



Adaptation and validation to Spanish of the Psychological Capital Questionnaire–12 (PCQ–12) in academic contexts

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Abstract

Psychological Capital is a construct that is experiencing strong growth within the framework of Positive Psychology. In work contexts, it has been related to employee performance, wellbeing, attitudes, and behaviors. In educational contexts, particularly non-English-speaking contexts, there is hardly any research on this topic, mostly due to the lack of assessment and measurement instruments. In general, most studies use the *Psychological Capital Questionnaire* (PCQ) by Luthans et al. (*Personnel Psychology*, 60(3), 541–572, 2007) as a measure. The purpose of the present study is the validation of a 12-item PCQ that is adapted to the academic context and translated to Spanish. A sample of 1126 undergraduate students from two different universities located in Spain ($n = 596$) and Chile ($n = 530$) participated in the study. The current study demonstrates –through reliability (alpha and omega indexes), single group and multiple group confirmatory factor analysis, and criterion validity (Pearson’s correlations)– that the Spanish academic PCQ–12 is a reliable and valid indicator of academic psychological capital.

Keywords Academic contexts · Psychometric analysis · Psychological capital

The attention currently paid to educational systems is widely recognized, given that education provides the basis for personal and professional development. Within the educational system, higher education levels are particularly relevant. High school and university levels, for example, are considered pre-

professional levels because they prepare and develop competencies that are pertinent to employment and career progress. In addition, according to Cotton et al. (2002), educational activities and expectations at these levels exhibit marked similarities to the workplace. For example, students are expected to follow a schedule, respond to certain programmed objectives, perform planned tasks, allocate resources, and achieve adequate performance. Furthermore, they need to engage in self-motivation, persevere, and independently find ways to overcome obstacles that may block them from achieving their goals, all while continuing to learn, grow, and remain physical and psychologically healthy.

In recent years, research has revealed a large number of factors that influence students’ performance and well-being (Oswald et al. 2004; Richardson et al. 2012; Salanova et al. 2010; Schaufeli et al. 2002; Zajacova et al. 2005). Especially with the growing surge in Positive Psychology research and practice, there is a recognized need to take into account the role of personal characteristics and psychological resources as predictors of students’ academic success and wellbeing. However, the availability of measures that fit the educational context to assess these variables is of key importance to operationalizing and examining these important predictors, and subsequently designing and implementing effective strategies and intervention programs to promote student performance and wellbeing.

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Psychological Capital (PsyCap)

Within the framework of Positive Psychology, one of the constructs that has experienced strong growth and development is PsyCap. It arises in the context of empirical research on Positive Organizational Behavior, which emphasizes personal strengths and psychological resources that can be measured, developed, and managed for performance improvement in work contexts (Luthans 2002a, b). According to Luthans et al. (2015), PsyCap is: “an individual’s positive psychological state of development and is characterized by (1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success” (p. 2).

Four psychological resources, namely efficacy, optimism, hope, and resilience, constitute PsyCap. Efficacy is defined as “the individual’s conviction or confidence about his or her abilities to mobilize the motivation, cognitive resources or courses of action needed to successfully execute a specific task within a given context” (Stajkovic and Luthans 1998, p. 66). Optimism is a generalized positive outlook that yields global positive expectancies (Carver et al. 2009), as well as positive explanatory style that attributes positive events to personal, permanent, and pervasive causes, and interprets negative events in terms of external, temporary, and situations-specific factors (Seligman 1998). Hope is defined as “a positive motivational state based on an interactively derived sense of successful (a) agency (goal-directed energy) and (b) pathways (planning to meet goals)” (Snyder et al. 1991, p. 287). Resilience is defined as “the capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress and increased responsibility” (Luthans 2002b, p. 702).

