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BRIEF ORIGINAL

Characteristics of work self-efficacy among medical technologists in Peru

Carlos Sánchez-Rafael[1,a]

[1] Universidad Nacional Mayor de San Marcos, Lima, Perú.
[a] Bachelor's Degree in Medical Technology in Clinical Laboratory and Anatomic Pathology.

Keywords:
socioeconomic factors; self-efficacy; biomedical technology; occupational profile; health management
(source: MeSH-NLM).

ABSTRACT

Objective: To determine the characteristics of work self-efficacy among medical technologists in Peru. **Methods:** This was an observational, cross-sectional, and descriptive study. The population consisted of 22,640 medical technologists registered with the Peruvian Association of Licensed Medical Technologists, and the sample included 408 professionals. The Work Self-Efficacy Scale for Health Personnel and the General Work Self-Efficacy Scale were administered. The chi-square test was used to analyze statistically significant differences between sociodemographic characteristics and levels of work self-efficacy. **Results:** Of the total sample, 214 (52.5%) were women and 194 (47.5%) were men. A moderate level of work self-efficacy was the most frequent (52.5%). Statistically significant differences were found according to age (p = 0.042), socioeconomic status (p = 0.012), and years of work experience (p = 0.001) in relation to levels of work self-efficacy. **Conclusions:** Age, socioeconomic status, and work experience were characteristics associated with the level of work self-efficacy among medical technologists in Peru.

Características de la autoeficacia laboral del tecnólogo médico en Perú

Palabras clave:
factores socioeconómicos; autoeficacia; tecnología biomédica; perfil laboral; gestión en salud
(fuente: DeCs-BIREME).

RESUMEN

Objetivo. Determinar las características de la autoeficacia laboral del tecnólogo médico en Perú. **Métodos.** El estudio fue observacional, transversal y descriptivo. La población estuvo conformada por 22 640 tecnólogos médicos adscritos al Colegio Tecnólogo Médico del Perú y la muestra por 408 tecnólogos médicos, a quienes se les aplicó la Escala de autoeficacia laboral para personal de salud y la Escala de autoeficacia laboral. El análisis de diferencias estadísticamente significativas de las características sociodemográficas con la autoeficacia laboral se realizó mediante la prueba de chi-cuadrado. **Resultados.** Del total de la muestra, 214 (52,5 %) fueron mujeres y 194 (47,5 %) varones. El nivel de autoeficacia laboral moderado fue el más frecuente, con un 52,5 %, además, se encontraron diferencias estadísticamente significativas según edad (p = 0,042), nivel socioeconómico (p = 0,012) y años de experiencia laboral (p = 0,001), con los niveles de autoeficacia laboral. **Conclusiones.** La edad, el nivel socioeconómico y la experiencia laboral son características que se asociaron con el nivel de autoeficacia laboral del Tecnólogo Médico en Perú.

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Correspondence:
Carlos Sánchez-Rafael
carssanchez676@gmail.com

INTRODUCTION

There is a knowledge gap regarding how the characteristics of work self-efficacy among medical technologists evolve in the Peruvian national context and in Latin America [1]. This issue encompasses multiple dimensions that affect both professional performance and quality of life [2].

Work self-efficacy can be defined as a worker's belief in their ability to organize, execute, and successfully accomplish the tasks and demands of the work environment [3]. Its study is based on Albert Bandura's general theory of self-efficacy, which defines it as a personal conviction of being able to perform the actions necessary to achieve a desired performance [4].

Globally, changes in work self-efficacy characteristics are reflected in the impact that the environment has on medical technologists' self-perception. In a study conducted in Spain, Lasmarías et al. [5] reported that healthcare professionals with a positive self-perception are more likely to feel capable of carrying out complex care processes with patients. In turn, Al Wali et al. [6] showed that self-efficacy among healthcare professionals is associated with age and work experience.

At the national level, it is necessary to address work self-efficacy in an integrated manner [7]. However, Valencia [8] did not report a significant relationship with any sociodemographic variable, highlighting job stress as the main indicator to consider. In this regard, Jaime and Ccoecca [9] also emphasized a significant difference between self-efficacy and job stress, without considering sociodemographic characteristics among healthcare science professionals.

