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Learning goal orientation and psychological capital among students: A pathway to academic satisfaction and performance

Israel Sánchez-Cardona¹  | Alberto Ortega-Maldonado² |
Marisa Salanova² | Isabel M. Martínez²

¹Department of Psychological Sciences,
Kennesaw State University, Kennesaw,
Georgia, USA

²WANT Research Team, Social Psychology
Department, Universitat Jaume I, Castellón
de la Plana, Castellón, Spain

Correspondence

Israel Sánchez-Cardona, Department of
Psychological Sciences, Kennesaw State
University, 402 Bartow Ave. NW, Kennesaw,
GA 30144, USA.
Email: isanche7@kennesaw.edu

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Abstract

This study explores the mediating role of psychological capital (PsyCap) in the association between learning goal orientation (LGO), academic satisfaction, and performance among college students. We suggest that PsyCap provides positive psychological resources through which learning-oriented students sustain the effort in academic achievement situations, contributing to academic satisfaction and performance. Seven hundred and sixty-eight ($n = 768$) college students completed an academic well-being survey, including LGO, PsyCap, and academic satisfaction measures. Academic performance was collected 5 months later from the University academic records of students. Path analysis results showed that LGO was directly related to academic satisfaction and performance and indirectly related through PsyCap. Statistically significant indirect effects showed a partial mediation. These results highlight the importance of positive education through investment in psychological resources to increase performance and satisfaction among college students.

KEYWORDS

academic performance, academic satisfaction, learning goal orientation, positive education, psychological capital

1 | INTRODUCTION

Traditionally, universities have focused on student retention and academic performance as a metric of success. Graduate and dropout rates are a constant concern for administrators and policymakers, acknowledging their social and economic effects on their individuals' employability. For instance, although public university education is substantially subsidized in Spain, dropout rates remain high (18.3%) compared to other European countries, and there is still slow progress in completing bachelor's studies (European Commission, 2018). Besides, massive youth unemployment remains a significant problem, going over 30%.

There is a need for interventions that focus on structural factors and curricula, as well as on ways to promote psychological resources and well-being as critical predictors of academic achievement to overcome challenges in education (Rattan et al., 2015). The promotion of psychological resources such as self-efficacy, hope, optimism, and resilience have been related to persistence, engagement, academic performance, and well-being indicators (e.g., academic satisfaction) (Martínez, Youssef-Morgan, et al., 2019; Ortega-Maldonado & Salanova, 2018; Shek & Chai, 2020). Subjective well-being represents a broad category of phenomena that includes people's emotional responses, domain satisfactions, and global judgment of life satisfaction (Diener et al., 1999). Academic satisfaction refers to a pleasurable or positive emotional state resulting from the appraisal of one's educational experience (including academic and pedagogic quality of teaching, social climate, esthetic aspects of the physical infrastructure, the quality of services from the administrative staff) (Lent & Brown, 2006; Meneghel et al., 2019; Wiers-Jenssen et al., 2002).

Research and practice must pay attention to how psychological resources and well-being issues help students navigate the complexity of engaging in demanding academic contexts in higher education. The challenge for educational managers, scholars, and practitioners is to develop enriching curriculums and academic experiences and promote students' right conditions to improve their well-being and fully meet their potential. In other words, the aim is to recognize the critical role of psychological resources in educational outcomes (Rattan et al., 2015; Slemp, 2017). This new perspective raises the question of how to develop positive capacities for college students to thrive and cope with increasingly demanding academic contexts.

In challenging learning and academic situations, goal orientation theory provides a framework on how individuals define and strive for success. Learning goal orientation (LGO) refers to an individual's desire to develop the self by acquiring new skills, successfully managing novel situations, and improving competence (Vandewalle, 1997). This growth mindset fosters higher learning and achievement because students seek to learn and develop their abilities, pursue challenges, value effort, and are resilient to setbacks (Dweck & Leggett, 1988; Rattan et al., 2015). Theoretical and empirical research consistently supports that LGO is related to performance (Payne et al., 2007; Taing et al., 2013).

Nonetheless, it has been suggested that other motivational and self-regulatory psychological states may explain the association of LGO with performance and satisfaction (Payne et al., 2007; Vandewalle et al., 2001). These variables may play a key role in directing and sustaining task-related efforts, explaining the distal consequences of LGO, such as academic performance (Payne et al., 2007). For example, Huang and Luthans (2015) found that learning goal-oriented individuals draw from their psychological capital (PsyCap) to generate creativity in teams with less desirable learning behaviors.