PsyCap has been shown to operate as a higher-order construct, and to predict important outcomes such as performance and satisfaction better than any of its constituent resources in isolation. Efficacy, optimism, hope and resilience share a common mechanism of “positive appraisal of circumstances and probability for success based on motivated effort and perseverance” (Luthans et al. 2007, p. 550), which results in a sense of control, intentionality, and agentic goal pursuit (Luthans and Youssef-Morgan 2017). Furthermore, PsyCap resources can develop and change, rather than being fixed or ‘hard-wired’ personality traits (Dello Russo and Stoykova 2015; Demerouti et al. 2011; Ertosun et al. 2015; Luthans et al. 2006, 2008, 2010).

After more than a decade of research in various contexts and countries, the results show that PsyCap is related to a

number of work performance, attitudes, and behaviors (Avey et al. 2011). Importantly, longitudinal research shows that PsyCap is related to performance (Peterson et al. 2011) and well-being over time (Avey et al. 2010), and in multiple life domains beyond the workplace such as health, relationships, and life in general (Luthans et al. 2013).

Academic PsyCap

In many occasions, work-related constructs have been applied to and tested with samples of pre-professionals, such as university students. This is due to the marked similarities between “emerging adults” and the working population (Arnett 2000). Although they may have limited work experience, high school and university students live in a quasi-professional environment. Like any worker, they have objectives to reach and tasks to perform within a specific time, and their performance is evaluated and rewarded regularly, tangibly and intangibly.

In the academic context, students’ academic PsyCap can be defined as: 1) confidence (efficacy) to initiate and dedicate the necessary effort to achieve success in challenging academic tasks; 2) positive expectancies and attributions (optimism) about present and future educational events; 3) determination and perseverance in the fulfillment of objectives related to their studies and reorienting their paths if necessary (hope); and 4) when overwhelmed by problems and adversity, bouncing back, learning, and growing (resilience), in order to achieve academic success.

Initial research supports positive relationships between academic PsyCap and motivation and performance (Luthans et al. 2012; Siu et al. 2014; Vanno et al. 2014). Students with high PsyCap intensify their efforts to obtain the desired results, as belief in their own capabilities makes them persevere (Luthans et al. 2007). Individual PsyCap resources also predict student success. Self-efficacy, as a component of PsyCap, predicts students’ initiative (Ogunyemi and Mabekoje 2007). Hope facilitates the identification of objectives and motivates goal achievement (Siu et al. 2014), and it has been shown to be a relevant predictor of both academic performance and the probability of dropping out of school and failing subjects (Gallagher et al. 2017; Rand et al. 2011; Snyder et al. 2002).

In addition, positive relationships have been shown between PsyCap and academic engagement (Datu and Valdez 2016; Siu et al. 2014), study-related positive emotions (Carmona-Halty et al. 2018), academic competence (Liao and Liu 2016), academic adjustment (Liu et al. 2015), academic performance (Datu et al. 2016), and academic satisfaction (Ortega-Maldonado and Salanova 2017). Taken together, these studies show that academic PsyCap is a key resource that is related with several academic outcomes.

Measurement of Academic PsyCap

One of the most widely used instruments to evaluate PsyCap is the Psychological Capital Questionnaire (PCQ) developed by Luthans et al. (2007). This questionnaire has two versions, one with 24 items (PCQ–24) and the other with 12 items (PCQ–12). These scales were adapted from established measures of self-efficacy, optimism, hope, and resilience (Parker 1998; Scheier and Carver 1985; Snyder et al. 1996; Wagnild and Young 1993). Validation studies support PsyCap as a second-order construct (Luthans et al. 2007). The 12-item PCQ version has been translated into numerous languages (see www.mindgarden.com). Again, validation studies support the scale and show its intercultural stability. For example, Caza et al. (2010) show acceptable internal consistency of this instrument in Australia. Rus et al. (2012) also found adequate results in the validation of this scale in Rumania. Wernsing (2014) examined the measurement invariance of the PCQ–12 in 12 countries, including Brazil, China, and Germany, among others.

