



Career commitment and entrenchment among multiprofessional residents during the COVID-19 pandemic

Comprometimento e entrenchment na carreira de residentes multiprofissionais durante a pandemia da COVID-19

Compromiso y atrincheramiento en la carrera de residentes multiprofesionales durante la pandemia de la COVID-19

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ABSTRACT

Objective: to assess and compare career commitment and entrenchment among multiprofessional residents working in critical care during the COVID-19 pandemic. **Method:** a cross-sectional, descriptive, and analytical study conducted in 2022 with 48 residents from intensive care and emergency/urgent care programs. Data were collected using sociodemographic and career questionnaires, as well as the Career Commitment Scale and the Career Entrenchment Scale, each with 12 items and three domains. **Results:** participants showed moderate overall scores on both scales. Within career commitment, the Identity and Planning domains presented high scores, while Resilience presented a moderate level. For career entrenchment, the domains of Investments and Emotional Costs presented a moderate level, and Limited Alternatives presented a high level. Only the Resilience domain differed between groups, with lower scores among intensive care residents. **Conclusion and practical implications:** working in intensive care, being married, and having pre-existing conditions may be associated with lower resilience and greater career entrenchment. These findings highlight the need for institutional strategies to promote mental health, strengthen resilience, and support career decision-making in emotionally demanding contexts.

Keywords: Career Choice; COVID-19; Critical Care; Intensive Care Units; Mental Health.

RESUMO

Objetivo: avaliar e comparar o comprometimento e o entrenchment na carreira de residentes multiprofissionais atuantes em cuidados críticos durante a pandemia da COVID-19. **Método:** estudo transversal, descritivo e analítico, realizado em 2022, com 48 residentes das áreas de cuidados intensivos e urgência/emergência. Aplicaram-se questionários sociodemográfico e de carreira, a Escala de Comprometimento e a Escala de Entrenchment, ambas com 12 itens e três domínios. **Resultados:** os participantes apresentaram níveis médios nas pontuações gerais das escalas. No comprometimento, Identidade e Planejamento obtiveram escores altos, enquanto Resiliência apresentou nível médio. No entrenchment, observaram-se níveis médios em Investimentos e Custos Emocionais e nível alto em Limitação de Alternativas. Apenas o domínio Resiliência diferiu entre áreas, com menor escore entre residentes de cuidados intensivos. **Conclusão e implicações práticas:** atuar em terapia intensiva, estar casado(a) e apresentar doenças pré-existentes podem estar associados à menor resiliência e maior entrenchment. Ressalta-se a necessidade de estratégias institucionais para promover a saúde mental, fortalecer a resiliência e apoiar a tomada de decisões profissionais em contextos de alta demanda emocional.

Palavras-chave: COVID-19; Cuidados Críticos; Escolha da Profissão; Saúde Mental; Unidades de Terapia Intensiva.

RESUMEN

Objetivo: evaluar y comparar el compromiso y el atrincheramiento profesional de residentes multiprofesionales que actúan en cuidados críticos durante la pandemia de COVID-19. **Método:** estudio transversal, descriptivo y analítico, realizado en 2022 con 48 residentes de las áreas de cuidados intensivos y urgencias/emergencias. Se aplicaron un cuestionario sociodemográfico y de carrera, la Escala de Compromiso Profesional y la Escala de Atrincheramiento Profesional, ambas con 12 ítems y tres dominios. **Resultados:** los participantes presentaron puntuaciones generales moderadas en ambas escalas. En el compromiso, los dominios Identidad y Planificación mostraron puntuaciones altas, mientras que Resiliencia fue moderada. En el atrincheramiento, los dominios Inversiones y Costos Emocionales fueron moderados y Limitación de Alternativas alto. Solo el dominio Resiliencia diferió entre áreas, con menor puntuación entre los residentes de cuidados intensivos. **Conclusión e implicaciones para la práctica:** trabajar en cuidados intensivos, estar casado(a) y presentar enfermedades preexistentes pueden asociarse con menor resiliencia y mayor atrincheramiento profesional. Estos hallazgos resaltan la necesidad de estrategias institucionales orientadas a promover la salud mental, fortalecer la resiliencia y apoyar la toma de decisiones profesionales en contextos de alta demanda emocional.

