The influence of self-efficacy on academic goals and the mediating role of self-regulation of learning in a sample of university students

La influencia de la autoeficacia sobre las metas académicas y el rol mediador de la autorregulación del aprendizaje en una muestra de estudiantado universitario

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Abstract

Self-regulation of learning, general self-efficacy and academic goals play fundamental roles for students in higher education because the interrelation among them influences the will and skills needed for the challenges of learning in a university setting. The aim of this study was to research the relationship between general self-efficacy and academic goals in a sample of Chilean university students, considering the mediating role of self-regulation of learning. Following a quantitative, nonexperimental and cross-sectional approach, an explanatory associative strategy was used to perform a mediation analysis between variables. For this purpose, 231 Chilean university students (68% women), aged between 18 and 29 (M = 19.8; SD = 1.39), answered three self-report instruments. The results from the models tested reveal that self-regulation of learning mediates the relationship between general self-efficacy and academic goals related to learning. It is concluded that the mission of vocational training is to promote occasions for training with learning opportunities for students to face academic tasks trusting in their abilities, self-managing their learning and reaching desired goals.

Keywords: self-efficacy, self-regulation of learning, academic goals, university students, explanatory model.

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Resumen

La autorregulación del aprendizaje, la autoeficacia general y las metas académicas cumplen un rol fundamental para los y las estudiantes de educación superior, ya que la interrelación entre ellas, influye en la voluntad y las destrezas requeridas para los desafíos del aprendizaje en la universidad. Esta investigación tuvo por objetivo estudiar la relación entre la autoeficacia general y las metas académicas en una muestra de estudiantado universitario de Chile, considerando el rol mediador de la autorregulación del aprendizaje. Siguiendo un enfoque cuantitativo, no experimental y transversal se utilizó una estrategia asociativa de tipo explicativa para realizar un análisis de mediación entre variables. Para ello, 231 estudiantes universitarios/as chilenos/ as (68% mujeres), con edades comprendidas entre los 18 y 29 años (M = 19.8; DE = 1.39), respondieron tres instrumentos de autorreporte. Los resultados, a partir de los modelos puestos a prueba, revelan que la autorregulación del aprendizaje media la relación entre la autoeficacia general y las metas académicas relacionadas con el aprendizaje. Se concluye que la formación profesional tiene la misión de promover instancias de formación con oportunidades de aprendizaje para que los y las estudiantes enfrenten el quehacer académico confiando en sus capacidades, autogestionando sus aprendizajes y alcanzando las metas impuestas.

Palabras clave: autoeficacia; autorregulación del aprendizaje; metas académicas; estudiantes universitarios; modelo explicativo.

Introduction and objectives

Higher education institutions must combine training that endows future professionals with the aspects of a particular discipline, as well as knowledge of their personal resources to continue learning throughout their lives (Almerich et al., 2020; García-Carrera et al., 2023; Navea and Suárez, 2017). These *personal resources*, understood as positive self-evaluations about the capacities to manage and influence the demands coming from the environment, allow – specifically for university students – to regulate cognition, behavior and emotion to persist or abandon their higher studies (Bakker and Demerouti, 2017; Ben-Eliyahu and Linnenbrink, 2015; Tinto, 2017).

In other words, the teaching-learning processes of university students contemplate, from the beginning, a network of personal resources where general self-efficacy, self-regulated learning and academic goals allow us to explain how students achieve academic achievement (Schneider and Preckel, 2017; Schunk, 1990). For example, academic achievement is associated with the knowledge and use of cognitive and metacognitive processes, which, modeled by the actions of teachers, nurture general self-efficacy (Cerezo et al., 2019; Daura, 2017; Dull et al., 2015). Likewise, according to the orientation of self-imposed goals, students will be able to take responsibility for more complex academic tasks, respond to obstacles and execute the most pertinent strategies for a specific performance area (Björk et al., 2013; Valle et al., 2015).