However, to-date no studies have explored academic PsyCap with Spanish-speaking populations. This study is a step in that direction. Specifically, the purpose of this study is to validate a short measure of academic psychological capital (PsyCap) that is adapted from existing PsyCap measure (PCQ–12) to the academic context, and translated to Spanish.

PsyCap would be quite useful in samples of students because, as research has shown, it would be related to wellbeing and performance. PsyCap is also open to development, which would provide the basis for intervention programs designed to develop it as a valuable resource for students. Thus, we hypothesize the following:

Hypothesis 1. The Spanish version of the Academic PCQ–12 will demonstrate acceptable psychometric properties across Spanish and Chilean samples.

Then, our contribution would be on the one hand to adapt the PCQ–12 to the academic context (*Academic PCQ–12*) and on the other hand, to validate this scale to the Spanish population (Spain and Chile), since the questionnaire has been translated into the Spanish language.

Method

Sample

A total of 1126 undergraduate students from two different universities located in Spain and Chile participated in this study in two separate samples. The Spanish sample was comprised of 596 university students; 58.5% female ($M_{\text{age}} = 22.2$,

$SD = 5.74$). The Chilean sample was composed of 530 students 53% female, ($M_{\text{age}} = 20.55$; $SD = 1.94$).

Procedure

To adapt the scale, we used the following process. We contacted the author of the scale to obtain the items in English. The research team in collaboration with the author of the scale adapted the items from the work context to the academic context. In accordance with scholars' recommendations on scale translation (Brislin 1980; Muñiz et al. 2013), a bilingual translator translated the English version of the scale into Spanish. Then another translator carried out the reverse translation. Both translations were compared and discrepancies were discussed until the final Spanish translation was accepted.

This study was part of a broader project that included numerous scales. The battery of scales was administered by researchers to students, in paper-and-pencil format, during class time. The study fulfilled the ethical criteria of human subjects research. Participation was voluntary. All students authorized the research team to access their performance (Grade Point Average), which were provided by educational institutions. Protection of personal data and guarantees of confidentiality were granted.

Variables and Measures

Academic Psychological Capital was measured with a translated and adapted short version of the 12-item Psychological Capital Questionnaire (PCQ–12). The questionnaire was translated into Spanish according to the guidelines of Brislin (1980). Items were adapted to students in line with other adaptations of the PCQ to non-work contexts (Luthans et al. 2013). This scale includes four dimensions: efficacy (three items, e.g. “I feel confident contributing to discussions about strategies on my studies”); hope (4 items, e.g. “I can think of many ways to reach my current goals regarding my studies”); resilience (3 items, e.g. “I usually take stressful things in stride with regard to my studies”); optimism (2 items, e.g. “I’m optimistic about what will happen to me in the future as it pertains to my studies”). Participants were asked to indicate the extent to which they agreed with the 12 statements on a six-point scale from 1 (strongly disagree) to 6 (strongly agree).

In addition, other variables were measured in this study to assess criterion validity. *Academic Engagement* was measured by the Short Utrecht Work Engagement Scale (Schaufeli et al. 2006), which contains three dimensions (vigor, dedication and absorption). The vigor, dedication, and absorption dimensions were each measured by three items. Sample items include: “When I’m doing my work as a student, I feel bursting with energy”, “My studies inspire me”, and “I am immersed in my studies”. All items were rated on a seven-point Likert scale that ranged from 0 (never) to 6 (every day). Cronbach’s alpha

for the overall scale was .84, and .88 for Spanish and Chilean samples respectively.

Satisfaction was assessed with four independent item that take into account four aspects for university students (Ortega-Maldonado and Salanova 2017): the university as a whole, the faculty to which they belonged, the program that they were studying at, and their professors. Sample items include: “*How satisfied are you with the university*”. All items were rated on a five-point faces scale ranging from 1 (frowning) to 5 (smiling). Cronbach’s alpha for the overall scale was .74, and .72 for Spanish and Chilean samples respectively.