Palabras clave: COVID-19; Cuidados Críticos; Salud Mental; Selección de Profesión; Unidades de Cuidados Intensivos.

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INTRODUCTION

The work of healthcare professionals has gained prominence with the advance of the COVID-19 pandemic, when caring for patients infected with the coronavirus (SARS-CoV-2) posed major challenges for frontline workers.¹ This impact was felt mainly by those working in critical sectors, such as urgent and emergency services and Intensive Care Units (ICUs), as the complexity and severity of cases intensified the workload of these professionals.²

As the pandemic progressed worldwide, the shortage of professionals working in critical sectors became evident. In addition to healthcare workers, multi-professional residents contributed to strengthening healthcare teams and participated in promoting intra- and extra-hospital actions, highlighting the importance of these professionals in meeting the needs of healthcare service users, especially in the context of the overload imposed by the pandemic.^{3,4}

In Brazil, the professionals who are part of the multiprofessional resident team belong to the following areas: Biomedicine, Biological Sciences, Physical Education, Nursing, Pharmacy, Physical Therapy, Speech Therapy, Veterinary Medicine, Nutrition, Dentistry, Psychology, Social Work, and Occupational Therapy. and are governed according to the principles and guidelines of the Unified Health System (UHS), as enacted by Law No. 11,129 of 2005. The Multiprofessional Residency Program is considered a *Lato sensu* postgraduate program, to provide qualified health professionals to the job market through in-service training, with a workload of 60 hours per week and a minimum duration of two years.⁵

Multiprofessional residency is recognized as one of the most prestigious forms of professional training in healthcare. However, this training period can be a phase of intense physical and emotional strain, an aspect that has been exacerbated during the pandemic.⁶ Some studies have shown that work overload contributes to increased stress and the onset of mental disorders such as insomnia, anxiety, mild to severe depression, fear, and even post-traumatic stress disorder, especially among professionals with no previous experience in the field.⁷⁻⁹

Working in critical sectors, coupled with work overload and stressors generated by overcrowding and the severity of the virus cases among individuals, had a major impact on residents' professional performance. Regarding career commitment and entrenchment, previous studies have shown that COVID-19 negatively affected the psychological well-being of caregivers in clinical practice.^{10,11}

Career commitment is defined as the motivation to work in one's chosen profession, resulting from the combination of three factors/domains: identity (related to identification and personal work meaning), career planning (involving self-assessment of development needs and setting career goals), and resilience (characterized by resistance to career disruption in the face of adversity).¹² On the other hand, career entrenchment is defined as the immobility of the individual in their chosen career due to professional investments, the emotional sacrifice to be faced

as a result of a career change, and the limitation in the ability to envision new professional possibilities.¹³

Professionals committed to their careers are motivated by an emotional attachment to their chosen profession, while entrenched professionals see no other alternatives and remain in their careers as a means of survival, which generates opposing behavioral attitudes and significant personal, social, and organizational impacts in the workplace.^{14,15}

The lack of professionals in critical areas during the pandemic, coupled with the care overload and overcrowding of health services, exposed frontline workers, such as residents, to an intense and prolonged workload. In this scenario, there is still a lack of knowledge about how these factors have impacted the professional performance and career development of these individuals, as the national literature remains limited regarding the relationship between mental health and career ties among multiprofessional residents.

Therefore, this study aimed to evaluate and compare the levels of career commitment and entrenchment among multiprofessional residents who worked in critical care during the COVID-19 pandemic.

METHOD

This is a cross-sectional, descriptive, and analytical study, which was prepared in accordance with the recommendations of the STROBE guide from the EQUATOR Network, conducted in 2022, with multiprofessional residents from a public university in the state of São Paulo, working in the emergency room and intensive care units of a tertiary public university hospital, who treated patients with COVID-19.

