( $p=0,004$  para la puntuación general y  $p=0,030$  para la dimensión "despersonalización" del MBI). **Conclusión:** Los aspectos socio demográficos (por encima de los 35 años y vivir solo) impactan negativamente en el bienestar de los profesionales investigados, así como la mala condición de salud y el grado de estrés relacionado con el trabajo. Tener graduación o post grado puede favorecer la satisfacción con la vida.

**Descritores:** Personal de Salud; Atención Primaria de Salud; Agotamiento Profesional; Salud Laboral; Salud Ambiental.

---

## INTRODUCTION

In the health field, it is known that the professionals' subjective well-being (SWB) is a relevant factor for empathic welcoming and patient care<sup>(1)</sup>. However, the chronic work-related stress situation on doctors and other health professionals worldwide is notorious<sup>(2,3)</sup>. The prevalence of Burnout Syndrome (BS) in health professionals can reach 76%, depending on the category investigated, favouring physical, mental, and emotional exhaustion, in addition to the possibility of harming the quality of services provided by them<sup>(4,5)</sup>. A systematic literature review concluded that low levels of well-being, together with high levels of occupational stress in health professionals, are associated with a worse quality of care, greater professional distance, which even favours lower patient safety about medical errors<sup>(5)</sup>.

The SWB is a complex topic and involves different perceptions and concepts, and its three principal dimensions can be considered: satisfaction with life, positive affects, and negative affects. Current evidence shows that the greater the subjective well-being, the greater the longevity, and the better the indicators of physical and mental health, as the quality of social relationships and work performance, including in health professionals<sup>(6-8)</sup>.

The literature points to a wide range of factors associated with SWB, including sociodemographic aspects, lifestyle, marital, social, and work relationships<sup>(9-10)</sup>. The promotion of connection with nature has also been investigated as a generator of well-being and capable of interfering in the genesis of stress, preventing the appearance of BS signs and symptoms<sup>(10,11)</sup>. In this sense, the concept of connection with nature, which aims to translate the subject's sense of belonging to the environment, has also been associated with SWB. There is evidence that individuals with a greater connection with nature demonstrate higher life satisfaction, positive affects, and vitality levels<sup>(11-13)</sup>.

Investigations on the SWB in different professional categories concerning the occupational health field are still few in Brazil. An extensive survey conducted in 23 Brazilian states with more than 47 thousand workers in the industrial area showed that self-perception of well-being is high in this professional category (93% positive evaluation)<sup>(14)</sup>. However, among university professors ( $n=83$ ), high levels of negative affect were found (77.8% in the 75th percentile or above), and Primary Health Care (PHC) professionals also had higher negative affect values related to the positive, in the sample of 450 professionals investigated in a region of the city of São Paulo<sup>(15,16)</sup>.

PHC professionals - who are responsible for the reception, care, and resolution of about 80% of the health problems of the Brazilian population - are exposed to several stressors and exhibit high levels of occupational stress, which impact their lives and the quality of assistance provided to the population<sup>(16-18)</sup>.

Based on the above literature, the hypothesis was established that the subjective well-being of PHC professionals could be positively associated with a greater connection with nature, lower levels of work-related stress, better

health conditions (including the habit of practicing physical activity), less work overload and some sociodemographic conditions (higher income, schooling, not living alone). The interest in the current research turned to the need, with these associations evidenced, to stimulate the well-being and health promotion of these professionals through contact with natural environments (which leads to greater connection with nature), stress management, and encouraging the adoption of group practices that favor a healthy lifestyle. Furthermore, it reinforces the need to inspire professional qualification and recognition of work by health managers. Interventions that incorporate these approaches can improve the health, well-being, and increase health behaviors of this population<sup>(7)</sup>.

Thus, the present study aimed to investigate factors associated with subjective well-being (SWB) in Primary Health Care (PHC) professionals, in which the investigated factors are presented as the connection with nature, professional Burnout, the self-reported health status, and sociodemographic variables.

## METHODS

It is a cross-sectional study conducted with 142 PHC professionals, working in 15 different professional categories, in a countryside city of São Paulo State, Botucatu, with an estimated population of 148.130 thousand inhabitants and a Human Development Index (HDI) of 0.8, according to the Brazilian Institute of Geography and Statistics (IBGE, 2021)<sup>(19)</sup>.

Data collection took place in July 2017 and the inclusion criteria were: age equal to or over 18 years old, being a health professional (technical level or higher), working in the PHC of the municipality of Botucatu, and consenting to participate in the study.

During this period, 362 health professionals worked in the local PHC network, distributed in 22 health units and working in 13 professional categories (according to a list provided by the Municipal Health Department), being: 46 community health agents, 99 assistants, and 31 nursing technicians, 35 nurses, 22 dental office assistants, 25 dental surgeons, 18 pharmacy technicians, 06 pharmacists, 03 psychologists, 02 physiotherapists, 03 speech therapists, 04 nutritionists, and 68 doctors.