From social cognitive theory, the *self-regulation of learning* is part of the interaction of cognitive, behavioral and contextual processes of students to develop the competence of learning to learn (Bandura, 2012; Torrano and González, 2004; Zimmerman, 2013). That said, fostering personal self-direction enables learners to transform their

mental aptitudes into competencies and academic goals (Zimmerman, 2001) to produce knowledge, learn throughout life and effectively and efficiently face current and future learning challenges (Hernández and Camargo, 2017a; Salmerón et al., 2011). It should be noted that this process requires the activation of intrapersonal (e.g., time planning) and interpersonal (e.g., requesting help) aspects so that students act as agents and, at the same time, constructors of their own learning (Panadero and Alonso-Tapia, 2014; Zimmerman, 2000).

Self-regulation of learning constitutes, then, one of the main predictor variables of academic success (Hernández and Camargo, 2017b; Panadero, 2017; Sáez et al., 2023; Zimmerman, 1989). An example of this is the various investigations that indicate that the development of self-regulation strategies is essential to achieve academic achievements in students (Requena, 2016; Sáez et al., 2022; Sanabria et al., 2017; Vera et al., 2021) because experiencing this knowledge and being aware of the cognitive and metacognitive processes that enable self-regulation of learning allow them to propose goals, plan actions, monitor tasks and strategies used.

For Zimmerman (2000, 2013), students -in a learning context- must be able to go through the following phases: *i) preparation:* where objectives are established and an action plan is defined and, for this, they examine the conditions, the nature of the task, the previous knowledge and establish the goals to be achieved; ii*) execution:* in it, they monitor the execution of tasks, implementing strategies that affect motivation and learning; and, finally, in the phase *iii) self* -reflection: they deal with the self-evaluation of progress and the reactions after that evaluation (Panadero, 2017; Pintrich and Schunk, 2006; Torrano et al., 2017).

The latest studies on the subject indicate that self-regulation of learning plays an important role in the relationship between general self-efficacy and academic goals in university students since they constitute critical aspects that influence the will and dexterity needed for the challenges of learning at the university (Ben-Eliyahu and Linnenbrink, 2015; Cerezo et al., 2019; Covarrubias et al., 2019; Navea, 2018; Torrano and González, 2004).

General self-efficacy is associated with a judgment of the ability to organize and execute behaviors aimed at achieving personal goals in various areas of life performance (Bandura, 2012). These beliefs are nurtured by vicarious, persuasive and physiological experiences of dominance, from the reciprocal relationship between context, person and behavior (Ahn et al., 2017; Bandura, 1997; Beatson et al., 2018). That said, a university student with high self-efficacy could be motivated and committed to achieving their academic goals, while one with low levels would have difficulties achieving good performance, being susceptible to abandoning their studies (Byrne et al., 2014).

It should be noted that self-efficacy is associated with a greater prediction of success in a bidirectional relationship with *academic goals*, which correspond to models or motivational styles of academic purposes that direct the behavior of students (Pérez and Díaz, 2013; Phan, 2009; Pintrich and Schunk, 2006; Suria, 2023; Valle et al., 2015). Therefore, they constitute a frame of reference to explain how different motivational, cognitive and attitudinal patterns are formed to organize, regulate behavior and achieve goals during their learning and academic development processes (Huertas, 2009; Moreno et al., 2019; Salmerón et al., 2011).

In other words, students are motivated by two reasons: one intrinsic, by "the desire to learn", and another extrinsic, by "demonstrating their abilities" (Dweck, 1986; Hayamizu and Weiner, 1991; Valle et al., 2015). However, it is even possible that they may simultaneously pursue more than one academic goal (Dull et al., 2015; Pintrich, 2003). In this sense, from the widely accepted Goal Orientation Theory (Suria, 2023), academic goals can be classified into i) *learning goals*, referring to the orientation of students toward the improvement of their knowledge, the acquisition of skills and mastery of other tasks; ii) *achievement goals*, linked to the orientation of students to learn to obtain good results in evaluations; and iii) *social reinforcement goals*, concerning the orientation of students to learn to obtain approval and avoid rejection by teachers and their peers (Durán and Arias, 2015; Hayamizu et al., 1989).