The study sample consisted of resident professionals (physical therapists, nurses, nutritionists, psychologists, speech therapists, pharmacists, and dental surgeons) who joined the Multidisciplinary Residency Program in Urgent and Emergency Care and Adult Intensive Care in 2020 and 2021, totaling 76 professionals. No sample calculation was performed, and all eligible residents were invited to participate. Two participants were excluded for not completing the forms. There were no other exclusion criteria.

Participants were invited to take part in the study during a project presentation meeting held via Google Meet, during which the objectives and procedures of the research were explained. After the meeting, links to access the electronic questionnaires and the Free and Informed Consent Term (FICT) were sent via the Google Meet electronic messaging platform to ensure confidentiality and voluntary participation. Data collection was conducted using the Research Electronic Data Capture (REDCap) platform.

The first instrument addressed sociodemographic characteristics and health aspects (gender, age, marital status, housing, children, financial dependence, presence of preexisting diseases, use of medications, daily sleep hours required to feel well rested, and sleep hours actually slept) and professional aspects (training duration, year of entry, and satisfaction with residency workload). Information about sleep was reported by participants at a single point in time.

The other two instruments included the Career Commitment Scale (CCS) and the Career Entrenchment Scale (CES).^{12,13} Both have versions adapted and validated for the Brazilian context, with validity and reliability evidence adequate for their application to professionals in the country.^{16,17}

The career commitment and career entrenchment scales assess three dimensions and have 12 items each, which indicate behaviors and actions related to career, and responses are marked on a Likert scale of up to five points, with criteria ranging from “strongly disagree” to “strongly agree.” The CCS items assess the dimensions of identity, resilience, and planning. The CES covers the dimensions of investments, emotional costs, and limited alternatives (related to feelings and perceptions about the possibility of a change in professional career).

The dependent variables in the study were the scores obtained on the career scales. The independent variables included sociodemographic characteristics, health conditions, and professional variables.

For the descriptive analysis of categorical variables, frequency and percentage were used, and for continuous variables, mean, standard deviation, minimum, median, and maximum were used. The reliability of the scales was verified by Cronbach’s alpha and resulted in values of $\alpha = 0.723$ for the CCS and $\alpha = 0.841$ for the CES, indicating good reliability of the scales. The association of continuous variables with the domains of the CCS and CES was verified using Pearson’s Correlation Coefficient and, when necessary, Spearman’s Correlation Coefficient. To compare the domains of the scales with the categorical variables, the T-test and ANOVA were used, and, when necessary, the Mann-Whitney and Kruskal-Wallis tests.

To identify the level of attachment to the professionals’ careers (commitment and entrenchment), the average score for each domain and the total was calculated, as well as the standard deviation for both scales, to enable categorization into levels: high, medium, and low. The average scores of the constructs were standardized on a scale of 0 to 100 points ($(100 \times (\text{sum of factor scores}) / 20) / 4$) and divided into categories according to the standardized mean value obtained: low (zero to 33.3 points), medium (33.4 to 66.6 points), and high (66.7 to 100.0 points).¹⁸

Initially, a Simple Logistic Regression Analysis was performed to verify the relationship between each independent variable and the dependent variable. Subsequently, the Multiple Logistic Regression model was applied to verify which factors most influenced each dependent variable, using the Stepwise method.

The forward selection method was used to verify the influence of a variable on the scale scores. A significance level of 5% ($p < 0.05$) was considered.

The project was approved on November 8, 2021, by the Research Ethics Committee (REC) of the Universidade Federal de São Paulo (UNIFESP) (CAAE 51570121.9.0000.5505), in accordance with the requirements of the National Health Council (NHC) for research involving human subjects. The Free and Informed Consent Term (FICT) was made available and signed by the professionals electronically.

RESULTS

The study included 48 participants, with a mean age of 25.81 years (± 3.26), predominantly female (91.7%), without a partner (89.6%), living alone (27.1%), without children (100%) or financial dependents (97.9%). Most had no preexisting conditions (66.7%) and did not use medication (60.4%), but among those who reported using medication (39.6%), 52.6% used at least one psychoactive drug (anxiolytics, antidepressants, antipsychotics, and/or mood modulators).