The sample size was obtained based on a calculation of the correlation estimate extracted from the meta-analysis<sup>(13)</sup>, the test power of 0.8 was considered, with a type I error of 0.05 and the adopted significance level of 0.05 ( $p < 0.05$ ). After calculating the minimum sample number (minimum  $n=135$ ), the professionals working in the Basic Health Units (BHU) and Family Health Strategies (FHS) were drawn, respecting the proportionality of each professional category. Subsequently, the professionals working in the Family Health Support Center (NASF) were added since, at the time, they belonged and exercised activities in the PHC in this investigated municipality. With this, two more professional categories were included: social workers and physical educators, so that the final sample consisted of 142 professionals.

For investigation and data collection, the following instruments were applied:

- a) Subjective Well-Being Scale (SWBS): it is an instrument developed and validated in Brazil for subjective well-being assessment in populations without mental disorders<sup>(20)</sup>. It is composed of two subscales, and in subscale 1, the research subject is invited to reflect on how he has been feeling lately, through the classification of different affects (47 in total) on a 05-point Likert scale, ranging from 1 (not at all) to 5 (extremely). Affects are classified into positive affects (21 in total) and negative affects (26 in total). The analysis of subscale 1 can be done by evaluating the average score for positive and negative affect. In subscale 2, the subject must evaluate 15 statements concerning satisfaction with their own life on a 05-point Likert scale, with 1 (strongly disagree) and up to 5 (strongly agree). In the latter, it is possible to evaluate oneself through the average score obtained for the statements. Higher scores for the dimensions of positive affect and life satisfaction represent higher levels of SWB. On the other hand, higher scores for the negative affects dimension represent lower levels of SWB.
- b) Connectedness to Nature Scale (CNS): is an instrument translated and validated in Brazil to assess how much a person feels integrated and connected to the environment from an affective and individual perspective<sup>(21)</sup>. It contains 14 items, which must be answered on a five-point Likert-type scale, whose intensity of response varies from 1 (strongly disagree) to 5 (strongly agree). The score can range from 14 to 70, and the higher the score, the greater the connection with nature. The value calculated for the Cronbach coefficient of the instrument validated in Brazil was 0.82, and in this study, it was 0.77, thus demonstrating similarity between the internal consistency obtained with this sample and the consistency obtained in the work that validated the instrument in Brazil<sup>(21)</sup>.

- c) Maslach Burnout Inventory (MBI): is a 22-question questionnaire translated and valid for the Brazilian reality, which identifies the symptomatologic dimensions of the Burnout Syndrome (BS) - Emotional Tiredness, Depersonalization, and Personal Fulfillment. Item scoring adopts a Likert-type scale ranging from zero to six, as follows: (0) never, (1) once a year or less, (2) once a month or less, (3) sometimes not a month, (4) once a week, (5) a few times a week, and (6) every day. Subjects can be classified as SB if they score at least one of the 03 dimensions at a severe level (emotional tiredness and/or depersonalization in the high category and/or personal fulfillment at a low level)<sup>(22)</sup>.
- d) Self-Reported Health Status: is a measure used by the Ministry of Health through the “Surveillance of risk factors and protection for Chronic Diseases by telephone survey” (VIGITEL) which is part of the Surveillance of Risk Factors for Chronic Non-Communicable Diseases (CNCDs) of the Ministry of Health. This measure can be classified as very poor, poor, regular, good, or very good<sup>(23)</sup>.
- e) Sociodemographic questionnaire: for a better design and characterization of the sample, variables related to work and lifestyle were investigated, which in other studies have already been shown to be associated with well-being<sup>(8-10)</sup>. For this, a specific instrument was developed for this study, considering the items: income, race (self-attributed), age, schooling, daily work hours, time working in the health area and time in the same service, housing (living alone or with other people), the habit of physical activity and hospitalization in the last year.

Data collection was carried out through the application of these 05 instruments provided to health professionals drawn to compose the sample in their respective work units. The guidelines for filling in to each participant were clarified, and the collection of questionnaires was agreed upon after one week. But it is noteworthy that only in four units there was time for employees to answer the questionnaires at the time of the visit.

The Collective Health Research Unit (UP and SC) of the Botucatu Medical School/ UNESP team tabulated data. Although double-entry was not performed, data were explored in search of outliers' values and their correction before performing the statistical analysis of the data.

Multiple linear regression models with normal response were adjusted to explain the SWBS scale scores in each domain as a function of the statistically stronger independent variables ( $p < 0.20$ ) identified in former bivariate analysis. Statistically significant associations were considered if  $p < 0.05$ , in addition to using the SPSS v 21 software to perform the analysis.

This project received the Assent of No. 2,104,025 by the Research Ethics Committee (CEP).

