

Relationships among self-efficacy, self-concepts and academic achievement in university students of Peruvian Amazon

Relaciones entre autoeficacia, autoconcepto y rendimiento académico en estudiantes universitarios de la Amazonía peruana

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ABSTRACT:

This study aimed to analyze the relationship among self-efficacy, personal self-concept, and academic achievement in Peruvian undergraduate students. Scales of self-efficacy and personal self-concept were used through Likert-type surveys. The Spearman correlation was used to analyze the relationship among variables. Our results suggest that a significant positive relationship among perceived self-efficacy and personal self-concept with academic performance. It is to say that university students who have a high degree of self-efficacy and self-concept tend to attain higher academic achievement.

Keywords: Academic performance, Madre de Dios, motivation, self-esteem

RESUMEN:

Este estudio tuvo como objetivo analizar la relación entre la autoeficacia, el autoconcepto personal y el rendimiento académico en estudiantes de pregrado peruanos. Se utilizaron escalas de autoeficacia y autoconcepto personal a través de encuestas tipo Likert. Se utilizó la correlación de Spearman para analizar la relación entre las variables. Nuestros resultados sugieren que existe una relación positiva significativa entre la autoeficacia percibida y el autoconcepto personal con el rendimiento académico. Es decir que los estudiantes universitarios que tienen un alto grado de autoeficacia y autoconcepto tienden a lograr un mayor rendimiento académico.

Palabras clave: Autoestima, Madre de Dios, motivación, rendimiento académico

1. Introduction

Self-efficacy refers to student's beliefs in their ability to learn new skills and tasks in a specific academic environment (Bandura, 1997; Meral et al., 2012). Some studies have demonstrated the interactions between the perceived self-efficacy and goal orientation (Smiley y Dweck, 1994). Thus, students with high levels of perceived self-efficacy are more persistent, while the students with low perceived self-efficacy avoid tasks after failure experience and show more negative emotions (Smiley y Dweck, 1994). Likewise, the perceived self-efficacy determines the degree of academic performance, the degree of perseverance and contributes to identify the behavior of the initiative for the individual (Harahsheh, 2017).

Self-efficacy determines how individuals feel, think, motivate, and act. This idea is linked to people's convictions about their ability to accomplish a particular job (Goulão, 2014).

Self-concept refers to “the global understanding a sentient being has of him or herself” (Sahranavard, 2014). Self-concept is a combination of the cognitive description of one's characteristics and affective assessment of those characteristics compared to others (Choi 2005). Likewise, the self-concept is defined as “a word used to define one's self-perception of scientific accomplishment and trust in science” (Sahranavard, 2014).

Around the world, many studies analyze the influence of self-efficacy and self-concepts on academic achievement and academic motivation (Meral et al., 2012; Goulão, 2014; Falanga et al., 2012; Kohler, 2013). In Perú, several researchers found significant relationships among the self-concept, self-efficacy and academic performance (Reyes, 2003; Brígido y Borrachero, 2011; Condori, 2013) in university students, even though these studies were carried out in the coastal regions of Peru.

Nevertheless, little is known about the relationship among these variables in university students from Peruvian Amazon. Therefore, it is essential to examine the perceived self-efficacy and self-concepts to strengthen their position in the academic and social areas. As well as and work towards putting efficient programs in place to increase their degree of self-efficacy and self-concepts for contributing to success and compatibility with various aspects of students' life (Harahsheh, 2017).

The present study contributes to the problem of low academic achievement from a theoretical point of view. Specifically, in terms to demonstrate the relationships between perceived self-efficacy and personal self-concept with academic achievement of students attending to the degree course of Ecotourism at National Amazonian University of Madre de Dios. It will fill theoretical gaps regarding the relationship of these three study variables and serve as a source of information and background for conducting future research in this field of study.

The present study aimed to analyze the relationships among the perceived self-efficacy, the perceived Self-concept, and the academic performance of university students from the Peruvian Amazon.

2. Methodology

2.1. Participants

The sample consisted of 120 university students, aged between 19 and 25 years old, attending to the degree course of Ecotourism during the academic year of 2014 at Universidad Nacional Amazonica de Madre de Dios (UNAMAD), Perú.

2.2. Materials and procedures

We used a survey which formed two parts. The perceived self-efficacy questionnaire and the perceived Self-concept questionnaire. The perceived self-efficacy tool consists of 42 items distributed in five dimensions, while that perceived Self-concept tool consists of 26 items distributed in four dimensions (Diener, 2014). All items were rated on a four-point Likert-type scale, ranging from 1 (totally disagree with the item) to 4 (totally agree with the item).

To evaluate the self-efficacy, the following dimensions were considered: Motivation, attributions, specific aptitudes in processes, and strategies. To evaluate the Self-concept, the following dimensions were considered: Self-Actualization, Honesty, Autonomy, and Emotional adjustment.

In the present study, the Cronbach's coefficient alpha for the perceived self-efficacy and the Self-concept were 0.84 and 0.82, respectively.

To obtain the academic performance (measured by weighted average grades from seven courses) we used the technique of documentary analysis. Thus, the academic performance was obtained from the academic system of the UNAMAD university, during the first semester of the academic year 2014. For academic achievement, we consider the grade average of seven courses (ranging from 0 to 20). The numerical academic achievement was rated on a three-point scale, ranging from 1 (low academic achievement) to 3 (high academic achievement).