Of the study participants, 56.3% (27) belonged to the Multiprofessional Residency Program in Adult Intensive Care and 43.7% (21) to the Urgent and Emergency Care Program, having joined in 2020 (18) and 2021 (30); the sample consisted of physical therapists (18), nurses (13), nutritionists (7), psychologists (4), speech therapists (3), pharmacists (2), and a dental surgeon (1). The majority had between one and two years of training (79.2%). Forty-one residents (85.4%) reported being dissatisfied with the residency workload and needed an average of 8.06 (± 1.05) sleep hours to feel rested, but actually slept an average of only 5.79 (± 0.82) hours.

Regarding scores on the career commitment and career entrenchment scales, participants presented values indicative of the average level in both constructs. Scores by domain and total construct are presented in Table 1.

In terms of career commitment, the association between age and the planning domain and between the number of sleep hours required and the identity domain showed a significant positive correlation. The older the age, the higher the planning factor score, and the greater the number of sleep hours required, the higher the identity domain score. A significant negative correlation was observed between the number of daily sleep hours required and the resilience domain; the greater the number of sleep hours required, the lower the resilience factor score (Table 2).

In career entrenchment, there was a significant positive correlation between the number of sleep hours effectively slept and the career investment factor, as well as with the limited

Table 1- Total and domain-specific scores of the career commitment and career entrenchment scales, expressed as a standardized mean. São Paulo (SP), Brazil, 2022.

Career attachment	Mean (\pm sd)	Level
Career commitment	48.92 (± 10.17)	Medium
Identity	77.47 (± 16.45)	High
Planning	72.27 (± 17.72)	High
Resilience	33.72 (± 22.06)	Medium
Career entrenchment	49.79 (± 15.31)	Medium
Investments	64.45 (± 27.48)	Medium
Limited alternatives	71.09 (± 21.33)	High
Emotional costs	51.17 (± 23.48)	Medium

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alternatives and the overall score of the construct. The greater the number of sleep hours effectively slept, the higher the score in the domains of investment, limited alternatives, and the general construct. The same correlation was observed in the relationship between the sleep hours required and the investment domain; the greater the need for sleep hours, the higher the score in this domain. Although significant, the correlations were considered to be of low to moderate magnitude ($R < 0.5$) (Table 2).

Table 3 shows the levels of career commitment and entrenchment, by factors and by total construct score, according to the sociodemographic and professional variables of the multiprofessional residents. The variables of gender and profession did not show statistically significant differences in the associations analyzed.

In analyzing career commitment, it was observed that married professionals showed less career resilience than single

Table 2 - Correlation between age and sleep hours, and career commitment and entrenchment scales. São Paulo (SP), Brazil, 2022.

Variables	Career commitment				Career entrenchment				
		I	P	RS	General	IV	LA	EC	General
Age	R*	0.22	0.33	-0.02	0.22	0.14	-0.18	-0.16	-0.11
	p-value	0.129	0.021*	0.891	0.140	0.337	0.227	0.284	0.470
Sleep hours required	R*	0.29	-0.01	-0.34	-0.10	0.37	0.33	-0.01	0.25
	p-value	0.050*	0.947	0.017*	0.496	0.009**	0.024	0.955	0.093
Sleep hours	R*	0.14	-0.13	-0.18	-0.10	0.39	0.36	0.16	0.37
	p-value	0.345	0.377	0.220	0.519	0.006**	0.013*	0.271	0.009**

Note: R: Spearman's Correlation Coefficient; I = Identity; P = Planning; RS = Resilience; IV = Investments; LA = Limited alternatives; CE = Emotional costs.

Statistically significant analyses:

* = $p < 0.05$; ** = $p < 0.01$.

Table 3 - Sociodemographic and professional variables, and levels of career commitment and entrenchment, expressed as standardized means. São Paulo (SP), Brazil, 2022.