## RESULTS

The study sample consisted mostly of females ( $n=116$ ; 81.7%), white self-assigned skin colour ( $n=123$ ; 86.6%), aged up to 35 years ( $n=77$ ; 54.2%), married or in a stable relationship ( $n=91$ ; 64.1%), undergraduate or graduated ( $n=83$ ; 58.5%) and who had been working in the health area for more than 5 years ( $n=102$ ; 71.8%) - among these, 48.6% ( $n=69$ ) for more than 10 years. One third of the sample ( $n=47$ ; 33.1%) had a daily workload above 08 hours a day and declared an income higher than 5 minimum wages ( $n=49$ ; 34.5%). Less than half of the professionals ( $n=45$ ; 31.7%) had worked in the same service for more than 10 years, and 10.6% ( $n=15$ ) had been hospitalized last year. Regarding the practice of regular physical activity, only 45.8% ( $n=65$ ) reported having the habit, with walking and gym activities being most cited.

The distribution of the sample concerning the different professional categories is shown in Table I, being done proportionally as described in the methodology, consisting of 23.2% of nursing assistants, 15.5% of physicians, 12% of community agents, 10.6% of nurses, and the other categories with less than 10% representation.

Because all independent variables are categorical, it was not possible to calculate the average of them. However, the mean scores and their respective standard deviations (SD), obtained in the different dimensions of well-being assessed using the ESWB scale, were: 3.23 (SD 0.67) for positive affects; 2.15 (SD 0.61) for negative affects; and 3.69 (SD 0.66) for life satisfaction.

The prevalence of SB resulted in 48.6% (considering the high score in the dimension “Depersonalization”). The classification percentages for the low, medium and high levels of the three different dimensions of the BS were given, respectively, by: Emotional Exhaustion (57.7%; 27.5% and 14.8%); Depersonalization (19.7%; 31.7% and 48.6%); Personal achievement (1.4%; 0.7% and 97.9%).



Table I - Distribution of professionals participating in the research by category. PHC professionals. Botucatu, São Paulo, Brazil, 2017.

Professional category	Number of participants	%
Community health agent	17	12.0
Dental Assistant	6	4.2
Nursing assistant	33	23.2
Pharmacy assistant	6	4.2
Dentist	9	6.3
Nurse	15	10.6
Pharmaceutical	3	2.1
Speech therapist	1	0.7
Physical therapist	5	3.5
Doctor	22	15.5
Nutritionist	7	4.9
Psychologist	4	2.8
Nursing Technician	10	7.0
Physical educator	2	1.4
Social worker	2	1.4
<b>Total</b>	<b>142</b>	<b>100.0</b>

In the Connectedness to Nature Scale (CNS), in turn, a score of 53.97 with a standard deviation of 8.7 was obtained, with the mean value of the averages of the answers being 3.85.

Regarding the associations of interest for this study, Tables II, III and IV present the results obtained by adjusting multiple linear regression models based on the variables most strongly associated ( $p < 0.20$ ) with the outcomes. As for the indication of statistically significant associations, it is in bold.

Table II presents the analysis of the factors associated with the life satisfaction dimension of the Subjective Well-Being Scale (SWBS). On average, subjects over 35 years of age had 0.207 points lower in the score in the life satisfaction dimension compared to subjects under 35 years of age ( $\beta = -0.207$ ; 95%CI (-0.388 – -0.025);  $p = 0.025$ ); undergraduate or graduated subjects had a mean score of 0.241 above the score obtained by subjects with less education ( $\beta = 0.241$ ; 95%CI (0.012 – 0.470);  $p = 0.039$ ); on the other hand, subjects with self-reported health status as regular, poor or very poor had lower scores than subjects who reported better health status ( $\beta = -0.276$ ; 95%CI (-0.469 – -0.083);  $p = 0.005$ ) and, finally, subjects who were hospitalized in the last year had lower scores than subjects not hospitalized in the last year ( $\beta = -0.355$ ; 95%CI (-0.646 – -0.065);  $p = 0.017$ ).

In turn, Table III presents the analysis of factors associated with the positive affects dimension of the SWBS. On average, people who reported poor, regular, or very poor health had lower scores in the dimension of positive affects ( $\beta = -0.244$ ; 95%CI (-0.462 – -0.027);  $p = 0.028$ ). In addition, there was a statistically significant and inverse correlation between depersonalization score and positive affect score, with the higher the depersonalization score, the lower the positive affect score ( $\beta = -0.086$ ; 95%CI (-0.165 – -0.008);  $p = 0.030$ ).

The other variables investigated did not show statistical significance with  $p \geq 0.05$ .

Table II - Factors associated with the life satisfaction dimension of the Subjective Well-Being Scale (SWBS) in primary care professionals (n=142). Botucatu, São Paulo, Brazil, 2017.

