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# Academic engagement in university students. The mediator role of Psychological Capital as personal resource

## *Engagement académico en estudiantes universitarios. El rol mediador del Capital Psicológico como recurso personal*

Ari Gómez Borges [1*]
Jonathan Peñalver [2]
Isabel María Martínez [1]
Marisa Salanova [1]

[1] Universitat Jaume I, Spain
[2] Universidad internacional de Valencia, Spain
* Corresponding author. E-mail: aborges@uji.es

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**ABSTRACT**

The COVID-19 pandemic has led to a deterioration in the quality of life and, particularly, the mental health of university students. This situation highlights the need to offer coping programmes and preventive mental health measures. The effectiveness of self-care programmes designed to increase well-being in students has hardly been studied, although promising effects have been found in some studies in the work context (Gomez- Borges et al., 2022). In line with JD-R theory, we conceptualize and empirically examine two resources, self-care activities and Psychological Capital (PsyCap), as antecedents of academic engagement as a positive state of well-being or fulfilment. These personal resources, self-care and PsyCap, can play an important role in meeting demanding situations such as those encountered by students

and, thus, contribute to their well-being. Therefore, the purpose of this study was to analyse the mediating role of PsyCap in the relationship between self-care and academic engagement. The participants were 397 university students from two Spanish universities (77.8% women; mean age 26.08 years). The data collection was carried out during the COVID-19 pandemic. We used structural equation modelling (SEM), and the results showed positive relationships between academic engagement and self-care, on the one hand, and PsyCap, on the other. However, the total mediation model obtained better fit and results, highlighting the mediating role of PsyCap. Based on the results, we discuss the importance of self-care activities for university students and, above all, programmes to develop personal resources such as PsyCap, in order to enhance their effect on academic engagement.

**Keywords:** university students**,** self-care, psychological capital, academic engagement

## RESUMEN

La pandemia de COVID-19 ha provocado un deterioro de la calidad de vida y, en particular, de la salud mental de los estudiantes universitarios. Esto destaca la necesidad de ofrecer programas de afrontamiento y medidas preventivas de salud mental. La efectividad de los programas basados en el autocuidado para aumentar el bienestar en los estudiantes apenas ha sido estudiada, aunque se han encontrado efectos prometedores en algunos estudios en el contexto laboral (Gomez-Borges et al., 2022). En línea con la teoría JD-R conceptualizamos y examinamos empíricamente dos recursos, las actividades de autocuidado y el Capital Psicológico (PsyCap), como antecedentes del engagement académico como estado positivo de bienestar o realización. Estos recursos personales, el autocuidado y el PsyCap, pueden desempeñar un papel importante para afrontar situaciones exigentes como las que enfrentan los estudiantes universitarios en sus estudios, lo que puede contribuir a su bienestar. En base a ello, el propósito de este estudio ha sido analizar el papel mediador del PsyCap en la relación entre el autocuidado y el engagement académico. Los participantes fueron 397 estudiantes universitarios de dos universidades españolas (77.8% mujeres; edad media 26.08 años). Los datos se recogieron durante la pandemia de COVID-19. Utilizando modelos de ecuaciones estructurales (SEM), los resultados muestran relaciones positivas entre el autocuidado y el engagement académico, por un lado; y entre PsyCap y engagement académico por otro. El modelo de mediación total ha obtenido mejor ajuste y resultados, destacando el papel mediador de PsyCap. En base a los resultados, se discute sobre la importancia de las actividades de autocuidado en los estudiantes universitarios y, sobre todo, implementar programas para desarrollar recursos personales como el PsyCap que potencian su efecto sobre el engagement académico.

**Palabras clave:** estudiantes universitarios**,** autocuidado, capital psicológico, engagement académico

## INTRODUCTION

In March 2020, a global alert was declared following the spread of Severe Acute Respiratory Syndrome (SARS-CoV-2), referred to as COVID-19. COVID-19 is a highly contagious and infectious respiratory disease that has become a pandemic and a public health problem with tragic consequences around the world.

The impact of the pandemic has not only had consequences for physical health, but it has also had a very negative effect on mental and emotional health (Heitzman, 2020; Hussain et al., 2020). Studies prior to the COVID-19 pandemic revealed that the context of university education has been affected by high levels of stress in its students, as well as the self-perception that they do not have sufficient tools to face the demands of academic and personal life. Nunes et al. (2014) reports a growing concern in university services about satisfying the great demands for mental health support from university students. In addition, Winerman (2019) reports that 45% of university students seeking psychological help experience high levels of stress, which is even more worrisome because the level of suicide among university students has tripled since the 1950s, making it the second most common cause of death in university students (Rosiek et al., 2016).