Academic performance was assessed using the Grade Point Average (GPA), provided by each university on its participants at the end of the exam period, which was 4 months after the administration of the surveys. According to the Spanish and Chilean systems of qualifications, GPA ranged from 1 (poor) to 10 (excellent), and from 1 (poor) to 7 (excellent), respectively.

Analysis

We performed single-group and multiple-group confirmatory factor analyses (CFA) through maximum likelihood estimation approach using AMOS 21.0. To evaluate goodness of fit, we computed the chi-square (χ^2) and normed chi-square (χ^2/df), Root-Mean-Squared Error of Approximation (RMSEA) with a confidence interval (90% CI), Comparative Fit Index (CFI), and Standardized Root Mean Residual (SRMR). In order to establish the cut-off point and determine model fit, we followed the

guidelines published by the European Journal of Psychological Assessment (Schweizer 2010). To measure invariance across groups (i.e., Spanish and Chilean groups), we tested a model of configuration (i.e., same structure across groups), metric (i.e., same factor loadings across groups), and scalar (i.e., same item intercepts across groups) invariance. These models were compared using the Δ CFI test. That is, based on Cheung and Rensvold (2002), an absolute difference in CFI of less than .01 would indicate measurement invariance. Finally, using Pearson’s correlations, we analysed the association between academic PsyCap and academic engagement, satisfaction, and academic performance (i.e., Grade Point Average).

Results

Descriptive Analysis

Table 1 shows the descriptive statistics for the PCQ-12 at item level, including factor loadings as they emerged in the CFA analysis described below. According to Finney and DiStefano (2006), the skewness and kurtosis values indicate that the assumption of normality has not been violated. Following the suggestion of Avey (2014), gender differences were taken into account, however, t-tests did not reveal any significant gender differences in academic PsyCap in either sample: Spain, $t(564) = 1.52, p > .05, d = .13, 95\% \text{ IC} [- .03, .29]$; Chile $t(528) = 1.51, p > .05, d = .13, 95\% \text{ IC} [- .04, .30]$.

Table 1 Descriptive information of the PCQ, and factor loadings resulting from single-group CFA

| Spain | | | | | | | | | Chile | | | | | | | |
|-----------------|-------------|--------|--------|-----|----------------|-------|-------|-------|-------------|-------|-------|-----|----------------|-------|-------|-------|
| Items | M (SD) | S | K | M–M | Factor loading | | | | M (SD) | S | K | M–M | Factor loading | | | |
| | | | | | Eff | Hop | Res | Opt | | | | | Eff | Hop | Res | Opt |
| 1 – Efficacy | 4.66 (1.24) | - .89 | .43 | 1–6 | .69** | | | | 4.25 (1.32) | - .41 | - .50 | 1–6 | .69** | | | |
| 2 – Efficacy | 4.09 (1.28) | - .37 | - .26 | 1–6 | .72** | | | | 4.09 (1.19) | - .29 | - .51 | 1–6 | .77** | | | |
| 3 – Efficacy | 4.78 (1.21) | - 1.12 | 1.19 | 1–6 | .58** | | | | 4.39 (1.29) | - .61 | - .23 | 1–6 | .68** | | | |
| 4 – Hope | 4.07 (1.37) | - .51 | - .14 | 1–6 | | .72** | | | 4.55 (1.27) | - .58 | - .44 | 1–6 | | .72** | | |
| 5 – Hope | 4.08 (1.37) | - .75 | .35 | 1–6 | | .58** | | | 3.68 (1.42) | - .26 | - .70 | 1–6 | | .64** | | |
| 6 – Hope | 4.01 (1.17) | - .27 | - .01 | 1–6 | | .67** | | | 4.40 (1.23) | - .50 | - .30 | 1–6 | | .81** | | |
| 7 – Hope | 4.02 (1.47) | - .65 | - .03 | 1–6 | | .57** | | | 3.85 (1.42) | - .30 | - .63 | 1–6 | | .67** | | |
| 8 – Resilience | 3.30 (1.63) | - .26 | - .69 | 1–6 | | | .32** | | 4.18 (1.43) | - .40 | - .68 | 1–6 | | | .61** | |
| 9 – Resilience | 3.18 (1.86) | - .19 | - 1.03 | 1–6 | | | .32** | | 3.70 (1.48) | - .15 | - .88 | 1–6 | | | .56** | |
| 10 – Resilience | 4.33 (1.25) | - .53 | .12 | 1–6 | | | .75** | | 4.34 (1.26) | - .44 | - .53 | 1–6 | | | .78** | |
| 11 – Optimism | 4.09 (1.40) | - .76 | .51 | 1–6 | | | | .72** | 4.28 (1.30) | - .52 | - .39 | 1–6 | | | | .77** |
| 12 – Optimism | 3.51 (1.74) | - .36 | - .75 | 1–6 | | | | .59** | 4.60 (1.34) | - .92 | .19 | 1–6 | | | | .81** |
| Academic PsyCap | 4.01 (.80) | - .61 | .76 | 1–6 | .74** | .90** | .79** | .70** | 4.19 (.91) | - .32 | - .32 | 1–6 | .79** | .91** | .93** | .88** |