Based on the positive organizational behavior, or "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement" (Luthans, 2002, p. 59), PsyCap comprises a set of psychological resources highly related to goal achievement and performance (Luthans et al., 2007). PsyCap is an individual's positive psychological state of development that is characterized by self-efficacy, optimism, hope, and resiliency (Luthans et al., 2007). Drawing from the broaden-and-build theory (Fredrickson, 2001) and conservation of resources (Hobfoll, 1989), PsyCap conceptual model suggests that these four constructs travel together, interact synergistically, and shared commonalities such as control, intentionality, positive appraisal, and agentic pursuit (Luthans & Youssef-Morgan, 2017). As LGO is characterized by challenges seeking and

persistence, psychological resources allow individuals to sustain and fulfill their learning goals. The agentic component of PsyCap can yield a favorable appraisal of the probability for success in challenging situations (Luthans et al., 2011); thus, PsyCap may support learning orientation association to academic satisfaction and performance.

Based on educational and positive organizational behavior literature, we proposed that LGO relates to PsyCap, and, in turn, this positive psychological state relates to academic satisfaction and performance (Payne et al., 2007). Our proposal provides a new avenue to understand motivational and psychosocial processes that may explain academic satisfaction and performance (Rioli et al., 2012) in learning contexts. Thus, this study contributes to examine the role of psychological resources through which students can sustain their efforts in their learning goals and improve academic outcomes. Even though the benefits of PsyCap have been extensively reported in the literature, less is still known about its antecedents (Avey, 2014; Luthans & Youssef-Morgan, 2017). Recent research has found that individual differences (i.e., self-esteem, self-concept) predict PsyCap beyond demographics characteristics and external antecedents (i.e., the complexity of activities) (Avey, 2014). Therefore, this study also extends and integrates PsyCap conceptual application to the educational literature, providing a psychological mechanism that links individual goal orientation to academic satisfaction and performance. This could support the design of activities that improve PsyCap as a personal resource to increase students' well-being and learning experiences (Carmona-Halty et al., 2019; Datu & Valdez, 2019; Kim et al., 2020). As college students face challenging situations throughout their academic career, understanding the psychosocial mechanisms which contribute to engagement, satisfaction, and success are essential to design academic curriculums, programs, and institutions to increase well-being and academic success (Rattan et al., 2015; Sánchez-Cardona et al., 2012; Slemp, 2017).

1.1 | LGO, satisfaction, and performance

College students face constant challenges that threaten their academic success: financial pressure, academic performance, the pressure to succeed, and postgraduation plans, among others (Saleh et al., 2017). Several theoretical models address the predictors and processes of student experiences during their academic years and their association with academic achievement. For example, from the Self-Determination Theory, Ryan and Deci (2017) argue that school environments may satisfy students' basic needs satisfaction to facilitate growth, well-being, and optimize educational outcomes. On the other hand, Tinto's (1975) theoretical model of student persistence/withdrawal behavior identifies goal commitment as an essential input variable in the model of dropout because it helps specify the psychological orientations the individual brings with him into the college setting.

Similarly, the goal orientation theory provides an additional framework to understand individuals' approaches to academic achievement and engagement. This proposition identifies dispositional motivational tendencies that describe individual preferences in achievement situations (Dweck, 1986; Elliot & Dweck, 1988; Vandewalle et al., 2001). Vandewalle (1997) defined three different goal-orientations: LGO, proving goal orientation, and avoiding goal orientation. LGO refers to a focus on developing one's competence by acquiring new skills, managing successfully novel situations, and learning from experience. Proving goal orientation focuses on demonstrating one's competence and gaining favorable judgment from others. Finally, avoiding goal orientation, which refers to avoiding negations of one's competence as well as the negative judgment of others. Meta-analytical research supports these classifications of goal orientations and provided evidence of their stability over time (Payne et al., 2007).

Since LGO refers to individual development (Tippin et al., 2012; Vandewalle, 1997), this dimension is favorably and consistently related to performance, motivation, and well-being, even beyond and above cognitive abilities and personality traits (Payne et al., 2007). The difference in performance outcome among goal orientation dimensions has been attributed to individuals' belief in malleability and the trainability of skills (Dweck & Leggett, 1988; Taing et al., 2013). For example, Utman (1997) found in a meta-analytical investigation that learning goals relate to better performance in complex tasks than to performance goals. Payne et al. (2007) reported that individuals that report higher scores on LGO are likely to learn more and perform better.