	Career commitment				Career entrenchment			
	I	P	RS	General	IV	LA	EC	General
Marital status								
Married	85.9	75.0	6.2	44.6	76.6	81.2	29.7	50.0
Single	76.7	72.0	36.2	49.3	63.3	70.2	53.1	49.7
p-value	0.310	0.751	0.007**	0.378	0.426	0.325	0.050*	0.978
Pre-existing conditions								
No	76.4	75.6	40.6	51.3	63.3	69.7	55.1	50.2
Yes	79.7	65.6	19.9	44.1	66.8	73.8	43.4	49.1
p-value	0.474	0.066	0.002**	0.017*	0.426	0.535	0.104	0.818
Use of medications								
No	75.9	75.9	36.6	50.2	59.7	65.3	48.9	46.4
Yes	79.9	66.8	29.3	46.9	71.7	79.9	54.6	55.0
p-value	0.401	0.082	0.231	0.276	0.185	0.018*	0.418*	0.055*
Program								
Intensive Care	78.5	75.2	26.6	48.1	73.1	75.9	48.1	52.6
Urgency and Emergency	76.2	68.4	42.9	50.0	53.3	64.9	55.1	46.2
p-value	0.601	0.192	0.005**	0.524	0.013*	0.075	0.317	0.153

Note: I = Identity; P = Planning; RS = Resilience; IV = Investments; LA = Limited alternatives; CE = Emotional costs. Statistically significant analyses:

* = $p < 0.05$; ** = $p < 0.01$.

professionals ($p=0.007$) and, in relation to entrenchment, married professionals showed a lower level of emotional costs in their careers ($p=0.050$).

It was also observed that residents who did not report preexisting diseases had higher career resilience scores ($p=0.002$) and higher points when analyzing the general construct of the CCS ($p=0.017$). Residents who used medication had a higher level of career entrenchment compared to those who did not ($p=0.005$). In addition, these professionals obtained higher scores in the limited alternatives domain ($p=0.018$).

Multiple linear regression analysis indicated that both the mean CES scores and the presence of preexisting diseases have significant effects on career commitment. Specifically, it was found that for each additional point in the CES, the CCS score decreases by 0.19 points ($t = -2.24$; $p = 0.05$). In addition, the presence of preexisting diseases is associated with an average reduction of 7.3 points in the CCS score ($t = -2.64$; $p = 0.01$). Together, these variables explain part of career commitment variability, with 9.7% attributed to preexisting diseases and 6.1% to career entrenchment.

When comparing residency programs in terms of career ties through CCS and CES, the scores obtained were high in most domains, with the exception of the Resilience factor (CCS), in which Intensive Care residents obtained a lower average score, with a significant difference when compared to Urgent and Emergency professionals ($p=0.005$); the Investments domain, when comparing these two areas, also showed a significant difference between the groups ($p=0.013$). In the general assessment of the career commitment and entrenchment constructs, there was no statistical difference between residents from different areas ($p=0.524$ and $p=0.153$, respectively).

DISCUSSION

The sociodemographic profile of the multiprofessional residents described was similar to those carried out with this population, with a predominance of females, an average age of 25 years, living alone, and having graduated between one and two years ago.^{19,20}

The intense workload and exclusive dedication of multiprofessional residencies, although fundamental to in-service training, can cause feelings of insecurity, fear, and pressure, which compromises professional performance and promotes dissatisfaction, as observed in this study.

Dissatisfaction may be related to factors such as limited use of residents' potential, program organization, and lack of innovation.²⁰ These aspects intensified during the pandemic, when increased care demands and the need to reorganize activities resulted in greater overload. Similarly, surveys conducted during this period indicated that, although the adaptation of the workload to self-directed activities was evaluated positively, there were losses in practical training and distancing from specific activities.¹⁹

One of the mechanisms for coping with these adversities is resilience, which consists of a dynamic process that allows

individuals to adapt even in the presence of stressors.³ Thus, the residents' performance in a global pandemic scenario proved to be a stressor associated with anxiety, and the higher the level of anxiety, the greater the tendency for a decrease in the level of resilience.²¹

Half of the professionals with preexisting conditions reported using psychotropic drugs and having been diagnosed with mental disorders, which corresponded to the trend observed among residents who began their careers during the pandemic. This finding reinforces the relationship between medication use and the worsening of psychological symptoms in times of crisis, especially in the face of stressors such as fear of death, risk of infection, excessive working hours, and hopelessness.^{3,22}