M mean, SD standard deviation, S Skewness, K Kurtosis, M–M minimum and maximum values

**= $p < .001$; Eff efficacy, Hop hope, Res resilience, Opt optimism

Reliability Analysis

The Spanish Academic PCQ–12 showed a good internal consistency with a Cronbach's alpha of .80 and .89 in Spanish and Chilean samples, respectively. In addition, following [Sijtsma \(2009\)](#), we tested McDonald's omega reliability index and found similar results, .80 and .89 for Spanish and Chilean samples, respectively. Finally, [Table 2](#) shows the corrected item–total correlation analysis, Cronbach's alpha and McDonald's omega if item is deleted. Based on this analysis, all of the items were retained for subsequent analyses. These data are consistent with those obtained by [León-Pérez et al. \(2016\)](#) in the validation of the PCQ-12 in work contexts: Cronbach's alpha (.87) and omega coefficient (.93) values in a sample from a vehicle inspection company ($n = 798$).

Construct Validity

[Table 3](#) reports single-group and multiple-group CFAs. As expected, the one factor model (M1 & M2) does not yield acceptable fit indices. On the other hand, the second order factor—with four first-order factors (M3 & M4)—shows better fit indices in both samples. However, for both samples the CFI values were slightly off with values of .84 in Spanish sample and .89 in Chilean sample. To decide whether the model

needed re-specification, we inspected the modification indices. These indicated that allowing the error terms for two hope items (4 and 7) to correlate could increase model fit. This model (M5 & M6) fitted the data significantly better, and was used as the baseline model in the multiple-group CFA.

The baseline model showed an acceptable fit, with support for configural invariance (M7). Then, equality constraints were imposed on all factor loadings. This model also achieved an acceptable fit, which indicated metric invariance (M8). Next, equality constraints were imposed on all item intercepts to test scalar invariance. The Δ CFI (.086) indicated non-invariance (M9). Inspection of the modification indices suggested that freeing the constraints for some items would improve the fit of the model substantially. After these modifications (i.e., freeing the constraints for items 1, 4, 6, 8, 9 and 12), the Δ CFI indicated partial scalar invariance (M10).

Criterion Validity

To examine criterion validity of the Spanish academic PCQ–12, we conducted correlational analysis between PsyCap, academic engagement, academic satisfaction, and academic performance. As shown in [Table 4](#), our results showed that PsyCap was significantly related to academic engagement, academic satisfaction, and academic performance in both samples.