Variable	Category	B	95%CI		p
<b>Race</b>	White, yellow (Ref.)				
	brown, black	-0.145	-0.422	0.132	0.306
Age	< 35 years old (Ref.)				
	<b>&gt; 35 years old</b>	-0.207	-0.388	-0.025	0.025
Marital Status	Single, divorced, widowed (Ref.)				
	Married, stable union	0.194	-0.29	0.417	0.089
Schooling	Ungraduated (Ref.)				
	<b>Ungraduated, Graduates</b>	0.241	0.012	0.470	0.039
Income	Less than 5 minimum wages (Ref.)				
	Higher than 5 minimum wages	0.073	-0.156	0.302	0.531
<b>Housing</b>	Lives with other people (Ref.)				
	Lives alone	-0.303	-0.620	0.014	0.061
<b>Self-reported health status</b>	Good, Very Good (Ref.)				
	<b>Regular, Poor, Very Poor</b>	-0.276	-0.469	-0.083	0.005
<b>Hospitalization in the last year</b>	No (Ref.)				
	<b>Yes</b>	-0.355	-0.646	-0.065	0.017
<b>Score in the different Maslach Scale dimensions</b>	General	0.038	-0.029	0.105	0.270
	Emotional exhaustion	-0.057	-0.136	0.023	0.163
	Depersonalization	-0.052	-0.127	0.023	0.177
	<b>Burnout Inventory</b>	Personal Achievement	-0.048	-0.118	0.021

$\beta$ : Estimate of adjusted regression model coefficients; 95%CI: 95% confidence interval for the adjusted model population coefficient; p: P-value associated with the hypothesis test of the adjusted regression model coefficients.

Table III - Factors associated with the positive affect dimension of the Subjective Well-Being Scale (SWBS) in primary care professionals (n=142). Botucatu, São Paulo, Brazil, 2017.

Variable	Category	B	95%CI		p
<b>Marital status</b>	Single, divorced, widowed (Ref.)				
	Married, stable union	0.030	-0.192	0.253	0.789
<b>Children</b>	No (Ref.)				
	Yes	0.123	-0.09	0.336	0.257
<b>Income</b>	Less than 1 minimum wage (Ref.)				
	From 1 to 3 minimum wages	-0.498	-1.148	0.151	0.132
	From 3 to 5 minimum wages	-0.540	-1.194	0.113	0.105
	From 5 to 10 minimum wages	-0.364	-1.032	0.305	0.287
	Higher than 10 minimum wages	-0.456	-1.134	0.222	0.187
<b>Habit of physical activity</b>	No (Ref.)				
	Yes	-0.004	-0.212	0.203	0.966
<b>Self-reported health status</b>	Good very good (Ref.)				
	<b>Regular, Poor, Very Poor</b>	<b>-0.244</b>	<b>-0.462</b>	<b>-0.027</b>	<b>0.028</b>
<b>Hospitalization in the last year</b>	No (Ref.)				
	Yes	-0.166	-0.483	0.151	0.304
<b>Score in different dimensions of the Maslach Burnout Inventory Scale</b>	General	0.036	-0.034	0.106	0.312
	Emotional exhaustion	-0.052	-0.135	0.031	0.220
	<b>Depersonalization</b>	<b>-0.086</b>	<b>-0.165</b>	<b>-0.008</b>	<b>0.030</b>
	Personal Achievement	-0.031	-0.103	0.042	0.410

$\beta$ : Estimate of adjusted regression model coefficients; 95%CI: 95% confidence interval for the adjusted model population coefficient; p: P-value associated with the hypothesis test of the adjusted regression model coefficients

Finally, Table IV presents the analysis of factors associated with the negative affect dimension of the Subjective Well-Being Scale (SWBS). It was observed that, on average, the negative affect score was 0.425 points higher among people who live alone compared to people who live with someone ( $\beta=0.42$ ; 95%CI (0.11–0.73);  $p=0.007$ ). In addition, the score in this dimension was statistically positively correlated with the overall score on the Maslach Burnout Inventory Scale ( $\beta=0.099$ ; 95%CI (0.032–0.165);  $p=0.004$ ). There were also statistically inverse correlations between the scores of the negative affect dimension of the Subjective Well-Being Scale (SWBS) and the scores of the different dimensions of the Maslach Burnout Inventory: emotional exhaustion ( $\beta=-0.103$ ; 95%CI (-0.181 - -0.025);  $p=0.010$ ), depersonalization ( $\beta=-0.082$ ; 95%CI (-0.156 - -0.008);  $p=0.031$ ) and personal achievement ( $\beta=-0.073$ ; 95%CI (-0.142 - -0.005);  $p=0.036$ ).

Table IV - Factors associated with the negative affect dimension of the Subjective Well-Being Scale (SWBS) in primary care professionals (n=142). Botucatu, São Paulo, Brazil, 2017.