Students high in LGO are more willing to pursue challenging tasks and goals, are more motivated to learn (Klein et al., 2006; Tippin et al., 2012), and adapt better (Pintrich, 2000). For instance, a student who wants to develop a specific competence will work harder to accomplish a mastery level. In a longitudinal study, Taing et al. (2013) found that LGO was associated with setting higher goals and maintaining higher performance over time. Consequently, it has been reported that LGO among college students is associated with subjective career success (Van Dierendonck & van der Gaast, 2013). In sum, LGO fosters attitudes toward continuous improvement, which prepares professionals to better deal with failure in early career stages.

Additionally, LGO has been related to psychological constructs such as self-efficacy, motivation, enjoyment, well-being, and satisfaction (Janssen & Van Yperen, 2004; Payne et al., 2007). Individuals with LGO have an intrinsic interest in the task at hand, exert great effort and perceive more control of the situations (Albert & Dahling, 2016; Janssen & Van Yperen, 2004), which is associated with positive affect and satisfaction toward the outcome. Roebken (2007) conducted a study to examine the relationship between student goal orientation and student satisfaction, academic engagement, and achievement among undergraduates' college students. Results showed that students who exhibit a higher LGO expressed more satisfaction with the overall academic experience and had a higher academic performance (i.e., GPA). Considering the previous theoretical and empirical findings, we hypothesized that:

Hypothesis 1: *Learning goal orientation is positively related to academic performance.*

Hypothesis 2: *Learning goal orientation is positively related to academic satisfaction.*

1.2 | The mediating role of PsyCap

Evidence also suggests that motivational and self-regulatory psychological states may explain the relation of LGO with performance and satisfaction (Payne et al., 2007; Vandewalle et al., 2001). According to Luthans et al. (2007), PsyCap represents an individual motivational propensity, which helps to sustain action and lead to performance. PsyCap is defined as

an individual's positive psychological state of development characterized by (a) having confidence (self-efficacy) to take on and put the necessary effort to succeed in challenging tasks; (b) making a positive attribution (optimism) about succeeding now and in the future; (c) persevering towards goals, and when necessary, redirecting paths towards goals (hope) in order to succeed; and (d) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success (Luthans et al., 2007, p. 3).

These four psychological states have an underlying common thread and consequently are part of an interactive, synergetic resource set, rather than being in isolation and completely independent constructs (Luthans & Youssef-Morgan, 2017). In line with the Conservation of Resources theory (Hobfoll, 1989), PsyCap, as one core-construct, represent a *resource caravan*, a set of resources that do not occur individually but instead appear as co-travelers, with a unique impact on attitudes, behaviors, and well-being. These resources will help maintain an internalized sense of control and intentionality while goals are being pursued and accomplished (Luthans & Youssef-Morgan, 2017). PsyCap will be essential to sustain an action in challenging situations where students' disposition is to learn and develop their competencies.

One distinguishable characteristic of PsyCap is its malleability and openness to change and development. Luthans and Youssef-Morgan (2017) presented a state-trait continuum to distinguish PsyCap from other psychological characteristics or resources. At each end of the continuum, they conceptualized: (a) the momentary, changeable, and unstable states such as moods and emotions; and (b) the trait-like characteristics which are

relatively fixed and not very malleable (e.g., Big-Five personality traits, the character of strengths, and core-self evaluations). In the middle of the continuum, they placed PsyCap, as a state-like resource (malleable and open to development). PsyCap changes over time and can be promoted through training interventions (Dello Russo & Stoykova, 2015; Salanova & Ortega-Maldonado, 2019).

As a unique core construct that can be developed and promoted, PsyCap has gained considerable attention in academic contexts (Luthans et al., 2012; Ouwenel et al., 2011; Siu et al., 2014). PsyCap positively predicts academic engagement, academic happiness, and satisfaction (Datu & Valdez, 2016; Datu et al., 2018; Ortega-Maldonado & Salanova, 2018; Siu et al., 2014). Rioli et al. (2012) found that PsyCap mediated the association between stress and psychological and physical well-being, while it increased students' satisfaction with life. Similarly, recent research has shown the mediating role of PsyCap in the association between motivational approaches (i.e., academic engagement and basic needs satisfaction) and academic satisfaction and performance (Carmona-Halty et al., 2019; Martínez, Youssef-Morgan, et al., 2019). Additionally, Dello Russo and Stoykova (2015) found significant increases in PsyCap levels after intervention among university students, which remained stable after 1 month.