Based on the above, it is essential to evaluate work self-efficacy among medical technologists, as they constitute a strategic group within the health system by being responsible for diagnostic and therapeutic processes that directly influence clinical decision-making and patient safety [10]. Despite their relevance, this is a profession still in the process of consolidation and with lower visibility in scientific research compared with other healthcare professionals, such as physicians and nurses [11]. Therefore, the objective of this study was to determine the characteristics of work self-efficacy among medical technologists in Peru.

METHODS

Study type and area

The study design was observational, cross-sectional, and descriptive, since it did not involve the implementation of an intervention that could affect the status of the variables. Likewise, a survey was administered for data collection.

Population and sample

The population comprised 22,640 medical technologists registered with the Peruvian Association of Licensed Medical Technologists. Non-probabilistic purposive sampling was used, and the sample consisted of 408 medical technologists registered with the Association. The study was conducted from January to July 2025. Inclusion criteria were: completion of electronic informed consent, being of legal age, being registered and in good standing with the Association, and currently working. Exclusion criteria were: participation in a similar study and receiving medical treatment for a mental health condition.

Variables and data collection instruments

Work self-efficacy was defined as the worker's perception of their ability to perform tasks effectively, adapt to working conditions, and face challenges in the work environment through self-management, transfer, metacognition, meta-learning, and self-care. Sociodemographic characteristics included questions regarding sex, age, and years of work experience (grouped as "1-10 years", "11-20 years", and "21 years or more"), as well as self-perceived socioeconomic status ("very high", "high", "middle", "low", and "very low") and place of origin ("urban" or "rural").

The Work Self-Efficacy Scale for Health Personnel, designed and validated by Campos-Carreño et al. [12], was used; this instrument has been used by other researchers in Ecuador [13], Mexico [14], and France [15]. Content validity was assessed, obtaining an Aiken's V of 0.90, considered highly satisfactory. Therefore, the original content of the scale was not modified. Likewise, to verify construct validity, an exploratory factor analysis (EFA) was conducted, preceded by the Kaiser–Meyer–Olkin measure of sampling adequacy (KMO = 0.951) and Bartlett's test of sphericity ($p < 0.001$); the results supported the suitability of conducting this analysis. Items were coherently distributed across their respective dimensions, showing satisfactory values and a

well-defined factor structure that collectively explained 74.3% of the total variance. Cronbach's alpha values also reflected high internal consistency for each evaluated dimension.

The Work Self-Efficacy Scale comprises 41 items grouped into five dimensions: (a) self-management (α = 0.85), (b) transfer (α = 0.86), (c) metacognition (α = 0.80), (d) meta-learning (α = 0.82), and (e) self-care (α = 0.85). Item responses are recorded on a Likert-type scale, where participants choose among four options with different scores, ranging from "strongly disagree" (1 point) to "strongly agree" (4 points). Thus, the instrument has a minimum score of 41 and a maximum score of 164. Based on the score, work self-efficacy is categorized as "deficient" (41–81 points), "moderate" (82-123 points), or "optimal" (124-164 points).

Data collection techniques and procedures

Participation in this research was contingent upon each participating medical technologist completing the electronic informed consent process prior to accessing the Google Forms® questionnaire, where both scales were administered. Email addresses were provided by the regional professional associations of medical technologists; in addition, participants were also contacted through the WhatsApp mobile application.

Data analysis

After data collection was completed, the data were exported to the statistical software SPSS version 18. Descriptive statistics were applied to analyze sociodemographic characteristics and the level of work self-efficacy. Since ordinal and nominal variables were used, contingency tables were constructed. To assess statistically significant differences between sociodemographic characteristics and work self-efficacy, the chi-square test of independence was used.

Ethical considerations

At all times, the ethical principles established in the Declaration of Helsinki were ensured. Each participant was provided with an informed consent form, guaranteeing free, voluntary, and autonomous participation. Accordingly, data handling was conducted in accordance with the four fundamental principles of research ethics: respect for persons, beneficence, non-maleficence, and justice. The study was also approved by the Ethics Committee of the Faculty of Medicine of the Universidad Nacional Mayor de San Marcos, under code 0088-2025.