Variable	Category	$\beta$	$p$	$p$	
Age	< 35 years (Ref.)				
	> 35 years	-0.130	-0.363	0.102	0.271
Marital status	Single, divorced, widowed (Ref.)				
	Married, stable union	0.015	-0.218	0.248	0.900
Children	No (Ref.)				
	Yes	-0.034	-0.257	0.188	0.763
Daily working hours	Less than 8 hours (Ref.)				
	More than 8 hours	0.031	-0.164	0.226	0.756
Length of service in healthcare	Less than 1 year (Ref.)				
	From 1 to 5 years	-0.186	-0.567	0.194	0.338
	From 5 to 10 years	-0.185	-0.554	0.184	0.325
	More than 10 years	-0.175	-0.549	0.198	0.358
Housing	Living with other people (Ref.)				
	<b>Living alone</b>	<b>0.425</b>	<b>0.115</b>	<b>0.735</b>	<b>0.007</b>
Self-reported health status	Good, very good				
	Regular, Poor, Very Poor	0.138	-0.059	0.335	0.171
Hospitalization in the last year	No (Ref.)				
	Yes	0.164	-0.128	0.457	0.271
Score in different dimensions of the Maslach Burnout Inventory Scale	<b>General</b>	0.099	0.032	0.165	0.004
	<b>Emotional exhaustion</b>	-0.103	-0.181	-0.025	0.010
	<b>Depersonalization</b>	-0.082	-0.156	-0.008	0.031
	<b>Personal Achievement</b>	-0.073	-0.142	-0.005	0.036

$\beta$ : Estimate of adjusted regression model coefficients; 95%CI: 95% confidence interval for the adjusted model population coefficient;  $p$ : P-value associated with the hypothesis test of the adjusted regression model coefficients

## DISCUSSION

In the present study, distinct associations were found for each of the of well-being dimensions. Life satisfaction, which refers to cognitive aspects of well-being, was associated with sociodemographic factors (lower score for professionals aged over 35 years,  $p=0.025$ ; and higher for undergraduate and graduate professionals,  $p=0.039$ ) and health (lower score for self-reported health status and hospitalization in the last year,  $p=0.005$  and  $0.017$ , respectively). Higher positive affect scores were also positively associated with health ( $p=0.028$ ), and these results are in line with those already well evidenced in the literature<sup>(8-10)</sup>.

A global survey involving more than 85,000 respondents in 59 countries revealed that the main determinants of well-being are health status, family financial satisfaction, and freedom of choice<sup>(9)</sup>. A meta-analysis that sought

to understand the relationship between health and SWB found a positive and significant association, which was stronger when considering the dimension of well-being focused on life satisfaction<sup>(6)</sup>. A study, which investigated the factors associated with well-being in a population of 20,351 elderly over 61 years old identified greater satisfaction with life among those with higher education and better health status<sup>(10)</sup>.

Regarding positive affects, a positive and significant association was also observed with the depersonalization dimension of the MBI, which is defined as a lack of sensitivity and distance at work<sup>(24)</sup>. According to the results of this study, professionals with higher scores of positive affects have lower scores in the “depersonalization” dimension. A similar result was identified in a Brazilian study with 450 primary care professionals, in which a significant negative association was observed between perceived stress and positive affects<sup>(16)</sup>.

As expected, the negative affects assessed by the SWBS were positively and significantly associated with the question of living alone ( $p=0.007$ ) and the general score of the MBI scale ( $p=0.004$ ), indicating that higher negative affect scores were associated with the highest SB indicative scores. In practice, this relationship highlights relevant elements in the manifestation of BS, such as stress, when chronic, which modifies the individuals' affects – being the genesis of these factors possibly coming from some mood disorders associated with it, such as depression, panic syndrome, and anxiety, as shown in the literature<sup>(25)</sup>. The literature shows that the engagement of health professionals is inversely proportional to occupational stress and that the implementation of strategies that enhance well-being and health promotion for PHC professionals could reduce work-related stress and improve the quality of service to users<sup>(26)</sup>.

Considering that the multivariate analysis only included variables with the significance of  $p$  values  $<0.20$  in former bivariate analysis, it is relevant to comment that the present study shows some results that refute what the international literature points out about the connection with nature to promote greater subjective well-being<sup>(11-13)</sup>. In this study, the CNS score did not show a positive association with the ‘positive affects’ and ‘life satisfaction’ dimensions of the SWBS scale, not even a negative association with the “negative affects” dimension, as demonstrated by other studies<sup>(11-13)</sup>. In other words, health professionals more connected to nature did not show more positive affects and less negative affect, as expected. Thus, further studies are needed to understand these results better.

It is important to note that the CNS score for this sample of professionals (3.85) does not differ from that found in a study carried out in 2018, with Brazilian students, whose score was 3.83<sup>(27)</sup>. An extensive search was carried out in the national and international literature, and no studies were found on sustainable or pro-environmental behaviors for health professionals, nor on how much this population is connected to nature, to compare results.