The care complexity and pressure inherent in intensive care seem to affect residents' mental health, triggering lower resilience and a greater emotional burden. Complementarily, research with physicians indicates that healthcare professionals in emergency sectors also face high levels of stress and risk of burnout syndrome. In this sense, occupational factors can negatively impact the psychological health of healthcare professionals in general.²³

Furthermore, a systematic review pointed to an increase in the prevalence of Post-Traumatic Stress Disorder (PTSD) among healthcare workers in the post-pandemic period, highlighting the prolonged impact of these work contexts.²⁴ Together, these data reinforce the urgency of institutional actions aimed at providing ongoing psychological support to professionals working in critical areas, especially in health crisis scenarios such as the COVID-19 pandemic.

There is no consensus in the literature on marital status and resilience. However, the presence of a partner appears to be a supporting factor in coping with the stress of the profession. In this study, it was observed that married professionals showed less resilience when compared to those without a partner. Nevertheless, married individuals showed a higher level of identity and planning and a lower level of emotional costs, which corroborates the idea of enrichment of the work-family process and family support with greater commitment to the career.²⁵

Sleep, although analyzed quantitatively, demonstrated an influence on the constructs evaluated, which is reflected in emotional and motivational aspects that permeate the residents' experience. Insufficient rest tends to compromise adaptation to the demands of training and intensify physical and mental exhaustion, especially in a context marked by overload and insecurity.²⁶

It was observed that longer sleep duration was associated with stronger career commitment, while greater sleep need was related to lower resilience. These results suggest that residents with more regular sleep routines may be better emotionally adapted, while an increased need for rest may reflect greater fatigue and difficulty coping with training demands – which indicates the need for further investigation.

International literature consistently describes the negative effects of sleep disturbances among healthcare professionals during the pandemic, especially in intensive care teams, with increased fatigue, impaired performance, and a higher incidence of sleep

disorders.^{27,28} Although the studies do not involve residents, these findings converge in indicating sleep as an essential factor for well-being and professional adaptation in high-demand contexts.

The average levels of career commitment and career entrenchment corroborate other previous national studies on healthcare professionals on this topic.^{14,18} In terms of professional engagement, residents showed a high level of identity and planning, given that, even with the adversities inherent in in-service training, professionals remain aligned and committed to their work.

Strong ties and career planning are positive aspects, as they promote performance, autonomy, and professional satisfaction.¹⁸ Despite the average level of career entrenchment, the high score in limited alternatives may reflect insecurity and a perception of few growth opportunities among residents, even in a young age group, which is a point of attention for training institutions.

Thus, it is expected that, over time, professionals will develop greater engagement with their career path due to the continuous investment of resources, such as time, effort, and training, which strengthens their identification with their career and encourages the pursuit of professional growth. However, the relationship between age and commitment still lacks consistent evidence in the literature, indicating the need for further studies.^{25,29}

CONCLUSION AND PRACTICAL IMPLICATIONS

Residents in critical areas showed high career commitment but lower resilience, especially among those working in intensive care, married, or with preexisting conditions. The comparison between programs indicated lower resilience among intensive care residents, suggesting greater emotional vulnerability in more complex contexts.

Multicenter studies investigating psychosocial factors such as sleep, workload, and institutional support are recommended to deepen understanding of career ties in this population.

As a practical implication, there is a need to restructure multiprofessional residency programs, with actions aimed at promoting mental health, strengthening resilience, and preventing entrenchment, with the goal of fostering engagement and well-being among residents in contexts of high emotional demand.

Among the study's limitations, the cross-sectional design stands out, which prevents establishing causal relationships between the variables analyzed. The sample, restricted to residents of a single institution, also limits the results' generalization to other programs and contexts. Moreover, data collection at a single point in time does not allow for the assessment of possible changes in levels of engagement, entrenchment, or health conditions over time.

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DATA AVAILABILITY RESEARCH

The content underlying the research text is contained in the article.

CONFLICT OF INTEREST

There is no conflict of interest.

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