Table 2 Reliability information of the PCQ–12

| Spain | | | | Chile | | |
|-----------------|----------------------------------|--------------------------------|--------------------------------|----------------------------------|--------------------------------|--------------------------------|
| Items | Corrected item–total correlation | Alpha index if item is deleted | Omega index if item is deleted | Corrected item–total correlation | Alpha index if item is deleted | Omega index if item is deleted |
| 1 – Efficacy | .50 | .78 | .80 | .48 | .89 | .89 |
| 2 – Efficacy | .50 | .78 | .79 | .60 | .88 | .88 |
| 3 – Efficacy | .44 | .79 | .80 | .60 | .88 | .88 |
| 4 – Hope | .58 | .77 | .78 | .62 | .88 | .88 |
| 5 – Hope | .54 | .78 | .78 | .62 | .88 | .88 |
| 6 – Hope | .54 | .78 | .78 | .70 | .88 | .88 |
| 7 – Hope | .53 | .78 | .78 | .65 | .88 | .88 |
| 8 – Resilience | .22 | .81 | .81 | .56 | .88 | .88 |
| 9 – Resilience | .26 | .81 | .81 | .46 | .89 | .89 |
| 10 – Resilience | .52 | .78 | .79 | .67 | .88 | .88 |
| 11 – Optimism | .52 | .78 | .79 | .62 | .88 | .88 |
| 12 – Optimism | .40 | .79 | .80 | .67 | .88 | .88 |
| | Cronbach's Alpha Index | McDonald's Omega Index | | Cronbach's Alpha Index | McDonald's Omega Index | |
| Efficacy | .70 | .70 | | .75 | .75 | |
| Hope | .78 | .77 | | .83 | .83 | |
| Resilience | .59 | .59 | | .68 | .69 | |
| Optimism | .62 | .62 | | .76 | .76 | |
| Academic PsyCap | .82 | .82 | | .89 | .89 | |

**= $p < .001$

Table 3 Fit indices for single-group CFA and multiple-group CFA

| | χ^2 | <i>df</i> | χ^2/df | CFI | RMSEA CI 90% | SRMR | Δ CFI | $\Delta \chi^2$ |
|-----------------|-----------|-----------|-------------|------|-------------------|------|--------------|-------------------|
| M1 ^a | 525.757** | 54 | 9.73 | .75 | .124 [.114, .134] | .075 | na | na |
| M2 ^b | 565.771** | 54 | 10.47 | .81 | .134 [.124, .144] | .068 | na | na |
| M3 ^a | 348.881** | 50 | 6.97 | .84 | .102 [.092, .113] | .071 | na | M1–M3 = 176.876** |
| M4 ^b | 346.685** | 50 | 6.93 | .89 | .106 [.096, .117] | .061 | na | M2–M4 = 219.086** |
| M5 ^a | 160.895** | 49 | 3.28 | .94 | .063 [.053, .074] | .048 | na | M3–M5 = 187.986** |
| M6 ^b | 169.108** | 49 | 3.45 | .95 | .068 [.057, .079] | .046 | na | M4–M6 = 177.577** |
| M7 | 330.004** | 98 | 3.36 | .951 | .046 [.041, .052] | .048 | na | na |
| M8 | 361.838** | 109 | 3.32 | .946 | .046 [.041, .051] | .056 | .005 | na |
| M9 | 821.762** | 121 | 6.79 | .851 | .073 [.068, .077] | .059 | .095 | na |
| M10 | 821.762** | 115 | 3.81 | .937 | .051 [.046, .056] | .055 | .009 | na |

^a = Spanish sample^b = Chilean sample; M1 & M2 = one factor model; M3 & M4 = second order factor model; M5 & M6 = second order factor model re-specified; M7 = configural invariance; M8 = metric invariance; M9 = non-scalar invariance; M10 = partial scalar invariance; χ^2 = Chi-square; ** = $p < .001$; *df* = degree of freedom; CFI = Comparative Fit Index; RMSEA = Root Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; na = not applicable

Discussion

The current study's main aim was to adapt the Psychological Capital Questionnaire (PCQ-12) to the academic context and validate a Spanish translation of this academic PCQ-12, in order to address the lack of measures and facilitate international PsyCap research and applications. In particular, three psychometric characteristics of the PCQ-12 were evaluated across Spanish and Chilean samples of university students: reliability, construct validity, and criterion validity. The findings of the study suggest that the Spanish academic PCQ-12 demonstrated acceptable psychometric properties.