The post-pandemic deterioration in mental health has intensified the need to create more effective psychological health programmes to deal with this reality in university contexts. One possible strategy could be the implementation of psychological self-care promotion programmes.

The effectiveness of programmes based on self-care to increase well-being in students has hardly been studied, although promising effects have been found in several studies in the work context. These studies show the positive relationship between self-care activities and well-being (Fiodorova & Farb, 2021; Gomez- Borges et al., 2022). Well-being can be analysed from different approaches, including engagement. Different authors view engagement as a positive state of well-being or fulfilment (Schaufeli et al., 2002a, Salanova et al., 2011). Moreover, the academic engagement construct has been adapted to academic contexts (Martínez et al., 2019b; Salanova et al., 2010).

The purpose of the present study is to analyse the academic engagement of university students and its relationship with psychological self-care activities and Psychological Capital (PsyCap). In addition, this study refers to the specific period of the weeks of confinement due to COVID-19. In order to advance the relationship between students' psychological states such as PsyCap and academic engagement, we draw on the Demands and Resources Model (JD-R) (Bakker & Demerouti, 2017). Engagement involves a balance between the demands of a particular situation and the available resources to meet these demands. Personal resources are defined as psychological characteristics related to resilience and the ability to control and

positively impact one's environment, helping people to achieve their goals and encouraging personal and professional growth.

## ACADEMIC ENGAGEMENT

Engagement is a positive psychological state characterised by vigour, dedication, and absorption. Originally, engagement referred to people's work activities (Schaufeli et al., 2002a), but it has also been extended to the academic context (academic engagement) and conceptualized in relation to students' tasks (Schaufeli et al, 2002b). Engaged students feel energetic, identify strongly with their studies, and are deeply involved in their academic lives. With regard to the three components of engagement, first, vigour is represented by a high level of energy and mental agility, reflected in a willingness to strive and persist in the face of adversity. Second, dedication refers to having a high degree of involvement in the work and experiencing enthusiasm, inspiration, and pride. Finally, absorption refers to the ability to be immersed in and enjoy the task at hand, and it includes the feeling that time passes quickly (Shaufeli et al., 2002b).

Students with higher academic engagement are more motivated in their studies (Loscalzo & Giannini, 2018) and have better academic performance (Salanova et al., 2010) and more positive emotions (Carmona-Halty et al., 2019). The Job Demands and Resources Model (JD-R) (Bakker & Demerouti, 2017) shows empirical evidence that personal resources (Gomez-Borges et al., 2022; Xanthopoulou et al., 2007) and job resources (Schaufeli & Bakker, 2004) are the most important predictors of work engagement, due to their extrinsic and intrinsic motivational potential. High levels of resources lead employees to be engaged at work. In turn, engaged employees report higher levels of well-being and exhibit better performance.

## SELF-CARE

Self-care is defined as conscious and voluntary engagement in activities that promote psychological, physical, and emotional well-being (Myers et al. 2012). In other words, people must be aware that what they are doing is an intentional act of improvement. Self-care is a multi- dimensional and multi-faceted process of voluntary engagement in advocacy strategies that support healthy functioning and promote well-being.

In the JD-R model, Bakker and Demerouti (2017) incorporate actions and activities of employees based on their job demands and resources (e.g., job crafting, self- undermining, self-care) as personal resources. Some studies have related self-care to well-being in work contexts (Gomez-Borges et al.

2022). Colman et al. (2016) conducted a meta-analysis of which main self-care activities positively impacted greater life satisfaction, decreased distress, and self-compassion. The most beneficial activities were mindfulness, seeking social support, and other mixed activities, such as physical exercise in addition to mindfulness. In addition, several studies have found positive results of structured mindfulness programmes, such as increased positive affect, cognition, and psychological well-being (Depner et al., 2020; Garland et al., 2017). Furthermore, physical exercise refers to a subset of planned, structured, and repetitive physical activities with the ultimate or intermediate goal of improving or maintaining an optimal physical condition.