The sample studied had similar characteristics to those already published on the prevalence of psychological distress and BS in health professionals<sup>(2,3,4,28,29)</sup>. In Aracaju, Sergipe, Brazil, a survey carried out with 194 PHC professionals found a prevalence of SB from 6.7% to 10.8% and a high and moderate risk of developing the syndrome in 54.1% of those evaluated<sup>(29)</sup>. In Juiz de Fora, Minas Gerais, Brazil, more than half (51%) of the 153 PHC professionals evaluated exhibited Burnout<sup>(30)</sup>. In the United States, a study involving 7,288 physicians identified BS symptoms in 39.8% of them, while for other workers, the symptoms were prevalent in 27.8% of the 3,442 people evaluated; that is, in physicians, SB was more expressive<sup>(3)</sup>. In Barcelona, 879 primary care professionals were investigated, and the prevalence of BS was 17.9% of the population, with 46.2% having at least one of the dimensions of BS to a high degree, as measured by the MBI<sup>(2)</sup>. A literature review that studied the prevalence of BS symptoms in health professionals, in general, showed that the value found reached 76% in the case of resident physicians<sup>(4)</sup>.

Among the factors that negatively influence the well-being of these professionals are the stress inherent in taking care of life, excessive workloads, and pressures for greater efficiency at low costs<sup>(2-4)</sup>. As a result, the BS of health professionals lead to worse quality of care and a greater number of iatrogenic events, in addition to less empathy and greater distance from patients<sup>(5,18)</sup>.

Regarding the association between subjective well-being and BS specifically in primary care professionals, no study was identified for the comparative analysis of results, so this can be considered unprecedented in the literature. There is also a lack of studies that relate possible factors associated with well-being in this population. Only one study was found pointing out that working time in primary care can impact the well-being of nurses<sup>(16)</sup>.

In this study, then, it was found that the higher the subjective well-being – assessed by positive affects – the lower the SB scores assessed by the dimension of depersonalization ( $p=0.030$ ). Likewise, it was shown that a higher negative affect score - consistent with lower subjective well-being - is related to higher SB in their overall assessment (0.004). On the other hand, there was a significant negative association between the specific dimensions of BS – emotional exhaustion ( $p=0.01$ ), depersonalization ( $p=0.031$ ), and personal achievement ( $p=0.36$ ) – with the SWBS negative affect score. It does not mean that individuals with higher scores in negative affects tend to demonstrate lower SB – as the association seems to indicate –, but it may indirectly mean that the level of SB chronification causes



individuals to present affective distance and dullness, psychic traits possibly associated with psychiatric pathologies, which can hinder both the expression of positive and negative affects (2,4,5,24,25,29,30).

The well-being of the investigated PHC health professionals seems to be influenced by socioeconomic aspects, such as access to health and education, but also by specific factors of labour relations which, in turn, may be related both to the great demand for care and the lack of technical and relational skills for health work (2,7,26,29,30). It is noted that a multidimensional approach to the problem is essential, through the strengthening of human resources policies for the SUS, with the expansion of hiring and technical qualification, including socio-emotional aspects, as well as the expansion of the worker's health policy, especially regarding mental health, from a prevention and health promotion perspective (7,25,26).

This study has some limitations. One of them is the fact that there is a difference in the data collection situation: some of the professionals answered the questionnaires in the presence of the researcher during a visit to the health unit, while others, due to the lack of time, took them home and returned them filled out, posteriorly. In addition, part of the sample was given for convenience (NASF professionals invited after the random drawing of the sample).

## CONCLUSION

Significant associations were found between the subjective well-being and Burnout of the investigated primary care professionals, for which the prevalence was high. On the other hand, this association was not significant for the variable connection with nature. It is concluded that more studies are needed to better understand the results with health professionals since this association is well established in the literature for different populations.

Finally, about sociodemographic and health aspects, being over 35 years old and living alone negatively impacted well-being, as poor or very bad health status and being hospitalized in the last year. Having an undergraduate or graduate degree, on the other hand, favoured the professionals' life satisfaction.

## CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

## ACKNOWLEDGEMENTS

The authors are grateful to the Municipal Health Department of the Municipality of Botucatu, São Paulo, which consented to data collection in their health units and to the professionals who participated in the study.

## CONTRIBUTIONS

**Vânia Hercília Talarico Bruno, Ivan da Silva Beteto, Pedro Henrique Leonel Habimorad and Karina Pavão Patrício** contributed to the elaboration and design of the study; the acquisition, analysis and interpretation of data and the writing and/or revision of the manuscript. **Hélio Rubens de Carvalho Nunes** contributed to the elaboration and design of the study; the acquisition, analysis and interpretation of data and the writing and/or revision of the manuscript.