Consequently, it is expected that students with high levels of PsyCap will be able to evaluate positively challenging circumstances and realistic, successful possibilities based on motivational persistence and effort, as well as a sense of agency and control (Youssef-Morgan & Luthans, 2013). Students will be capable of identifying goals and pathways to achieve as well as to be confident in their abilities to accept challenging situations, put in the effort, and be persistent, with a realistic attribution of what can be accomplished to succeed. Besides, under adversity or challenging situations, they can bounce back.

We propose that LGO as a dispositional trait, more specifically, as an achievement motivational trait (Payne et al., 2007), relates to PsyCap. As previously stated, the agentic component of PsyCap can yield a favorable appraisal of the probability for success in challenging situations; therefore, PsyCap may support learning orientation association to academic satisfaction and performance. Students with LGO will show more significant effort and persistence toward achieving a particular goal (i.e., hope) as well as confidence in their abilities under the achievement situation (i.e., efficacy) (Payne et al., 2007). If individuals with LGO have difficulties attaining specific goals, it is perceived as a temporary setback, one that they have not yet learned how to overcome (Taing et al., 2013). Vandewalle et al. (2001) suggested that a strong LGO helps foster resilience. Hence, individuals with higher scores on LGO may frame failures as temporary setbacks until they developed the skills and abilities to master the situation. LGO is useful in allowing individuals to prepare themselves to better deal with problems and to cope with the obstacles that arise between them and their goals (Van Dierendonck & van der Gaast, 2013). PsyCap has been hypothesized to empower students with the necessary psychological resources to cope through adverse circumstances (Rioli et al., 2012). As a malleable and developable construct, PsyCap is one of the action mechanisms that may be developed and enhanced among learning goal-oriented students to improve well-being and performance (Luthans & Youssef-Morgan, 2017). Based on the above, we proposed the following hypothesis:

Hypothesis 3: *Psychological capital mediates the relation between learning goal orientation and academic satisfaction and performance.*

2 | METHODS

2.1 | Sample and procedure

We collected data from 768 undergraduate students (58.9% female; 39.5% male; 1.7% did not answer) from a public university in Spain. The university has a total of 13,923 students in undergraduate and graduate programs (57.26% female; 42.74% male). The sample was stratified and belonged to four colleges: Humanities and Social Science (33.2%), School of Technology and Experimental Sciences (25%), Law and Economics (24.3%), and Health

Sciences (17.4%). Most of the participants (93%) were enrolled in an undergraduate program (Bachelors' Degree), and 83.9% of participants were not working at the time of the study (0.5% did not answer). Most of the students were in their first (35.5%), second (37.2%), or third (19.7%) year in college, while 7.9% of the students were in their fourth or fifth year.

The sample was recruited by visiting classrooms with professors' consent through different university colleges. Students received a brief presentation of the study by the researchers. Participation was voluntary, and students were oriented about the confidentiality of the information and that only aggregated data would be reported. Participants completed an individual paper and pencil questionnaire on academic well-being. On a separate page, in front of the questionnaire, students could voluntarily provide their identification number and signed an authorization form to grant the research team access to their academic grades reported by the university at the end of the second exam session.

2.2 | Measures

We measured LGO using four items adapted and translated to Spanish from the 13-item goal orientation scale developed by Vandewalle (1997). Some example items are: "I'm willing to enroll in a difficult course if I can learn a lot by taking it" and "I truly enjoy studying for the sake of learning." All items were answered using a 7-point Likert-type scale ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). Cronbach's α coefficient for this study was 0.74.

PsyCap was measured using a translated to Spanish and adapted to the academic context short version (12 items) of the Psychological Capital Questionnaire (PCQ) (Martínez, Meneghel, et al., 2019). PsyCap is a higher-order core construct through which these four positive psychological resources interact in a synergic way (Luthans & Youssef-Morgan, 2017). Each subscale included four items, which were responded with a 7-point Likert-type scale ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). Some item examples included: "I feel confident in representing my ideas concerning my studies" (efficacy); "I can think of many ways to reach my current goals regarding my studies" (hope); "I can get through difficult times at school because I've experienced difficulties before concerning my studies" (resilience); "I always look on the bright side of things regarding my studies" (optimism). Cronbach's α coefficient for the PsyCap measure in this study was 0.80.

We measure academic satisfaction with a four-item scale that considers different aspects of students' academic life: their professors, the degree they are enrolled in, the college to which they belong to and the University (Ortega-Maldonado & Salanova, 2018). An item example is: "How satisfied are you with your professors?". All items were in Spanish and answered using a 7-point Likert-type scale ranging from 0 (*totally disagree*) to 6 (*totally agree*). Cronbach's α coefficient for this study was 0.72.