## PSYCHOLOGICAL CAPITAL (PSYCAP)

With the emergence of scientific studies within positive psychology, there has been an increase in programmes and research in the area of positive education. These advances have allowed recent positive psychology constructs to be incorporated as PsyCap, which is considered a personal resource. PsyCap is characterized by hope, self-efficacy, resilience, and optimism (Luthans et al., 2006). Although Luthans' team initially focused on the study of work-related PsyCap, a growing number of studies have been carried out in the educational area (e.g., Datu et al. 2016, Carmona et al. 2019, 2021; Siu et al. 2014). In this context, PsyCap is a characteristic of students who manage to persevere in the pursuit and fulfilment of their goals and are able to adapt their strategies to achieve their goals (hope). Students with high PsyCap are also confident about their resources and capacity for goal achievement (self-efficacy), they overcome obstacles and adverse situations in order to achieve their goals (resilience), and they are optimistic about what is to come (optimism).

Specifically, in relation to PsyCap in students, some studies have shown relationships between academic PsyCap and motivation, academic performance (Luthans et al. 2015; Vanno et al. 2014), academic engagement (Datu and Valdéz, 2016; Martínez et al. 2019a), academic competence (Liao & Liu, 2016), and academic satisfaction (Ortega-Maldonado et al., 2017). Although these studies demonstrate positive relationships between PsyCap and many variables, there are no previous studies that analyse the relationship between self-care, as a personal resource, PsyCap and academic engagement.

In line with JD-R theory, as mentioned above, it is plausible that PsyCap, as a personal resource, promotes engagement. PsyCap is one of the personal resources that research has found to be relevant in relation to engagement (Schaufeli & Bakker, 2004). In the work context, employees with high levels of PsyCap perceive fewer job demands and bring higher job resources (Xanthopoulou et al., 2007). Therefore,

PsyCap can play an important role in meeting demanding situations such as those encountered by college students, which can contribute to their engagement. When high PsyCap students appraise challenges more favourably, they can perceive these situations as less demanding in relation to their personal resources. A perceived balance between demands and resources is vital for engagement. In contrast, low PsyCap students lack personal resources and are also likely to appraise their situations as less favourable and more demanding than their high PsyCap counterparts. Based on the above, we formulate the following hypotheses:

H1: There is a positive and significant relationship between Self-care activities and Psychological Capital

H2: There is a positive and significant relationship between Psychological Capital and Academic Engagement.

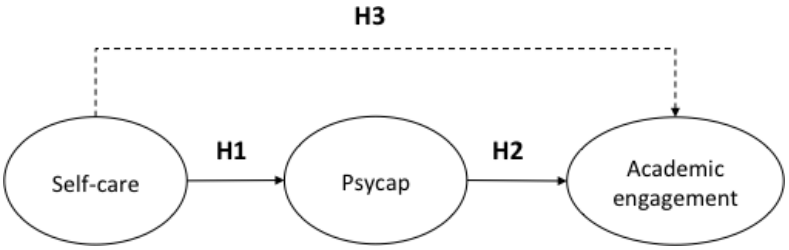
In this context, PsyCap would promote the use of other resources, such as self-care activities. High levels of PsyCap are associated with a balance between demands-resources and would enhance the effect of self-care activities on well-being.

So far, we have described the importance of self-care activities and their relationship with engagement. We have also presented the effects of PsyCap on engagement, due to its ability to enhance resources and meet demands. In addition, some research shows the importance of personal resources (self-efficacy, compassion, PsyCap) as mediators in the relationship between job resources and engagement (Carmona-Halty et al., 2021; San Román et al., 2022; Vink et al., 2011). Therefore, we propose that PsyCap has a mediating role in the relationship between self-care and engagement. In this way, high levels of PsyCap would enhance the effect of self-care activities on engagement, whereas low levels of capital would be associated with less use of resources such as self-care. Thus, the last hypothesis of this study would be the following.

H3: There is a positive and significant relationship between Self-care activities and Academic Engagement through the mediating role of Psychological Capital

As described above, a large number of studies refer to self-care and psychological capital as antecedents of well-being and engagement. However, we analyse these relationships in a specific context, during the weeks of confinement due to COVID-19, and in a special sample, university students. The model is displayed in Figure 1.

**Figure 1**
*Proposed fully mediated model*




*Note*. Dotted lines show no significant paths.