## REFERENCES

1. Tackett S. Stigma and well-being among health care professional. *Med Educ* [Internet]. 2018 [accessed on 2019 Feb 14];52(7):683-69. doi: 10.1111/medu.13604
2. Vilà Falgueras M, Cruzate Muñoz C, Orfila Pernas F, Creixell Sureda J, González López MP, Davins Miralles J. Burnout y trabajo en equipo en los profesionales de Atención Primaria. *Aten Primaria* [Internet]. 2015 [accessed on 2019 Feb 14];47(1):25-31. doi: 10.1016/j.aprim.2014.01.008
3. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* [Internet]. 2012 [accessed on 2019 Feb 14];172(18):1377-85. doi:10.1001/archinternmed.2012.3199
4. Perniciotti P, Serrano Cv Jr, Guarita RV, Morales RJ, Romano BW. Síndrome de Burnout nos profissionais de saúde: atualização sobre definições, fatores de risco e estratégias de prevenção. *Rev Soc Bras Psicol*

- Hosp [Internet]. 2020 [accessed on 2021 Maio 5];23(1):35-52. Available from: [http://pepsic.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1516-08582020000100005&lng=pt](http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1516-08582020000100005&lng=pt)
5. Hall LL, Johnson J, Watt I, Tsipa A, O'Connor DB. Health care staff wellbeing, burnout, and patient safety: a systematic review. *PLoS One* [Internet]. 2016 [accessed on 2021 Maio 5];11(7):e0159015. doi: 10.1371/journal.pone.0159015
  6. Diener E, Pressman SD, Hunter J, Delgado-Chase D. If, why, and when subjective well-being influences health, and future needed research. *Appl Psychol Health Well Being* [Internet]. 2017 [accessed on 2021 Maio 5];9(2):133-67. doi: 10.1111/aphw.12090
  7. Brand SL, Thompson Coon J, Fleming LE, Carroll L, Bethel A, Wyatt K. Whole-system approaches to improving the health and wellbeing of healthcare workers: A systematic review. *PLoS One* [Internet]. 2017 [accessed on 2021 Maio 5];12(12):e0188418. doi: 10.1371/journal.pone.0188418
  8. Ngamaba KH, Panagioti M, Armitage CJ. How strongly related are health status and subjective well-being? Systematic review and meta-analysis. *Eur J Public Health* [Internet]. 2017 [accessed on 2021 Maio 5];27(5):879-85. doi: 10.1093/eurpub/ckx081
  9. Ngamaba KH. Determinants of subjective well-being in representative samples of nations. *Eur J Public Health* [Internet]. 2017 [accessed on 2021 Maio 5];27(2):377-82. doi: 10.1093/eurpub/ckw103
  10. San Román XA, Toffoletto MC, Oyanedel Sepúlveda JC, Vargas Salfate S, Reynaldos Grandó KL. Factors associated to subjective wellbeing in older adults. *Texto Contexto Enferm* [Internet]. 2017 [accessed on 2021 maio 5];26(2):e5460015. Disponível em: [https://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-07072017000200312&lng=en&tlng=en](https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072017000200312&lng=en&tlng=en)
  11. Richardson M, Maspero M, Golightly D, Sheffield D, Staples V, Lumber R. Nature: a new paradigm for well-being and ergonomics. *Ergonomics* [Internet]. 2016 [accessed on 2021 maio 5];60(2):292-305. doi:10.1080/00140139.2016.115721
  12. Pritchard A, Richardson M, Sheffield D, McEwan K. The Relationship Between Nature Connectedness and Eudaimonic Well-Being: a Meta-analysis. *J Happiness Stud* [Internet]. 2020 [accessed on 2021 Maio 5];21:1145-67. doi: 10.1007/s10902-019-00118-6
  13. Capaldi CA, Dopko RL, Zelenski JM. The relationship between nature connectedness and happiness: a meta-analysis. *Front Psychol* [Internet]. 2014 [accessed on 2021 Maio 5];5:976. doi: 10.3389/fpsyg.2014.00976
  14. Silva SG, Duca GF, Nahas MV. Self-reported well-being and associated factors among industrial workers in Brazil: findings from a national survey. *Cad Saúde Pública* [Internet]. 2017 [accessed on 2021 Maio 5];33(3):e00191215. Available from: [https://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0102-311X2017000305008&lng=en&tlng=en](https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2017000305008&lng=en&tlng=en)
  15. Nunes MFO, Hutz CS, Pires JG, Oliveira MC. Subjective well-being and time use of brazilian PhD professors. *Paidéia (Ribeirão Preto)* [Internet]. 2014 [accessed on 2021 Maio 5];4(59):379-87. Available from: [https://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-863X2014000300379](https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-863X2014000300379)
  16. Atanes AC, Andreoni S, Hirayama MS, Montero-Marin J, Barros VV, Ronzani TM, et al. Mindfulness, perceived stress, and subjective well-being: a correlational study in primary care health professionals. *BMC Complement Altern Med* [Internet]. 2015 [accessed on 2021 Maio 5];15:303. doi: 10.1186/s12906-015-0823-0
  17. Organização Pan-Americana de Saúde. Conferência internacional sobre cuidados primários de saúde [Internet]. Declaração de Alma Ata sobre Cuidados Primários. Alma-Ata URSS [Internet]. 1978 Set [accessed on 2021 Maio 5]. Available from: [https://bvsms.saude.gov.br/bvs/publicacoes/declaracao\\_alma\\_ata.pdf](https://bvsms.saude.gov.br/bvs/publicacoes/declaracao_alma_ata.pdf)
  18. Pinheiro JP, Sbicigo JB, Remor E. Associação da empatia e do estresse ocupacional com o burnout em profissionais da atenção primária à saúde. *Ciênc Saúde Colet* [Internet]. 2020 [accessed on 2021 Maio 5];25(9):3635-46. doi: 10.1590/1413-81232020259.30672018
  19. Instituto Brasileiro de Geografia e Estatística. Botucatu: panorama [Internet]. Brasília: IBGE; 2019 [accessed on 2019 Set 19]. Available from: <https://cidades.ibge.gov.br/brasil/sp/botucatu/panorama>
  20. Albuquerque AS, Tróccoli BT. Desenvolvimento de uma escala de bem-estar subjetivo. *Psicol Teor Pesqui* [Internet]. 2004 [accessed on 2021 maio 5];20(2):153-64. doi: 10.1590/S0102-37722004000200008