Academic performance was assessed using the grade point average (GPA) provided by the university at the end of the examination period. These data reflected students' GPA approximately 5 months (T2) after the questionnaires were completed. According to the grading system in Spain, the GPA ranged from 0 (poor performance/fail) to 10 (excellent performance). The GPA mean for participants in this study was 7.02 ($SD = 0.77$) [range: 5.10–9.52].

2.3 | Data analysis

Before analysis, we examined all variables for accuracy, missing data, and multivariate assumptions. To test our hypothesized model, we selected only those cases with data on academic performance, excluding 189 participants. Results indicated that the excluded participant reported lower LGO ($F(1, 943) = 6.05, p = 0.014$, partial $\eta^2 = 0.006$), and academic satisfaction ($F(1, 953) = 13.03, p < 0.001$, partial $\eta^2 = 0.01$); however, effect sizes were all small. There was no significant difference in PsyCap ($F(1, 914) = 3.45, p = 0.063$, partial $\eta^2 = 0.004$). Missing values on all other

variables were less than 2%. We implemented full information maximum likelihood missing value estimation as part of the path modeling in STATA (Allison, 2010). We did not identify any multivariate outliers that may affect estimates; however, data did not meet multivariate normality (Mardia Skewness = 1.285, $\chi^2(20) = 165.461$, $p < 0.001$).

To ensure that common method bias was not an issue in this data set, we followed several methodological and statistical procedures (Podsakoff et al., 2012). First, we measured variables using different sources. LGO (predictor) and PsyCap (mediator) were self-reported, while academic performance (GPA) was collected from an objective source. Furthermore, there was a time lag (5 months) between obtaining GPA and the rest of the variables. Secondly, we conducted Harman's one-factor test to assure the measures' discriminant validity and established correlations among items and their respective constructs.

After inspection of the data set, we proceeded to conduct descriptive, correlational, and path analysis. We performed an analysis of variance (ANOVA) to examine any differences in the study variables between colleges. We analyzed the proposed model through path analysis using the maximum likelihood estimation method in STATA v. 14. Since path analysis is an extension of multiple regression models used to examine the comparative strength of direct and indirect relationships among variables (Lleras, 2005), all variables were used as observed variables.

The following absolute and relative goodness-of-fit indices were considered to evaluate model fit. The absolute goodness-of-fit indexes calculated were the χ^2 goodness-of-fit statistic and the Root Mean Square Error of Approximation (RMSEA). Values of RMSEA below 0.08 and 0.05 indicate a reasonable and good fit. Additionally, we computed two relative indexes: the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI). Values equal to or higher than 0.95 indicate a good fit between the hypothesized model and the observed data (Hu & Bentler, 1999). Last, to test the indirect effect of the hypothesized model, we conducted a bias-corrected method with 5000 bootstrap samples to calculate confidence intervals of indirect effects (Cheung & Lau, 2008).

3 | RESULTS

3.1 | Preliminary analysis

We conducted Harman's one-factor test to examine possible effects due to common method bias. The results showed a poor fit of the one-factor model: $\chi^2(150) = 963.66$, RMSEA = 0.084, CFI = 0.80, TLI = 0.77, in comparison to the three-factor model (LGO, PsyCap, and academic satisfaction): $\chi^2(143) = 498.01$, RMSEA = 0.057, CFI = 0.91, TLI = 0.89, $\Delta\chi^2(7) = 465.65$, $p < 0.05$. This suggests that all measures correspond to a distinct yet, related construct with a significant correlation between factors ranging from 0.41 to 0.69. Additionally, the squared root of the average variance extracted (AVE) for LGO (0.70) and PsyCap (0.83) was greater than inter-construct correlations, suggesting discriminant validity. Further analysis indicated that multicollinearity was not a concern (Tolerance = 0.73, VIF = 1.36).