RESULTS

Sociodemographic characteristics of the study participants

Regarding sex, 52.5 % of the medical technologists were women. With respect to age, 34.8 % were between 34 and 46 years old. In relation to self-perceived socioeconomic status, the middle level predominated (70.1 %). Regarding place of origin, the urban category was the most frequent (80.4 %). Finally, in terms of work experience, 45.1% reported 11-20 years of employment (see Table 1).

Table 2 and Annex 1 show that, after assessing work self-efficacy, the moderate level was the most

Table 1. Sociodemographic characteristics of medical technologists in Peru

Characteristic	n = 408	
	fi	%
Sex		
Male	194	47.5
Female	214	52.5
Age		
21–33 years	96	23.5
34–46 years	142	34.8
47–60 years	124	30.4
>61 years	46	11.3
Socioeconomic status		
High	46	11.3
Middle	286	70.1
Low	76	18.6
Place of origin		
Urban	328	80.4
Rural	80	19.6
Work experience		
1–10 years	122	29.9
11–20 years	184	45.1
≥21 years	102	25.0

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Table 2. Work self-efficacy level among medical technologists in Peru

Level	n = 408	
	fi	%
Optimal	118	28.9
Moderate	214	52.5
Deficient	76	18.6
Total	408	100

frequent (n = 214), representing 52.5 % of the total among medical technologists.

Table 3 presents work self-efficacy levels according to the sociodemographic characteristics of medical technologists; statistically significant differences were found for age (p = 0.042), socioeconomic status (p = 0.012), and years of work experience (p = 0.001).

DISCUSSION

Analyzing the characteristics of work self-efficacy among medical technologists in Peru is essential to examine health workforce conditions from a perspective that goes beyond purely operational approaches [16]. In a context in which human resources face highly demanding conditions and

Table 3. Work self-efficacy levels by sociodemographic characteristics of medical technologists in Peru

Sociodemographic characteristic	Work self-efficacy						*p*-value
	Optimal		Moderate		Deficient		
	fi	%	fi	%	fi	%	
Sex							
Male	52	26.8	100	51.5	42	21.6	0.078
Female	66	30.8	114	53.3	34	15.9	
Age							
21-33 years	30	31.3	48	50.0	18	18.8	0.042
34-46 years	40	28.2	76	53.5	26	18.3	
47-60 years	34	27.4	66	53.2	24	19.4	
> 61 years	14	30.4	24	52.2	8	17.4	
Socioeconomic status							
High	14	30.4	24	52.2	8	17.4	0.012
Middle	84	29.4	150	52.4	52	18.2	
Low	20	26.3	40	52.6	16	21.1	
Place of origin							
Urban	96	29.3	172	52.4	60	18.3	0.201
Rural	22	27.5	42	53.5	16	20.0	
Years of work experience							
1-10 years	36	29.5	64	52.5	22	18.0	0.001
11-20 years	52	28.3	98	53.3	34	18.5	
≥ 21 years	30	29.4	52	51.0	20	19.6	

limited participation in clinical decision-making, understanding the determinants that influence perceptions of professional competence not only highlights dynamics of labor vulnerability but also identifies critical points for the development of strategic interventions [17].

The statistically significant difference between age and medical technologists' self-efficacy has generated contrasting positions in the literature addressing the reality of healthcare professionals. On the one hand, several studies, such as those by Fang et al. [18] and do Amaral et al. [19], suggest that, in general, age is positively correlated with higher self-efficacy levels, as accumulated experience may consolidate technical skills, strengthen judgment, and increase confidence in one's problem-solving capacity.

This line of interpretation has been echoed in Ibero-American research, where Cárdaba et al. [20] have shown that professionals with longer career trajectories tend to report higher levels of perceived self-efficacy, particularly in highly demanding care settings. However, Saltos et al. [21] and Mansilla et al. [22] indicate that this relationship is neither linear nor universal: under certain institutional conditions, older age may be associated with professional wear, technological obsolescence, or motivational stagnation, factors that negatively affect perceptions of competence.

The relationship between socioeconomic status and medical technologists' self-efficacy has been approached from differing perspectives, generating an ongoing debate regarding its foundations and consequences. In general terms, it has been argued that a higher socioeconomic status facilitates the development of self-efficacy by providing better material conditions for professional training, access to support networks, and greater opportunities for continuous updating [23]. However, according to Corden et al. [24], this interpretation risks essentializing inequality if the role of institutions in reproducing such disparities is not problematized.