Several studies indicate that academic goals are associated with a greater use of deep processing strategies, implying an increase in intrinsic motivation for learning, improvement in knowledge or skills and enjoyment of work (Valle et al., 2007; Ranellucci et al., 2015; Dull et al., 2015). Additionally, when a university student is involved with academic goals, it not only feeds his self-efficacy but also protects himself from anxiety, facilitates self-regulation of learning and achieves academic achievement (Covarrubias et al., 2019; Pintrich, 2000; Valle et al., 2015).

In Chile, studies have addressed the relationship of these alternate variables with others, and the findings have revealed direct and significant correlations between self-regulation, goals, and causal attributions (Pérez and Díaz, 2011), in addition to the partial mediating role of self-regulation of learning on academic self-efficacy and adjustment to university life (Zuñiga et al., 2020). Despite this, it is necessary to indicate the need to strengthen an area of incipient research in Chilean university contexts. Based on the information provided, the objective of this research is to study the relationship between general self-efficacy and academic goals in a sample of Chilean university students, considering the mediating role of self-regulation of learning.

Consequently, according to the previous works of Covarrubias et al. (2019), Ranellucci et al. (2015), Sáez et al. (2022) and Schunk (1990), and given the need for studies that discuss the relationship of these variables from mediation (Honicke and Broadbent, 2016), the following research hypotheses have been proposed: (I) general self-efficacy is related positively with the self-regulation of learning and with the dimensions that make up the academic goals *(learning, achievement and social reinforcement goals)*; (II) self-regulation of learning is positively related to the dimensions of academic goals; and (III) self-regulation of learning will mediate the relationship between general self-efficacy and the dimensions that make up the academic goals.

Method

Design

The present study is situated in a quantitative approach through a nonexperimental and cross-sectional design (Hernández-Sampieri and Mendoza-Torres, 2018). To respond to the proposed research objective, an explanatory associative strategy was used because the functional relationship between the study variables was explored,

and based on the underlying theoretical perspectives, models about the relationship between these variables were tested (Ato et al., 2013).

Participants

The nonprobabilistic and intentional sample consisted of 231 Chilean university students aged between 18 and 29 years (*M* = 19.8; *SD* = 1.39). There were 157 (68%) female participants and 74 (32%) male participants. Thirty-five percent of the sample indicated belonging to an Engineering career; 34.5%, to a Health career; 20.3%, to a career in Social Sciences and 10.4%, to a career in Humanities.

Regarding the sample size, the one used in this research is the statistically expected one for this type of design, in which it is recommended to include between 10 and 20 cases per parameter, with a minimum of 200 observations (Kline, 2005).

Instruments

To respond to the objective of this study, three instruments were selected that reached the reliability criterion set at.70 for studies in the area of social sciences (Nunnally and Bernstein, 1994) and have been validated in a sample of Chilean students (Pérez et al., 2009; Cid et al., 2010; Bruna et al., 2017). The instruments used were the following: 1) *Academic Goals Questionnaire* (Hayamizu et al., 1989; Hayamizu and Weiner, 1991; Navas et al., 2002): assesses the types of goals that guide the academic work of the students. It is made up of 20 items divided into three factors: a) *learning goals*: 8 items (e.g., "I like the challenge posed by difficult problems or tasks"); b) *social reinforcement goals*: 6 items (e.g., "I want to get better grades than my peers"); and c) *achievement goals*: 6 items (e.g., "I want to finish the career well"). The students answered on a five-point Likert scale (1 = never; 5 always). The internal consistency of the instrument, in a sample of Chilean university students, reached α =.85.

2) *General Self-efficacy Scale* (Baessler and Schwarzer, 1996): with 10 items and a four-point Likert scale (1 = incorrect; 4 = true), it assesses self-efficacy to solve tasks and face challenges in the context (e.g., "It is easy for me to persist in what I have proposed until I reach my goals"). The reliability of the scale in the Chilean sample was α =.82 and 3) *Inventory of Self-Regulation Learning Processes* (*Inventario de los Procesos de Autorregulación del Aprendizaje* – IPAA) by Rosário et al. (2007): evaluates self-regulation strategies for learning, on a 5-point Likert scale of (1 = never; 5 = always), through 12 items distributed in: a) *planning*: 4 items (e.g., "I establish specific academic objectives for each subject"); b) *execution*: 4 items (e.g., "I keep my study hours and make small changes whenever necessary"); and c) *evaluation*: 4 items (e.g., "After finishing a mid-term or final exam, I mentally review to know where I had the successes and errors and to get an idea of the grade that I am going to get"). The general consistency of the scale in Chilean university students reached α =.81.