The internal consistency of the scale was similar to previous studies in the work context (Luthans et al. 2007; Wernsing 2014). Cronbach's and Omega's index shows good internal consistency, and does not suggest deleting any items from the Spanish academic PCQ-12. Also, in both samples, corrected item-total correlation analyses show strong relationships consistent with Cohen's (1992) standards. CFA results show that the Spanish academic PCQ-12 structure is best explained as a model of four first-order factors with a higher-order factor. Both samples show acceptable levels of goodness of fit, with minimal modifications (i.e., correlated errors between two items). Additionally, in both samples, the four-factor model

solution showed superior fit when compared to a one-factor model, which is also consistent with previous studies in work context (Luthans et al. 2007). Finally, cultural invariance was also demonstrated, revealing its capacity to evaluate academic PsyCap in a similar way in Spanish and Chilean undergraduate university students. The academic PCQ-12 is a robust instrument in both cases.

Regarding criterion validity, Spanish academic PCQ-12 was positively related to academic engagement, academic satisfaction, and academic performance, which is similar to previous studies (Datu and Valdez 2016; Datu et al. 2016; Siu et al. 2014; Ortega-Maldonado and Salanova 2017). This means that those students who have high levels of PsyCap, also show high levels of vigor, dedication, and absorption in their academic tasks; they are satisfied with their university, faculty, program, and professors; and they achieve a good performance.

These results have implications regarding the use of the Spanish translations of the PCQ-12 (León-Pérez et al. 2016), as well as its use beyond the work context, which has been scarcely studied. Additionally, this measure contains only 12 items and is therefore a short and practical instrument. Taken together, the Spanish academic PCQ-12—development in this study—can thus be considered a valid and reliable tool for use by researchers and practitioners.

Table 4 Correlations between academic PsyCap, academic engagement, academic satisfaction and GPA

| | Vigor | Dedication | Absorption | Academic satisfaction | GPA |
|-----------------|-------|------------|------------|-----------------------|-------|
| Spain | | | | | |
| Academic PsyCap | .39** | .47** | .45** | .34** | .16** |
| Chile | | | | | |
| Academic PsyCap | .40** | .45** | .43** | .32** | .18** |

** = $p < .001$

Strengths, Limitations and Research Directions

This study has some notable strengths. First, the large sample size enhances statistical power. Second, data was collected in two different countries, which enhances external validity. Third, academic performance (GPA) was obtained from educational records 4 months after the surveys were administered, which mitigates common source and common method biases.

This study also has several limitations, which highlight important avenues for future research. The first set of limitations of the current study is methodological in nature. Specifically, incremental validity and test–retest reliability were not tested in this study. It would be interesting to investigate the incremental validity of the Spanish academic PCQ–12 beyond other predictors of academic engagement, satisfaction, and performance, such as personality, intelligence, or traditional entrance exam scores. Furthermore, data was collected only once. Collecting data multiple times to assess test–retest reliability can help gauge the stability of Spanish academic PCQ–12.

The second set of limitations concerns the samples used in this study. The subsamples may not be representative of their countries. Additionally, only two Spanish-speaking countries were sampled, which may not be representative of the 21 countries in which Spanish is the primary language. These concerns may challenge the external validity of the study result. Future studies using different or more representative samples can help fill these gaps.

Compliance with Ethical Standards

Conflict of Interest Author Isabel M. Martínez declares that she has no conflict of interest. Author Isabella Meneghel declares that she has no conflict of interest. Author Marcos Carmona-Halty declares that he has no conflict of interest. Author Carolyn Youssef-Morgan declares that she has no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was approved by the Ethics Committee of the Universitat Jaume I (N° 4/2016).

Informed consent Informed consent was obtained from all individual participants included in the study.

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