On the other hand, Prazeres et al. [25] have documented how professionals from lower socioeconomic backgrounds, having faced adverse environments, may develop robust self-efficacy grounded in resilience, self-discipline, and the internalization of merit as a compensatory mechanism. Nevertheless, this type of narrative may inadvertently justify state inaction by overemphasizing individual self-improvement and thereby avoiding analysis of the structural barriers that limit equity in access and performance [26].

The relationship between years of professional experience and medical technologists' self-efficacy has also been examined in the specialized literature. In general, it has been proposed that greater experience translates into higher self-efficacy levels. In this regard, Dinh et al. [27] showed that prolonged exposure to diverse scenarios allows the consolidation of skills, refinement of technical judgment, and strengthening of decision-making confidence [28]. However, other studies have questioned this linearity [29,30], noting that in the absence of structural incentives for continuous updating, prolonged experience may lead to automated routines, resistance to change, and a decreasing perception of efficacy in the face of new technological or regulatory demands.

Regarding limitations, the sample, composed of 408 medical technologists affiliated with regional professional associations, was obtained through convenience sampling, which limits the scope of the conclusions and makes the study prone to Type I and Type II errors. In addition, the analyses are descriptive; therefore, more elaborate bivariate or multivariable analyses remain pending. Another important limitation was the lack of information allowing identification of the proportion of medical technologists who reside or work in Lima versus other regions of the country. This research addresses a topic that has been scarcely explored in the Peruvian context—work self-efficacy among medical technologists, a professional group that is fundamental to the health system—and it opens the door to future studies in this population.

It is recommended to implement training programs aimed especially at medical technologists with intermediate work experience, as well as to design institutional policies that reduce disparities associated with socioeconomic status and guarantee equal access to development opportunities. Likewise, it is suggested to promote interventions focused on the 34–46-year age group, a key stage for professional consolidation, in order to strengthen work self-efficacy. Finally, it is pertinent to incorporate periodic assessment of this variable into health human resource management.

Conclusions

The findings show statistically significant differences related to age (p = 0.042), socioeconomic status (p = 0.012), and years of work experience (p = 0.001) in relation to medical technologists' work self-efficacy

in Peru. The highest proportions were observed among medical technologists aged 34-46 years with moderate self-efficacy (53.5 %), those with low socioeconomic status also showing moderate self-efficacy (52.6 %), and those with 11-20 years of work experience likewise presenting moderate self-efficacy (53.3 %).