## METHODOLOGY

### Sample and procedure

The participants were university students from two Spanish universities. The sample consisted of 397 university students (77.8% women; mean age 26.08 years, SD = 9.6) and included undergraduate students (78 %), master's degree students (13%), and PhD students (1%).

The information contained in this study was collected between the 15th of October and the 15th of December 2020, using an online survey. The questionnaire was hosted on the university intranet, and access was voluntary. All the questionnaires received were considered valid, and their responses were analysed. The Ethics Committee of the University approved this study.

### Measures

Self-care activities. They were measured through a questionnaire containing seven self-care activities: physical (e.g., diet, physical exercise), psychological (e.g., mindfulness), and social (e.g., affective relationships with friends) self-care activities. The students answered according to their satisfaction with the activities carried out during the confinement period. The responses on these items ranged from 1 to 5 (1 = not at all satisfied; 5 = very satisfied).

Academic engagement. Academic engagement was measured with the short version of the Utrecht Work Academic Engagement Scale for students was measured with the short version of the Utrecht Work Engagement (UWES-S; Schaufeli et al., 2006; Schaufeli et al., 2002a). This version of the UWES-S contains nine items. The dimensions of engagement include feelings of vigour, dedication, and absorption.

Students had to respond by indicating how often they experienced these feelings during the first COVID-19 quarantine (e.g., "When I'm doing my work as a student, I feel bursting with energy"). Responses were given on a seven-point Likert scale (1 = never, 7 = every day). The UWES-S has been used in previous studies and has shown acceptable psychometric properties. (e.g., Martínez et al., 2019b; Schaufeli et al., 2002a).

Psychological Capital. Psychological capital was measured using a translated and adapted version (Martínez et al. 2019a) of the 12-item Psychological Capital Questionnaire (PCQ-12) originally developed by Avey, Avolio, and Luthans (2011).

This scale includes four dimensions: self-efficacy (3 items, e.g. 'I feel confident in presenting my ideas about my studies'); hope (4 items, e.g. 'If I should find myself in a difficult situation related to my studies, I could think of many ways to get out of it'); resilience (3 items, e.g. 'I can get through difficult times academically because I've experienced difficulty with my studies before'); optimism (2 items, e.g. 'I'm optimistic about what will happen to me in the future in terms of my studies'). Participants were asked to indicate the extent to which they agreed with the twelve statements on a seven-point scale ranging from 0 (strongly disagree) to 6 (strongly agree).

Control variables. To avoid alternative interpretations, we measured some control variables such as gender (i.e., women, men) and degree (i.e., bachelor, master, doctorate).

## Data analysis

First, preliminary analyses were computed such as missing data, sample size calculations, normal distribution, means, standard deviations, Cronbach's alpha and omega coefficients, and bivariate correlations for all the scales. Also, to examine common method variance, Harman's single factor test (Podsakoff, et al., 2003) was carried out using AMOS 21.0 (Arbuckle, 2010) for the variables assessed by the participants (i.e., self-care, PsyCap, academic engagement).

Second, we performed structural equation modelling (SEM), by means of AMOS 21.0, using the maximum likelihood estimation method. According to Finney and Distefano (2006), the maximum likelihood estimation method is a robust method when the data have at least 5 response options, have a distribution close to normal, and the sample size is adequate. In order to test the hypotheses, four models were compared: M1, the fully mediated model; M1r the fully mediated model with errors correlated; M2r, the partially mediated model with errors correlated; and M3r, the alternative model with errors correlated. To compare the models tested, seven goodness-of-fit indices were assessed: (1) the $\chi 2$ goodness-of-fit statistic; (2)

the root mean square error of approximation (RMSEA); (3) the Normed Fit Index (NFI); (4) the Tucker-Lewis Index (TLI); (5) the Incremental Fit Index (IFI); (6) the Comparative Fit Index (CFI); and (7) Akaike's Information Criterion (AIC). Values below 0.06 for RMSEA and $p > 0.05$ for $\chi 2$ indicate a good fit. For the remaining indices, values greater than 0.90 indicate a good fit, whereas values greater than 0.95 indicate a superior fit (Hu & Bentler, 1999). Also, Kline (2011) suggested that, AIC can be used to compare competing non-nested models: the lower the AIC index, the better the fit.