Procedure

The data collection process included three stages: a) authorization was requested from the university to proceed with the application of the instruments in the students,

who approved and evaluated the instance; b) the students decided to participate voluntarily and signed the previously approved informed consent to safeguard the confidentiality of the data and the ethical aspects of the study; and c) the students responded to the three instruments in a classroom context in an approximate time of 15 minutes.

Data analysis

In the first stage, the data from the application of the standardized instruments were systematized through the analysis of descriptive statistics (*M*) and standard deviation (*SD*), followed by the analysis of the reliability of the study scales through Cronbach's alpha (α). Subsequently, intercorrelations were made between the instruments (Pearson's correlation). In all these processes, statistical analysis software SPSS®, version 26.0 was used.

In the next stage, the data were analyzed using the statistical package PROCESS, version 4.2 (Hayes, 2013). As a tool, PROCESS integrates different statistical functions to perform mediation analysis and moderation. In this way, based on the correlation analysis between the variables, two mediation models were tested according to two of the three dimensions that make up the academic goals construct: *i) learning goals* (Model 1) and *ii) achievement goals* (Model 2). A third mediation model could not be tested with the *social reinforcement goals* dimension because it did not correlate with general self-efficacy.

In both mediation models tested, general self-efficacy was proposed as the independent variable (X), academic goals as the dependent variable (Y), and self-regulation of learning as a mediating variable (M). For the mediation analysis, model number 4 (Hayes, 2013) was used, and the bootstrapping method at 10,000 was used to calculate indirect effects, while the confidence interval was established at a 95% level. Confidence intervals were estimated using ordinary least squares (*OLS*) and maximum likelihood (*ML*) methods. Additionally, the total effect of the mediation model was calculated.

Results

Descriptive statistics

Next, in Table 1, the descriptive statistics and the reliability of the scales are presented, considering the cutoff point of Nunnally and Bernstein (1994).

Table 1.

Descriptive statistics (M ± SD) and reliability (α) of the scales studied.

	M ± SD	α
AUTG	3.22±.41	.83
AA	3.63±.58	.79

MA_F1	3.84±.75	.90
MA_F2	4.40±.61	.77
MA_F3	2.03±.90	.85

N = 231; AUTG = General Self-efficacy; AA = Self-Regulation of Learning; MA_F1 = Metras learning; MA_F2 = Achievement goals; MA_F3 = Social reinforcement goals.

Bivariate correlations

The correlational analyses revealed, with respect to the academic goals (Y), that its three dimensions correlate positively with the self-regulation of learning (M). Thus, the correlation with the learning goals was (r =.61; p =.000), with the achievement goals was (r =.38; p =.000) and with the social reinforcement goals was (r =.15; p =.025). Regarding general self-efficacy (X), a positive correlation is observed with the self-regulation of learning variable (M), (r =.43; p =.000), as well as with two of the dimensions that make up the academic goals (Y), that is, *learning goals* (r =.49; p =.000) and *achievement goals* (r =.21; p =.001). The *social reinforcement goals* do not correlate with general self-efficacy (r =.08; p =.19), as seen in Table 2.

Table 2.

Pearson correlations between the variables studied.

	AUTG	AA	MA_F1	MA_F2	MA_F3
AUTG	1				
AA	.43**	1			
MA_F1	.49**	.61**	1		
MA_F2	.21**	.38**	.34**	1	
MA-F3	.08	.15*	.17*	.26**	1

* p <.01, ** p <.001; AUTG = General Self-efficacy; AA = Self-Regulation of Learning; MA_F1 = Metras learning; MA_F2 = Achievement goals; MA_F3 = Social reinforcement goals.