BIBLIOGRAPHIC REFERENCES

1. Guzmán-Narciso G, Sánchez-García W, Placencia-Medina M, Silva-Valencia J. Asociación de los factores motivacionales y el desempeño laboral del tecnólogo médico en radiología. Rev CEA [Internet]. 2020 [cited 2024 Sep 12];6. https://doi.org/10.22430/24223182.1543
2. Santiago-Bazán C, Juárez-Escobar C. El rol del Tecnólogo médico en la educación sanitaria en tiempos de pandemia por COVID-19. Rev Experien Med Hosp Reg Lambayeque [Internet]. 2021 [cited 2024 Sep 12];7:118-119. https://doi.org/10.37065/rem.v7i4.584
3. Milojević S, Aleksić VS, Slavković M. "Direct Me or Leave Me": The Effect of Leadership Style on Stress and Self-Efficacy of Healthcare Professionals. Behavioral Sciences [Internet]. 2025 [cited 2025 Aug 30];15(1):25. https://doi.org/10.3390/bs15010025
4. Pedditzi ML, Scalas LF. Psychological Well-Being and Self-Efficacy for Self-Regulated Learning. Int. J. Environ. Res. Public Health [Internet]. 2024 [cited 2025 Aug 30];21(8):1037. https://doi.org/10.3390/ijerph21081037
5. Lasmarías C, Aradilla-Herrero A, Esquinas C, Santaeugènia S, Cegri F, Limón E, Subirana-Casacuberta M. Primary Care Professionals' Self-Efficacy Surrounding Advance Care Planning and Its Link to Sociodemographics, Background and Perceptions: A Cross-Sectional Study. Int J Environ Res Public Health [Internet]. 2021 [cited 2025 Aug 2];18(17):9034. doi: 10.3390/ijerph18179034
6. Al Wali J, Muthuveloo R, Teoh A. Unravelling the nexus between creative self-efficacy, humble leadership, innovative work behaviour and job performance amongst physicians in public hospitals. Asia-Pacific Journal of Business Administration [Internet]. 2022 [cited 2025 Jul 2];14:706-726. https://doi.org/10.1108/APJBA-05-2021-0205
7. Oprisan A, Baettig-Arriagada E, Baeza-Delgado C, Martí-Bonmati L. Prevalence of burnout syndrome in Spanish radiologists. Radiologia (Engl Ed) [Internet]. 2023 [cited 2024 Sep 13];65:307-314. doi: 10.1016/j.rxeng.2021.09.013
8. Valencia A. Estrés laboral y autoeficacia para el afrontamiento del estrés en personal de salud de un hospital estatal de Lima Metropolitana, en tiempos de pandemia por la COVID-19, año 2023 [Internet]. Lima: Universidad Norbert Wiener; 2024 [cited 2025 Jul 2]. Available from: https://hdl.handle.net/20.500.13053/11125
9. Jaime E, Ccoacca J. Autoeficacia y estrés laboral en profesionales de enfermería de una Micro red de Salud [Internet]. Huancayo: Universidad Peruana Los Andes; 2021 [cited 2025 Jul 2]. Available from: https://hdl.handle.net/20.500.12848/2799
10. Spundiņa L, Veseta U, Ābele A. The Relationship of Self-Reported Physical Activity Level and Self-Efficacy in Physiotherapy Students: A Cross-Sectional Study. Int J Environ Res Public Health [Internet]. 2025 [cited 2025 Aug 30]; 22(7):1029. doi: 10.3390/ijerph22071029
11. Shavit R, Kushnir T, Gottlieb U, Springer S. Cross-Cultural Adaptation, Reliability, and Validity of a Hebrew Version of the Physiotherapist Self-Efficacy Questionnaire Adjusted to Low Back Pain Treatment. Healthcare (Basel) [Internet]. 2023 [cited 2025 Aug 31];11(1):85. doi: 10.3390/healthcare11010085
12. Campos-Carreño M, Velasco C, Araya J, Gaete C. Construcción y validación de una escala de autoeficacia en el trabajo. Inf. Tecnol. [Internet]. 2021 [cited 2024 May 1];32(3):47-56. http://dx.doi.org/10.4067/S0718-07642021000300047
13. Núñez Cabrera E, Cajachagua Castro M, Huancahuire-Vega S. Self-Efficacy of the Community Health Agent, Importance of Motivation and Empowerment. J Prim Care Community Health [Internet]. 2023 [cited 2025 Sep 1];14. doi: 10.1177/21501319231213771
14. Fabián C, García D, Olmos D, Ortiz-González J, Palafox P, Sánchez-Fuentes M, Espinoza A. Efectos de la socialización organizacional, soledad subjetiva y autoeficacia sobre el bienestar. Jóvenes en Ciencia [Internet]. 2024 [cited 2025 Sep 1];28. doi: 10.15174/jc.2024.4349
15. Colin M, Cavazos J, Hernández H, Leyva A. Impacto del burnout en la experiencia del cliente en los centros de atención telefónica. Esic Market Economics and Business Journal [Internet]. 2022 [cited 2025 Sep 1];53:e290. Available from: https://revistasinvestigacion.esic.edu/esicmarket/index.php/esicm/article/view/290/645
16. Alsulami A, Sacgaca L, Pangket P, Pasay-an E, Al Amoudi FA, Alreshidi MS, et al. Exploring the Relationship Between Knowledge, Attitudes, Self-Efficacy, and Infection Control Practices Among Saudi Arabian Nurses: A Multi-Center Study. Healthcare [Internet]. 2025 [cited 2025 Jul 10];13(3):238. doi: 10.3390/healthcare13030238
17. Gil-Almagro F, García-Hedrera FJ, Carmona-Monge FJ, Peñacoba-Puente C. From Anxiety to Hardiness: The Role of Self-Efficacy in Spanish CCU Nurses in the COVID-19 Pandemic. Medicina (Kaunas) [Internet]. 2024 [cited 2025 Jul 10]; 60(2):215. doi: 10.3390/medicina60020215
18. Fang Y, Boelens M, Windhorst DA, Raat H, van Grieken A. Factors associated with parenting self-efficacy: A systematic review. J Adv Nursing [Internet]. 2021 [cited 2025 Jul 10];77:2641-61. doi: 10.1111/jan.14767
19. do Amaral T, Paes M, Jungles G, Collet C, da Silva L, Facco J. Impact of sex, age and practice time on self-efficacy in brazilian volleyball high-level Athletes. Motricidade [Internet]. 2021 [cited 2025 Jul 10];17:54-62. https://doi.org/10.6063/motricidade.20869
20. Cárdaba R, García N, Onrubia M, Matellán M, Soto R, Morales A, Molina M, Reques A, Navalpotro S. Percepción del nivel de autoeficacia en los profesionales sanitarios de la gerencia de emergencias sanitarias de Castilla y León durante la pandemia Covid-19. Revista INFAD [Internet]. 2022 [cited 2025 Jul 11];1:23. https://doi.org/10.17060/ijodaep.2022.n1.v1.2308
21. Saltos I, Paravic T, Burgos M. Influencia de la autoeficacia profesional en las condiciones de trabajo subjetivas y la calidad de vida laboral. Revista San Gregorio [Internet]. 2023 [cited 2025 Jul 11];1(55):107-124. https://doi.org/10.36097/rsan.v1i55.2254
22. Mansilla M, Canova C. Autoeficacia para brindar cuidados humanizados por parte del personal de enfermería. Gac Med Bol. [Internet]. 2024 [cited 2025 Jul 11];47(1):20-26. https://doi.org/10.47993/gmb.v47i1.763
23. Zhang T, Qi X. Enhanced Nursing Care for Improving the Self-Efficacy & Health-Related Quality of Life in Patients with a Urostomy. J Multidiscip Healthc. [Internet]. 2023 [cited 2025 Jul 15];16:297-308. doi: 10.2147/JMDH.S394515