We examined possible differences in the study variables between university colleges before testing our model. There were no differences in the mean of PsyCap reported by students from different colleges, $F(3, 734) = 0.910$, $p = 0.436$, and partial $\eta^2 = 0.004$. Significant differences were found in LGO, $F(3, 756) = 3.254$, $p = 0.021$, and partial $\eta^2 = 0.013$. Post hoc analysis with Bonferroni revealed a significant statistical difference between the College of Health Sciences ($M = 3.40$, $SD = 0.78$), the Humanities and Social Science College ($M = 3.13$, $SD = 0.91$), and College of Law and Economics ($M = 3.13$, $SD = 0.87$). However, the effect size of this difference was small (Cohen, 1988). We obtained similar results with academic satisfaction. Results showed a statistical significant difference between colleges on the students' satisfaction, $F(3, 763) = 5.018$, $p = 0.002$, and partial $\eta^2 = 0.019$. Post hoc analysis with Bonferroni show that the College of Humanities and Social Science ($M = 3.25$, $SD = 0.58$) significantly differ from the College of Law and Economics ($M = 3.10$, $SD = 0.52$), College of Health Sciences ($M = 3.08$, $SD = 0.57$), and School of Technology and Experimental Sciences ($M = 3.07$, $SD = 0.58$). However, the effect size was also small. Finally, there was a significant statistical difference on academic performance between faculties, $F(3, 764) = 34.449$, $p < 0.001$, and partial $\eta^2 = 0.12$. Post hoc analysis using Bonferroni

TABLE 1 Descriptive statistics and correlations of the study variables

Variable	M	SD	1	2	3
1. Learning Goal Orientation ^a	3.19	0.88	(0.76)		
2. Psychological Capital (PsyCap) ^b	3.76	0.76	0.515**	(0.80)	
3. Academic Satisfaction ^c	3.15	0.57	0.241**	0.331**	(0.72)
4. Academic Performance (T2) ^d	7.02	0.77	0.227**	0.222**	0.158**

Note: All correlations are significant at $p < 0.01$. Coefficient α reliability estimates are listed in the diagonal in parentheses.

^a $n = 760$.

^b $n = 732$.

^c $n = 759$.

^d $n = 760$.

revealed that most colleges differ statistically on their students' academic performance. Only the Humanities and Social Science College ($M = 7.22$, $SD = 0.68$) and the College of Health Sciences ($M = 7.34$, $SD = 0.75$) did not differ statistically, and both represented the highest scores on academic performance. Overall, no consistent differences among groups were found; consequently, further analyses were not conducted by groups.

3.2 | Model fit

Table 1 shows the correlations between the study variables. All correlations were positive and in the expected direction.

First, a full mediation model of PsyCap in the relation between LGO and academic satisfaction and performance was estimated to test the hypothesized model. This model showed poor fit to the data: $\chi^2 = 24.80$, $df = 3$, $RMSEA = 0.09$, 90% CI [0.06, 0.13], $CFI = 0.94$, $TLI = 0.88$. Thus, the model was re-estimated, allowing direct paths from LGO to academic satisfaction and performance. Results showed that this second model had a better fit: $\chi^2 = 5.12$, $df = 1$, $RMSEA = 0.07$, 90% CI [0.02, 0.18], $CFI = 0.99$, $TLI = 0.93$. The fit of this partial mediation model significantly improved compared to the full mediation model ($\Delta\chi^2 (2) = 19.68$, $p < 0.001$). LGO significantly and positively relates to PsyCap ($\beta = 0.51$, $p < 0.001$). As well, PsyCap significantly relates to academic performance ($\beta = 0.14$, $p < 0.05$) and satisfaction ($\beta = 0.28$, $p < 0.001$). LGO significantly relates to academic performance ($\beta = 0.15$, $p < 0.05$) and satisfaction ($\beta = 0.09$, $p < 0.05$), while controlling for PsyCap (see Figure 1).

We conducted a bias-corrected method with 5000 bootstrap samples to calculate confidence intervals of indirect effects (Cheung & Lau, 2008). Indirect effect of LGO on academic satisfaction through PsyCap was significant (Indirect effect = 0.09, $SE = 0.016$, BCa 95% CI [0.06, 0.13]). In addition, LGO indirect effect through PsyCap on academic performance was also significant (Indirect effect = 0.02, $SE = 0.004$, 95% BCa CI [0.01, 0.03]). Thus, PsyCap partially mediates the association between LGO and academic satisfaction and performance. The model explains 14% of the variance of academic satisfaction and 6% of academic performance (GPA).

4 | DISCUSSION

This study aimed to examine the mediating role of PsyCap in the association between LGO, academic satisfaction, and performance in a sample of college students. Results show that LGO significantly predicts academic satisfaction and performance among college students. This result is consistent with previous literature, in which LGO is related to better performance (Johnson et al., 2011; Payne et al., 2007; Vandewalle et al., 2001). Learning