Mediation models

According to the results of the bivariate correlations, two mediation models related to academic goals were carried out. The dependent variables used in the mediation models were the learning *goals* dimension (Model 1) and the *achievement goals* dimension (Model 2). For these two models, the independent variable was general self-efficacy, and the mediating variable was self-regulation of learning.

A mediation model is not presented for the dimension *of social reinforcement goals* as a dependent variable because it does not significantly correlate with general self-efficacy.

As seen in Figure 1 (Model 1), general self-efficacy positively explains self-regulation of learning (β =.60; *t* = 7.11; *p* =.000 =; *SE* =.08; *LLCI* =.43; *ULCI* =.77). Similarly, self-regulation of learning explains the learning *goals* (β =.63; *t* = 8.89; *p* =.000; *SE* =.07; *LLCI* =.49; *ULCI* =.77). As the total effect shows, general self-efficacy positively explains individual *learning goals* (β =.89; *t* = 8.47; *p* =.000 =; *SE* =.10; *LLCI* =.68; *ULCI* = 1.10) and, When self-regulation of learning was introduced, as a direct effect, the relationship continues to be significant between the variables (β =.51; *t* = 5.09; *p* =.000; *SE* =.10; LLCI =.31; ULCI =.71). This mediation model explains 24% (R^2=.24) of the variance of the learning goals.
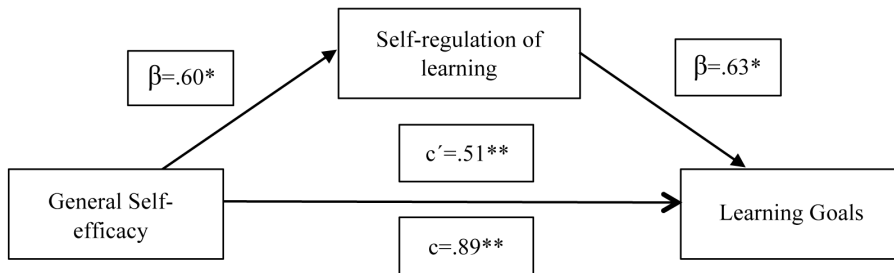

Figure 1. Structural Evaluation of Model 1.

Note: ** *p* <.001; c = Total effect, c´ = Direct effect. Summary of the model: *R2* =.24; *F* = 71.76; *p* =.000; Indirect effect =.38; *SE* =.071; *BootLLCI* =.24; *BootULCI* =.52.

In Figure 2 (Model 2), it can be seen that general self-efficacy positively explains self-regulation of learning (β =.60; *t* = 7.11; *p* =.000 =; *SE* =.08; *LLCI* =.43; *ULCI* =.77), and this, in turn, positively explains the *achievement goals* (β =.37; *t* = 5.27; *p* =.000 =; *SE* =.07; *LLCI* =.23; *ULCI* =.51). As the total effect indicates, overall self-efficacy positively explains individual *achievement goals* (β =.32; *t* = 3.30; *p* =.001 =; *SE* =.09; *LLCI* =.12; *ULCI* =.50), However, the direct effect shows that, when self-regulation of learning is introduced, this relationship is no longer significant (β =.09 *t* =.91; *p* =.35; *SE* =.10; *LLCI* = -.10; *ULCI* =.29). This mediation model explains 4.5% (R^2=.045) of the variance of the achievement goals.
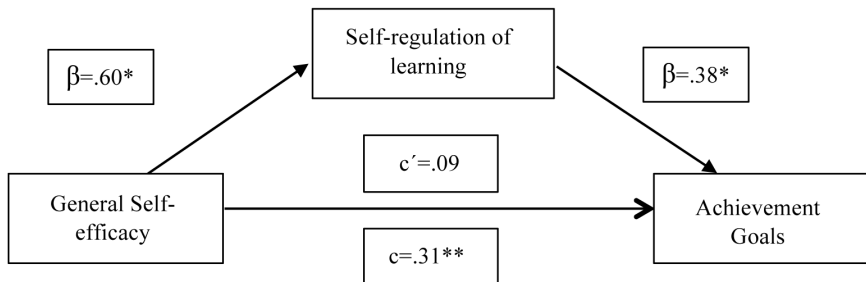

Figure 2. Structural Assessment of Model 2

Note: ** *p* <.001; c = Total effect. c´ = Direct Effect. Summary of the model: R^2=.045; *F* = 10.93; *p* =.001; Indirect effect =.22; *SE* =.05; *BootLLCI* =.12; *BootULCI* =.35

In summary, the results indicate that self-regulation of learning mediates the relationship between general self-efficacy and academic goals related to learning; however, such mediation does not occur with achievement goals.