21. Pessoa VS, Gouveia VV, Soares AKS, Vilar R, Freires LA. Escala de conexão com a natureza: evidências psicométricas no contexto brasileiro. *Estud Psicol* [Internet]. 2016 [accessed on 2021 Maio 5];33(2):271-82. doi: 10.1590/1982-02752016000200009
22. Grunfeld E, Whelan TJ, Zitzelsberger L, Willan AR, Montesanto B, Evans WK. Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction. *CMAJ*. 2000;163(2):166-9.
23. Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Vigilância de Doenças e Agravos não Transmissíveis e Promoção da Saúde. *Vigitel Brasil 2016: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico: estimativas sobre frequência e distribuição sociodemográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 estados brasileiros e no Distrito Federal em 2016*. Brasília: Ministério da Saúde; 2017.
24. Silva MA, Lampert SS, Bandeira DR, Bosa CA, Barroso SM. Saúde emocional de agentes comunitários: burnout, estresse, bem-estar e qualidade de vida. *Rev SPAGESP*. 2017;18(1):20-33.
25. Cavalcanti IL, Lima FLT, Souza TA, Silva MJS. Burnout e depressão em residentes de um Programa Multiprofissional em Oncologia: estudo longitudinal prospectivo. *Rev Bras Educ Med* [Internet]. 2018 [accessed on 2021 Maio 5];42(1):190-8. doi: 10.1590/1981-52712018v42n1rb20170078
26. Castro JR, Gazetta CE, Silva AG, Sodr e PC, Lourenção LG. Estresse ocupacional e engajamento em profissionais da atenção primária à saúde. *Rev Bras Promoc Saúde* [Internet]. 2019 [accessed on 2021 Maio 5];32:9157. doi: 10.5020/18061230.2019.9157
27. Rosa CD, Profice CC, Collado S. Nature experiences and adults' self-reported pro-environmental behaviors: the role of connectedness to nature and childhood nature experiences. *Front Psychol* [Internet]. 2018 [accessed on 2021 Maio 5];26(9):1-10. Available from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01055/full>
28. Veidis EM, Myers SS, Almada AA, Golden CD. Clinicians for Planetary Health Working Group. A call for clinicians to act on planetary health. *Lancet* [Internet]. 2019 [accessed on 2021 Maio 5];393(10185):2021. doi: 10.1016/S0140-6736(19)30846-3
29. Silva SCPS, Nunes MAP, Santana VR, Reis FP, Machado J Neto, Lima SO. A síndrome de burnout em profissionais da rede de atenção primária à saúde de Aracaju, Brasil. *Ciênc Saúde Colet* [Internet]. 2015 [accessed on 2021 Maio 5];20(10):3011-20. doi: 10.1590/1413-812320152010.19912014
30. Lima AS, Farah, BF, Bustamante-Teixeira MT. Análise da prevalência da Síndrome de Burnout em profissionais da atenção primária à saúde. *Trab Educ Saúde* [Internet]. 2018 [accessed on 2021 Maio 5];16(1):283-304. doi: 10.1590/1981-7746-sol00099

**Mailing address:**

Vânia Hercília Talarico Bruno  
Unesp Campus de Botucatu  
Rua Prof. Dr. Mauro Rodrigues de Oliveira, s/n  
CEP: 18618-688 - Botucatu - SP - Brazil  
E-mail: [vaniahtalarico@gmail.com](mailto:vaniahtalarico@gmail.com)

---

**How to cite:** Bruno VHT, Beteto IS, Habimorad PHL, Nunes HRC, Patr cio KP. Factors associated with well-being in primary care professionals. *Rev Bras Promoc Saude*. 2021;34:11878.

---