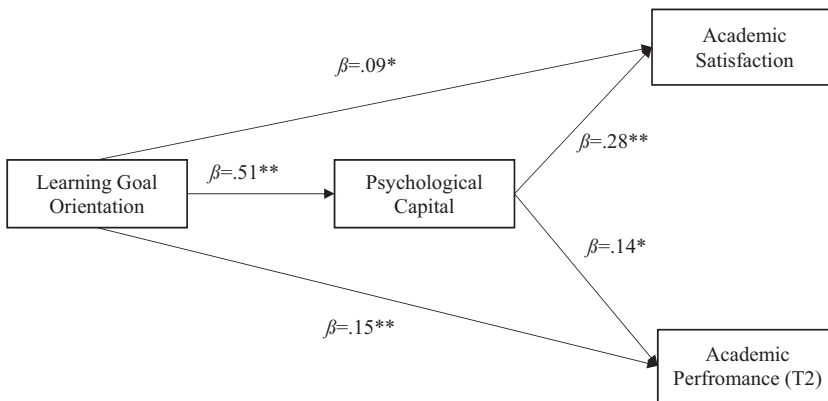


FIGURE 1 Final path analysis model with standardized estimates

goal-oriented individuals strive to improve their competencies and master skills to attain goals and are more willing to take risks, make mistakes, and ask for feedback. In the academic context, this disposition seems crucial to develop the necessary competencies to improve academic success. Achievement situations and goals in academic contexts are aligned with learning objectives; thus, it is plausible that LGO facilitates the process of goal attainment in terms of academic achievement. Concerning well-being, LGO positively relates to satisfaction and predicts PsyCap among college students.

Besides, the indirect effect of PsyCap between LGO and satisfaction and performance was significant. This mediating effect suggests a mechanism through which LGO and academic performance and satisfaction are linked. Previous recommendations suggest that motivational and self-regulatory constructs may play a key role in linking LGO with performance and well-being outcomes (Johnson et al., 2011; Payne et al., 2007; Vandewalle et al., 2001). PsyCap as a proactive and motivational mechanism may help to complete a task or reach a goal and provide students with psychological resources to cope with adverse circumstances (Rioli et al., 2012). Therefore, it leads to better performance and satisfaction among those individuals whose disposition is toward learning and mastering skills.

This result is in line with previous literature that consistently relates PsyCap to positive outcomes (Ouweneel et al., 2011; Rioli et al., 2012). Results coincide with findings reported by Huang and Luthans (2015), who found a significant indirect effect of PsyCap between the relation of LGO and creative performance. These results provide additional avenues for research and practice suggesting a developable psychological mechanism to improve performance and satisfaction among college students. Previous research has explored these possible mechanisms through variables such as persistence, effort, and efficacy, but the added value of a PsyCap has received little attention. Recent reviews proposed the importance of psychosocial constructs, such as self-efficacy, emotions, belonging, and well-being, as explanatory variables of student engagement and academic outcomes (Kahu & Nelson, 2018).

4.1 | Theoretical implications

Results from this analysis add at least two theoretical contributions. First, it tested a new individual difference antecedent of PsyCap. Literature has focused on outcomes of PsyCap, giving less attention to potential antecedents (Avey, 2014; Luthans & Youssef-Morgan, 2017). Previous research highlights the contribution of individual differences, especially self-core evaluations (i.e., self-esteem) and contextual factors (i.e., task, leadership). It seems that students' goal orientation plays a role in the development of positive psychological states (Avey, 2014).

According to the broaden-and-build theory (Fredrickson, 2001) and the conservation of resources theory (Hobfoll, 1989), LGO is significantly related to PsyCap, which might suggest that individuals with a disposition to increment their skills and abilities will develop their resources of hope, resilience, efficacy, and optimism. These psychological resources may allow individuals to sustain and fulfill their learning goals, improving performance. According to well-being proposals (see PERMA model in Seligman, 2011), obtaining accomplishment improves students' self-esteem and self-confidence, starting a positive gain spiral over time.

Second, as recent evidence also highlighted, PsyCap "operates as a key antecedent of adaptive academic outcomes" (Datu et al., 2018, p. 268). PsyCap provides a motivational mechanism to explain the association between LGO and positive outcomes in college students. These positive psychological states may be crucial as motivational states to sustain action, persistence, and effort in goal attainment, improving and maintaining performance, and satisfaction. Nonetheless, and although an indirect effect was found, additional possible motivational variables may mediate this relation. LGO is strongly related to performance, particularly in learning contexts (Huang & Luthans, 2015). For example, the indirect effect of LGO on creative performance via PsyCap was stronger in contexts where team learning was low.