Discussion and conclusions

Scientific evidence reveals the existence of a link between general self-efficacy, self-regulation of learning and academic goals in the academic work of students, regardless of the teaching context in which they are inserted (Covarrubias et al., 2019; Schunk, 1990). These study variables constitute personal resources through which students can manage cognition, behavior and emotion to achieve their academic purposes (Bandura, 2012; Zimmerman, 2013).

The empirical evidence indicates that there are differences in the way that students self-regulate their learning, depending on how capable they are in fulfilling a given task. Indeed, the perception of general self-efficacy influences the academic goals to which they are oriented, either to learn, achieve a result or receive social support (Covarrubias et al., 2019; Ranellucci et al., 2015; Sáez et al., 2022). In this sense, it is relevant to study trust in their abilities, what they are oriented toward and how they regulate actions to access learning (Panadero and Alonso-Tapia, 2014; Schwinger et al., 2012), since "they would not do much [...] good personal goals, if the person does not believe they feel capable of achieving them" (Valle et al., 2015, p. 6).

Being a university student constitutes an evolutionary moment in which people begin to develop the skills and competencies of a profession, being a stage especially susceptible to the management of their personal resources to judge themselves capable, orient themselves by academic learning goals and self-regulate in the act of learning (Cerezo et al., 2019; García-Carrera et al., 2023; Navea and Suárez, 2017). This is why the objective of this work was to study the relationship between general self-efficacy and academic goals, considering the mediating role of self-regulation of learning in a sample of Chilean university students.

The first hypothesis suggests that general self-efficacy is positively related to self-regulation of learning and to the three dimensions that make up academic goals (*learning, achievement and social reinforcement goals*) (Covarrubias et al., 2019; Schneider and Preckel, 2017; Schunk, 1990). The results are partially in line with this hypothesis since this relationship occurs with the self-regulation of learning, as well as in the case of the dimensions of *learning and achievement* goals, but not with the *social reinforcement goals*.

This means that university students with greater general self-efficacy are more focused on learning and achieving good results because they believe that they have the capacity to achieve it and, in case of difficulties, they know how to overcome them. Likewise, they have greater self-regulation of learning, which is based on the use of cognitive and metacognitive strategies to achieve their goals. However, the results indicate that greater general self-efficacy does not necessarily imply an orientation toward *social reinforcement goals* on the part of university students. This result is consistent with other studies, such as that of Alhadabi and Karpinski (2020), who point out that self-efficacy positively supports learning and achievement goals, having a protective effect by reducing the influence of social reinforcement goals. The findings are also in

line with those of Suria (2023), since the group of participants with low self-efficacy shows a high tendency toward the search for social reinforcement.

The absence of a relationship between general self-efficacy and *social reinforcement goals* could be explained by the following reasons. First, from the methodological point of view, since they are self-report questionnaires that assess the perception of ability, university students are not adequately assessed in their ability to manage academic behaviors toward goals other than those of learning or achievement (Malhotra et al., 2017; Podsakoff et al., 2003). A second option is that the belief in their abilities to achieve their objectives is not based on the recognition or approval that others may have of their performances but rather on the success or failure reported by their experiences of mastery (Bandura, 1997; Dweck, 1986; Pintrich, 2000). Third, it should be considered that academic goals are complementary to each other, so that students could be guided by one or the other according to the reading they make of the context, personal characteristics or the level of challenge that a specific task supposes in the academic sphere (Alhadabi and Kapinski, 2020; Dull et al., 2015; Pintrich, 2003), giving less importance to the *social reinforcement goals*.