24. Corden K, Brewer R, Cage E. A Systematic Review of Healthcare Professionals' Knowledge, Self-Efficacy and Attitudes Towards Working with Autistic People. Rev J Autism Dev Disorders [Internet]. 2022 [cited 2025 Jul 15];9:386-399. Available from: https://link.springer.com/article/10.1007/s40489-021-00263-w

25. Prazeres F, Teixeira A. Factors associated with family physicians' perceived self-efficacy in multimorbidity management. Front Med [Internet]. 2025 [cited 2025 Jul 20]; 12:1596652. doi: 10.3389/fmed.2025.1596652

26. Morandi F, Leonelli S, Di Vincenzo F. Exploration of the mediating role of physicians' managerial attitude in the relationship between their self-efficacy and workplace performance. J Health Organ Manag. [Internet]. 2022 [cited 2025 Jul 20];36(7):950-964. doi: 10.1108/JHOM-11-2021-0424

27. Dinh T, Bonner A. Exploring the relationships between health literacy, social support, self-efficacy and self-management in adults with multiple chronic diseases. BMC Health Serv Res. [Internet]. 2023 [cited 2025 Jul 20];23:923. doi: 10.1186/s12913-023-09907-5

28. Quaye E, Ameyibor L, Mokgethi K, Kabeya Saini Y. Healthy lifestyle and behavioural intentions: the role of self-identity, self-efficacy, subjective norms, and attitudes. International Journal of Spa and Wellness [Internet]. 2024 [cited 2025 Jul 20];7(2):176-96. https://doi.org/10.1080/24721735.2024.2374588

29. Cabrera-Aguilar E, Zevallos-Francia M, Morales-García M, Ramírez-Coronel A, Morales-García S, Sairitupa-Sanchez L, Morales-García W. Resilience and stress as predictors of work engagement: the mediating role of self-efficacy in nurses. Front Psychiatry [Internet]. 2023 [cited 2025 Jul 20];14:1202048. doi: 10.3389/fpsyt.2023.1202048

30. Kwak Y, Ahn J, Seo Y. Influence of AI ethics awareness, attitude, anxiety, and self-efficacy on nursing students' behavioral intentions. BMC Nursing [Internet]. 2022 [cited 2025 Jul 20];21:267. https://doi.org/10.1186/s12912-022-01048-0

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Conflict of interest statement

The author declares no conflicts of interest.