4.2 | Practical implications

The present study provides evidence of the positive consequences for performance and satisfaction if PsyCap is developed among college students. From a positive psychology perspective, intentional activities could be implemented in higher education institutions aimed to cultivate positive feelings, behaviors, and cognitions (Kahu & Nelson, 2018; Oades et al., 2011; Ouwenel et al., 2011). Some intervention programs have been implemented for the development of PsyCap to enhance positivity through short-training interventions and web-based methodologies (Salanova & Ortega-Maldonado, 2019). Luthans et al. (2012) tested an intervention among college students that proved to have a significant impact on the development of PsyCap. Evidence of such programs in an academic setting suggests that significant increases in PsyCap levels remain stable after 1 month (Dello Russo & Stoykova, 2015).

These interventions should also consider the possible antecedents of PsyCap. For example, individual dispositions could play an essential role as an antecedent of PsyCap (Avey, 2014). LGO showed to be a strong predictor of PsyCap. Educators should be aware of the motivational orientations of their students to create educational challenges aligned with their goal orientation. Higher education institutions, in general, and educators, in particular, should create environments that value learning and development to motivate individuals with LGO. This argument is in line with the need to develop a growth mindset (seek to learn and develop abilities) to improve academic achievement (Rattan et al., 2015; Yeager et al., 2019). This mindset can be developed "through in-school and online programs in which students learn that intellectual abilities can be developed over time through hard work, better learning strategies, and help from others" (p. 722). This environment, in turn, could lead to increases in positive outcomes (e.g., PsyCap, satisfaction, and performance). Nonetheless, it is also essential to consider any possible boundary conditions that can influence this link (Huang & Luthans, 2015). Furthermore, academic learning and performance are related to an individual's career success and employability (Fugate et al., 2004), which can help reduce youth unemployment.

4.3 | Limitations and future research

Results obtained in this study should be interpreted considering certain limitations. First, the sample consisted of students from one university in Spain. Even though sample stratification guaranteed participation from all colleges, future research should be conducted with a larger sample from diverse universities, colleges, and educational levels to generalize these results. Additionally, cross-cultural research should be conducted to ascertain possible

sociocultural differences related to PsyCap (Wernsing, 2014). Second, this study is cross-sectional; consequently, we cannot draw any causal inferences from the results.

Nonetheless, our model consisted of variables collected at two points in time, using self-reported and archival data (academic performance). The inclusion of different data sources provides strength to our methodology, suggesting a significant effect of LGO and PsyCap on academic performance over time. Still, longitudinal analyses are needed to assert any causal link between these variables. Additionally, separating data collection in time and using archival data reduces bias due to a common method (Podsakoff et al., 2012). It is important to note that the exclusion of some participants from the data set may have introduced selection bias limiting generalizability. Albeit participants of this study reported higher LGO, PsyCap, and academic satisfaction, the effect size for these differences were relatively small, suggesting an unpractical effect. Nevertheless, additional research should be conducted with a broader range of college students from diverse academic institutions to attain this limitation.

Finally, the partial mediation model in this study is in line with previous results among workers samples (Huang & Luthans, 2015), and it might suggest other possible mechanisms in the intricate association between LGO and positive outcomes. Future studies should consider the integration of other motivational and psychosocial processes (Johnson et al., 2011; Payne et al., 2007). For example, need satisfaction literature suggests that when basic psychological needs (i.e., competence, relatedness, and autonomy) are satisfied, individuals report greater well-being and functioning (Ryan & Deci, 2017). It might be possible that learning goal-oriented individuals achieve better functioning if they fulfill their psychological needs. Furthermore, the fulfillment of psychological needs is related to intrinsic motivation, and learning goal-oriented individuals tend to have intrinsic motivation toward the tasks. In such cases, the fulfillment of psychological needs and intrinsic motivation will contribute significantly to enhanced performance and well-being (Carmona-Halty et al., 2019). Furthermore, although we focused our attention on PsyCap as a higher-order construct as advice in recent literature (Luthans & Youssef-Morgan, 2017), future research should address the association of LGO with each component: hope, efficacy, resilience, and optimism. This kind of analysis may highlight important pathways through the individual components of the PsyCap, yet from a different perspective (Luthans & Youssef-Morgan, 2017).

5 | CONCLUSIONS

Consistent with previous research, the present study an association between LGO, academic satisfaction, and performance among college students and the mediating role of PsyCap in this relation. These results highlight the relevance of positive education through the investment in psychological factors to increase performance and satisfaction among university students considering personal disposition toward learning and positive psychological resources such as PsyCap. Universities should strive to become healthier, happier, and more effective environments by creating new knowledge and positive capabilities among students.

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ORCID

Israel Sánchez-Cardona  <http://orcid.org/0000-0001-8925-5023>

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