## RESULTS

### Preliminary analyses

First, listwise deletion of missing data was performed guaranteeing less than 5% data loss rate (Fichman and Cummings 2003). Based on the recommendations for sample size calculations in structural equation model (SEM; Soper, 2023), 119 was the minimum required sample size to test the exact model fit with 14 observed and 3 latent variables in the model, .3 anticipated effect size, the .05 probability and .8 power level. In this study, the sample is composed of 397 participants, thus it has been guaranteed the minimum sample required in SEM analysis. Also, normality analysis was performed, revealing that skewness and kurtosis do not deviate too far from a normal distribution. Since parametric tests (such as SEM analysis) have been shown to be sufficiently robust for use in case of violation of the normality assumption (Schmider et al., 2010), it was decided to use parametric tests instead of nonparametric tests.

Second, Table 1 presents means, standard deviations, internal consistencies (Cronbach's alpha and omega coefficients), and bivariate correlations for all the study variables. Self-care is positively related to the Psycap dimensions (i.e., self-efficacy, hope, resilience, optimism) and academic engagement dimensions (i.e, vigor, dedication, absorption). With regard to internal consistencies indexes, scales provide appropriate values for their use.

**Table 1**

*Means, standard deviations, reliability, and correlations for the study variables*

| Variables | Mean | DT | alpha | omega | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Self-care | 3.12 | .76 | .76 | .76 | - | .247** | .250** | .242** | .222** | .233** | .194** | .270** |
| 2. Self-efficacy | 4.25 | 1.34 | .88 | .88 | | - | .649** | .499** | .448** | .296** | .415** | .323** |
| 3. Hope | 3.69 | 1.36 | .87 | .87 | | | - | .692** | .665** | .514** | .453** | .436** |
| 4. Resilience | 3.72 | 1.34 | .57** | | | | | - | .652** | .373** | .324** | .390** |
| 5. Optimism | 3.63 | 1.51 | .83 | .83 | | | | | - | .475** | .444** | .427** |
| 6. Vigor | 3,65 | 1.36 | .86 | .86 | | | | | | | .714** | .802** |
| 7. Dedication | 4.23 | 1.43 | .91 | .91 | | | | | | | | .747** |
| 8. Absorption | 3.89 | 1.42 | .85 | .85 | | | | | | | | |

** p<.05,**p<.01;***p<.001.*

*Note*. Resilience is made up of 2 items, so the consistency index cannot be calculated, opting for a bivariate correlation

Finally, the results of Harman's test (Podsakoff et al., 2003) revealed that a one-factor model (self-care, PsyCap, academic engagement) showed a poor fit to the data: [$\chi 2$ (77) = 983.393, p = .000, RMSEA = .17, CFI = .56, NFI = .54, TLI = .48, IFI = .56, AIC = 1067.393]. Results also showed that the three-factor model fit the data better than the one-factor model: [$\chi 2$ (74) = 260.767, p = .00, RMSEA = .08, CFI = .91, NFI = .88, TLI = .89, IFI = .81, AIC = 350.767]. The difference between the two models was also significant, in favour of the model with three latent factors ($\Delta\chi 2$ (10) = 722.626, $p < 0.001$). Consequently, common method variance is not a serious problem in these data.

## Hypothesis testing

In order to avoid effect of confounding variables, gender and degree (i.e., bachelor, master, doctorate) were included in the model as a control variable. Then, different models were calculated to verify the hypotheses using SEM analysis (see Table 2). We expected PsyCap to fully mediate between self-care and academic engagement (M1). Although the relationships between the variables were statistically significant, some goodness-of-fit indices revealed a poor fit. Based on results of the modification indices, we correlated two errors in self-care scale (friends-family; $r = .46$, $p < 0.001$), in order to improve the model fit (M1r). The new model (M1r) showed a significant improvement in both the chi-squared value and goodness-of-fit indices ($\Delta\chi 2_{M1r-M1}=80.667$, $p < 0.001$).

Specifically, the path from self-care to PsyCap was positive and statistically significant ($\beta = .34$, $p < 0.001$), as was the path from PsyCap to academic engagement ($\beta = .59$, $p < 0.001$). This finding supported Hypotheses 1 and 2. To test the mediation hypothesis (Hypothesis 3), we used the product of coefficients method (MacKinnon et al., 2002). The mediated effect of Hypothesis 3 (self-care → PsyCap → academic engagement) was statistically significant ($P = Z\alpha \bullet Z\beta = 36.78$, $p < 0.05$). In addition, a partial mediation model was computed (M2r), but the direct effect between self-care and academic engagement was not statistically significant ($\beta = .09$, non-significant). Thus, these results suggested a full mediation effect.