The second hypothesis refers to the fact that self-regulation of learning is positively related to the three dimensions of academic goals, and the results are in line with it. This indicates that university students with the ability to self-regulate their learning show a greater tendency to guide their academic goals—regardless of the dimension— since their planning, execution and evaluation processes are a function of the personal, contextual and institutional factors that govern them (Ben-Eliyahu and Linnenbrink, 2015; Durán and Arias, 2015; González et al., 2021; Tinto, 2017). In summary, a student who favorably self-regulates his learning directs his academic challenges toward the improvement of his knowledge, achievement of results and valuation of the environment regarding his academic performance (Cerna and Silva, 2020).

For its part, the third hypothesis proposes that self-regulation of learning plays a mediating role between general self-efficacy and the three dimensions that make up academic goals. In this sense, the findings are partially in line since mediation is confirmed in the case *of learning goals* but not in the case *of achievement goals* or *social reinforcement goals*. The latter is expected, in the case of *social reinforcement goals,* due to the lack of a relationship with general self-efficacy. Meanwhile, for *achievement goals*, although it is observed that general self-efficacy directly affects these goals, this relationship would not be influenced through the mediation of self-regulation of learning, since *achievement goals* are associated in a direct relationship with the beliefs of self-efficacy and do not require planning, execution and evaluation processes for their construction (self-regulation of learning), unlike *learning goals*.

In this regard, achievement goals do not need self-regulation of learning as a mediating variable to be enhanced since the latter is a practical resource for students based on certain levels of general self-efficacy. In this sense, the self-regulation of learning becomes relevant in specific issues over the objectives proposed in the academic trajectory of the students. Specifically, self-regulation of learning achieves a mediating role between general self-efficacy and learning goals because it operates directly on the strategies and techniques selected, planned, executed and evaluated to learn knowledge or to develop certain skills and competitions, according to the disciplinary

area in which the students are inserted. In other words, for the results of this study, self-regulation of learning behaves as an instrumental variable between general self-efficacy and learning goals.

These results could be expected, since studies in this area reveal discrepant results due to the theoretical permeability of similar, but different, constructs, such as emotional regulation, conceptions of learning, discipline and context, among others (Muñoz and Hurtado, 2017; Salmerón et al., 2011). It is even possible to note the parallel establishment of multiple goals such as those aimed at achievement, learning or recognition, as well as that the academic work of a university student does not necessarily require an explicit and complete circuit of self-regulation of learning (Dull et al., 2015; Harackiewicz et al., 2002; Pintrich, 2000; Torrano and González, 2004).

Regarding the limitations of this study, it can be indicated that although the instrument used to measure academic goals is one of the most used in the Spanish-speaking university population (Escurra et al., 2005; Gaeta et al., 2015; Navas et al., 2002) and has been validated in the national context (Pérez et al., 2009), it is a self-report instrument that assesses the subjective perception of the orientation toward academic goals and not the goals themselves. It would be appropriate to replicate the results using other measures to evaluate academic goals, through -for example- execution tasks in the different dimensions that make up this construct.

As a projection, for future research in this line, a parametric sample is considered adequate to expand the participants, safeguard the representativeness to other contexts and check if the results of this study are maintained. This would allow a broader view and, separately, of each discipline or career, thus assessing the specificity in terms of demand and student profile. Additionally, it would be pertinent to evaluate the behavior of the constructs from control variables (e.g. gender, age, year studied, GPA grade point average). In addition, it is proposed to verify the causality of these findings with longitudinal section data collection.

Finally, the results of this research allow us to point out the relevance of training strategy programs aimed at nurturing and promoting general self-efficacy, self-regulation of learning and academic goals. The latter is specifically oriented to learning and achievement throughout the university cycle (González et al., 2021). This is because the integral development of university students requires training that provides professional and personal resources (Schneider and Preckel, 2017; Zúñiga et al., 2020). In this way, the training of professional and participant citizens and members of social, political and cultural processes is promoted (Almerich et al., 2020; Björk et al., 2013; Zahner et al., 2021).

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