ANNEXES

Annex 1. Descriptive statistics of the Work Self-Efficacy variable by dimensions and items

Work self-efficacy	n = 408					
	Optimal		Moderate		Deficient	
	fi	%	fi	%	fi	%
Self-management						
To do something well, it must first be planned.	103	25.2	230	56.4	75	18.4
I feel it is important to plan my time well at work.	147	36.0	191	46.8	70	17.2
I use strategies that allow me to act assertively.	115	28.2	207	50.7	86	21.1
I develop strategies that allow me to meet my work goals.	108	26.5	204	50.0	96	23.5
I express my emotions assertively.	143	35.0	196	48.0	69	16.9
I like to plan my work.	105	25.7	224	54.9	79	19.4
If I control how my tasks develop, I can improve my work.	127	31.1	227	55.6	54	13.2
I use tools that allow me to be more autonomous.	101	24.8	192	47.1	115	28.2
I carry out activities that promote my self-care.	113	27.7	195	47.8	100	24.5
I regulate my emotions.	132	32.4	204	50.0	72	17.6
It is important to act assertively in the workplace context.	100	24.5	228	55.9	80	19.6
Transfer						
I consider it valuable to put acquired knowledge into practice.	122	29.9	208	51.0	78	19.1
I like learning to transfer what I have learned.	110	27.0	220	53.9	78	19.1
I use strategies that allow me to improve my work.	135	33.1	200	49.0	73	17.9
I use strategies that help me adapt to formal demands at work.	118	28.9	214	52.5	76	18.6
I like doing a good job.	125	30.6	202	49.5	81	19.9
I feel capable of learning and getting to know myself better.	119	29.2	210	51.5	79	19.4
I know my strengths, opportunities, weaknesses, and threats at work.	127	31.1	204	50.0	77	18.9
I know perfectly the role I perform in my workplace.	113	27.7	218	53.4	77	18.9
When I acquire new knowledge, I share it with my colleagues.	117	28.7	212	52.0	79	19.4
Metacognition						
I plan my work tasks adequately.	132	32.4	186	45.6	90	22.1
I do a good job because I monitor how I work.	97	23.8	228	55.9	83	20.3
I believe it is important to comply with rules at work.	143	35.0	189	46.3	76	18.6
I maintain a pleasant relationship with my coworkers.	104	25.5	216	52.9	88	21.6
I always follow up on my work.	121	29.7	205	50.2	82	20.1
I pay attention to the mistakes I make so I do not repeat them.	115	28.2	192	47.1	101	24.8
I recognize emotions that hinder my job performance.	138	33.8	181	44.4	89	21.8
I overcome some work difficulties thanks to self-knowledge.	100	24.5	226	55.4	82	20.1
I dislike knowing that resources at my workplace are not used effectively.	126	30.9	197	48.3	85	20.8
Meta-learning						
I am glad to know that I can understand my own way of learning.	109	26.7	219	53.7	80	19.6
I pay attention when I am told how to improve my learning.	137	33.6	183	44.9	88	21.6
I feel that if I know how I learn, I can make better use of information.	124	30.4	195	47.8	89	21.8
I feel capable of learning new things.	101	24.8	212	52.0	95	23.3
I am interested in knowing and improving my own learning style.	129	31.6	189	46.3	90	22.1
Self-care						
Self-control is necessary for interpersonal relationships.	95	23.3	234	57.4	79	19.4
I am happy when everything goes as I planned.	145	35.5	172	42.2	91	22.3
I am sure that I can improve my ability to apply new knowledge.	82	20.1	205	50.2	121	29.7
I care about my personal hygiene and appearance.	123	30.1	184	45.1	101	24.8
I try to improve the way I speak.	137	33.6	196	48.0	75	18.4
Getting to know myself helps me work more effectively.	111	27.2	201	49.3	96	23.5
It is important for me to take care of myself at work.	103	25.2	218	53.4	87	21.3