Finally, in order to increase the credibility of M1r, we tested an alternative model in which self-care worked as mediator variable (M3r; PsyCap→ self-care → academic engagement). Based on the AIC index for competing non-nested models (Kline, 2011), M1r showed the lowest AIC value; therefore, M1r is better than M3r. It is interesting to note that in M1r, self-care explains 18.9% of the variance in PsyCap ($R^2 = 0.189$), which in turn explains 34% of the variance in academic engagement ($R^2 = 0.34$). The final model is illustrated in Figure 2.

**Table 2**

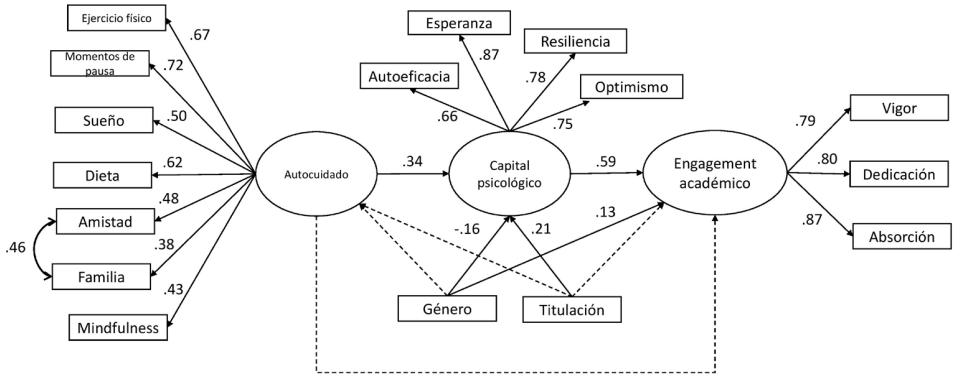
*Goodness-of-fit indices for the SEM models*

| Model | χ2 | *df* | *p* | CFI | NFI | TLI | IFI | RMSEA | AIC |
|---|---|---|---|---|---|---|---|---|---|
| M1 | 295.160 | 97 | .00 | .90 | .87 | .87 | .91 | .07 | 405.160 |
| M1r | 214.493 | 96 | .00 | .94 | .90 | .94 | .94 | .06 | 326.493 |
| M2r | 212.340 | 95 | .00 | .94 | .90 | .93 | .94 | .06 | 326.340 |
| M3r | 295.960 | 96 | .00 | .904 | .87 | .88 | .91 | .07 | 407.960 |

*Note*. M0= Harman's single factor test; M1 = Full Mediation Model; M1b Full Mediation Model revised; M2r = Partial Mediation Model revised; M3r = Alternative Model revised; χ2 = Chi-square; df = degrees of freedom; RMSEA = Root Mean Square Error of Approximation; NFI = Normed Fit Index; TLI = Tucker-Lewis Index; IFI = Incremental Fit Index; AIC = Akaike Information Criterion.

**Figure 2**

*The final model with standardized path coefficients. Dotted lines show no significant paths*



## DISCUSSION AND CONCLUSIONS

This study was carried out in the special social and health context of COVID-19 with a sample of university students. The data refer to experiences during the weeks of confinement, and they were collected retroactively six to seven months after this confinement.

So far, and based on the JD-R model (Bakker & Demerouti, 2017), the purpose of this study was to examine the mediating role of personal resources (PsyCap) in the relationship between self-care activities and academic engagement.

The results supported our hypotheses, indicating that Self-care activities were positively related to PsyCap, which confirms Hypothesis 1. With regard to Hypothesis 2 (which proposes that there is a positive and significant relationship between PsyCap and Academic Engagement), the results also confirmed this hypothesis. Moreover, our study demonstrated significant mediation paths through Psycap. Specifically, Psycap was found to fully mediate the effects of self-care activities on academic engagement. PsyCap was explored as a mediating mechanism that may explain how students capitalize on their academic engagement. These results of our study are consistent with previous studies on personal resources and well-being (Gomez-Borges et al., 2022; San Román et al., 2022), specifically regarding the mediating role of these resources and their effects on engagement (Carmona-Halty et al., 2021; Salanova et al., 2011). In this direction, our results show that PsyCap is a powerful personal resource that could play a very important role on the prediction of positive outcomes. Self-care activities did not show direct effects on academic engagement when PsyCap was considered; therefore, it would be advisable to accompany the activities with the development of PsyCap to increase their effectiveness on the academic engagement of university students. We have analyzed the M1r (self-care → PsyCap → academic engagement) and M3r (PsyCap→ self-care → academic engagement) as possible models, considering in each case self-care activities and PsyCap as antecedents of the academic engagement. Although both models have shown positive relationships, the model that has obtained the best fit is the one that shows the effect of self-care activities on PsyCap (M1r). So this result could indicate the direction of the effect. For managers and those responsible for university management, these results provide some reasons to implement self-care programmes and healthy habits that, at the same time, can facilitate psychological development. Thus, academic engagement could promote positive spirals of psychological resource building, replenishment, and deployment, positive cognitive appraisals that facilitate motivation, effort, and, ultimately, performance, according to the JD-R model by Bakker and Demerouti (2017). In academic contexts, these relationships would be important in improving student grades and overall performance, as shown in Martinez et al., 2019b.

This study and its findings are important in many ways. The main theoretical contribution is that the study highlights the relationship between self-care activities and PsyCap and academic engagement. Therefore, as a practical contribution, the results reveal the importance of including programmes to increase self-care and PsyCap in academic settings. The results of this study are like others previously carried out in work contexts where successful interventions based on scientific evidence have been implemented.

## Theoretical contributions

From a theoretical point of view, this paper extends the research on the JD-R model (Bakker & Demerouti, 2017) by providing evidence that, in a sample of university students, personal resources such as PsyCap could be considered processes underlying the relationship between self-care activities and academic engagement. In fact, in the world of work, Gomez-Borges et al. (2022) found in workers' samples that performing self-care activities promotes the perception of personal and work resources, which in turn enhances employee well-being. This study adds to the knowledge about the role of self-care activities in increasing personal resources in a sample of students. Moreover, the results broaden the knowledge about self-care activities in students and, therefore, add value to self-care programmes, making them more efficient and valid.

## Practical implications

First, results from the present study suggest a promising way to increase academic engagement through psychological programmes and interventions designed to jointly develop self-care activities and PsyCap. Self-care activities are important, but the added influence of psychological capital enhances their effect on engagement.

Second, following the logic of our model, the results reveal the possibility of re-evaluating self- care intervention programmes and including practices related to PsyCap development. The results of this study seem to indicate that self-care practices alone cannot increase academic engagement because we also need to further develop PsyCap.

Third, from an educational point of view, educational institutions could develop holistic educational practices and policies. Applying these measures in the educational context can have effects like to those obtained in work contexts, given that engagement is positively related to performance (grades). Drawing a parallel with the workplace (Van Woerkom, 2021), actions addressing personal variables at

the individual level may have fewer lasting effects than actions that are integrated into the organization's mindset under a multilevel approach, such as educational policies. Finally, the results show the importance of promoting a culture of self-care in the education of university students, given that these practices enhance psychological capital and, therefore, academic engagement. To achieve academic engagement, we must pay more attention to its related variables, such as PsyCap and self-care, and universities must be more committed to psychologically and emotionally empowering their students, not only to prepare them to face the obstacles of university life, but also to empower them for their personal and professional lives.

## Limitations and future research

The present study has some methodological and theoretical-practical limitations. First, a convenience sample was used, which might restrict the generalizability of these findings. However, the sample is heterogeneous because it includes students from different universities and academic years as well as gender diversity. Moreover, the study refers to a special social and health moment in the COVID-19 context.

Second, data were collected from self-report measures, which might have caused common method variance bias. However, considering the nature of the psychological experiences evaluated, it is difficult to employ other measures, such as objective, physical, or external agent measures. Furthermore, Harman's test showed that common method variance bias was not a threat to the validity of our results.

Third, the data are cross-sectional, and so we cannot draw firm conclusions about the causal ordering among the model variables. In order to mitigate this limitation, a third model was proposed (M3r) that provided some information about the possible direction of the relationships. However, future research should focus on developing longitudinal studies with experimental designs in order to uncover the causal order among the study variables.

Finally, although the present study has focused on the relationship between the aforementioned variables in a university sample, future studies could replicate the findings at different educational levels (e.g., high school).

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