2.3. Data analysis

To check the possible relationship between these three variables we used the Spearman correlation coefficient. This correlation is significant at the 0.05 level. The examination of the statistical significance of results was carried out using the SPSS 25 package.

3. Results

3.1. Perceived Self-Efficacy

Ecotourism students showed high levels of motivation and medium levels of specific aptitudes. In general, most of the students (>98%) had from medium to high levels in perceived self-efficacy. Also, we did not find students with a low level of motivation (Table 1). This suggests that the students have a good motivation, regarding comfort, and interest in the university curriculum content. Similar results were found in university students from Argentina (González, 2010).

Table 1
The frequency for the levels of the perceived self-efficacy and its dimensions for the participants

Level	Dimensions of Perceived Self-Efficacy (%)				Perceived Self-Efficacy (%)
	Motivation	Attributions	Specific aptitudes		
			Processes	Strategies	
Low	0	0	6.7	0	1.7
Medium	46.7	76.7	66.6	53.3	59.2
High	53.3	23.3	26.7	46.7	39.2
Total	100	100	100	100	100

Likewise, the results of a study in university student from Peru suggest that high levels of self-efficacy are important because diminish the effects of stress and affect positively in the academic performance (Condori, 2013).

We did not find students with low levels of the attributions dimension (Table 1). It means that they prepare for exams and did not allow unexpected events to impact their study time.

The high level of the specific aptitudes can also attribute to an oral-language facility (Table 1). Thus, the students were able to express their ideas, and they have active participation in the classroom.

3.2. Self-Concept

Interestingly, we did not find students with low levels of self-concept and in all dimensions (Table 2). Nevertheless, 50% of the students had high levels of self-actualization. This result suggests that the students are satisfied with their lives because they are meeting their goals set, overcome the difficulties that arise (González, 2010), do not a difficulty in deciding by themselves (Table 2).

Table 2
The frequency for the levels of the perceived self-concept and its dimensions for the participants

Level	Dimensions of Self-concept (%)				Self-concept
	Self-Actualization	Honesty	Autonomy	Emotional adjustment	
Low	0	0	0	0	0
Medium	50	30	66.7	53.3	51.7
High	50	70	33.3	46.7	48.3
Total	100	100	100	100	100

We found a high-level honesty self-concept for most students (Table 2). High scorers of honesty, suggesting that most university students have a good self-concept regarding honesty. They are people who can be trusted, of his word, honored, and they try not to do things that harm others.

On the other hand, we found that most of the students had a medium level of autonomy (>65%) (Table 2). This suggests that university students are moderately autonomous, and much more likely to state their dependence on a professor. Similar results were reported in British and Spanish students (Breeze, 2002).

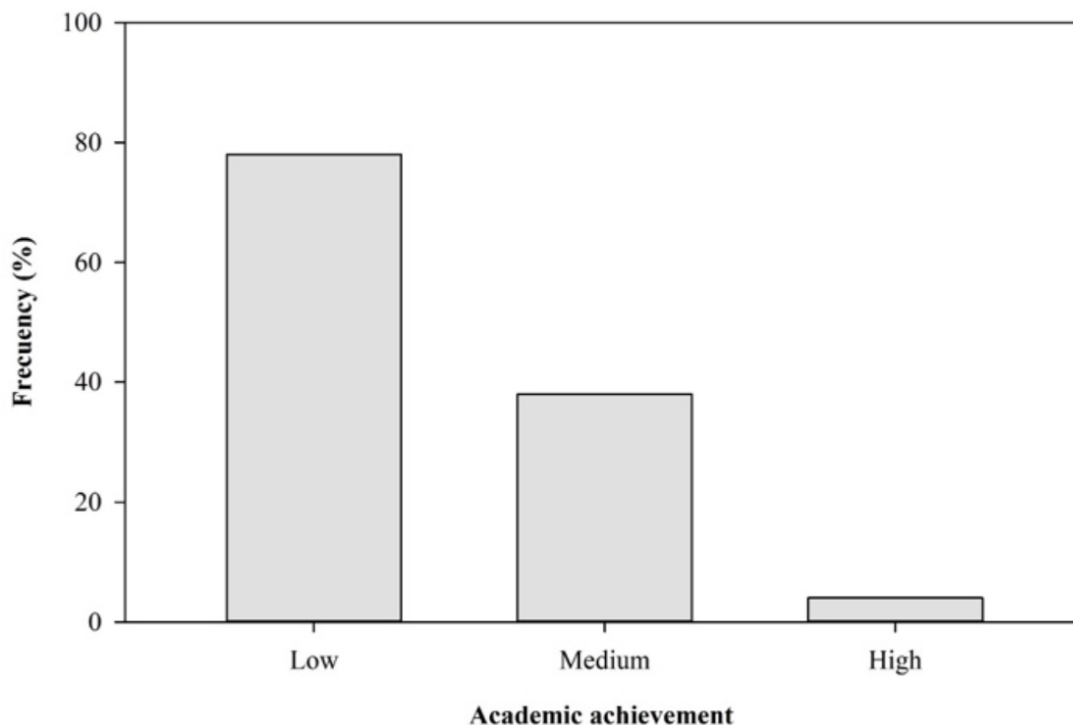
With respect to emotional adjustment, we did not find student with low emotional adjustment (100% medium to high), this suggests that due to good emotional adjustment, the university students are

not nervous, easily overcome bad times, and they are the most sensitive people among university students.

3.3. Academic achievement

Most of the students (65%) had low academic achievement. However, the most alarming is that only 3.3% had high academic performance (Fig. 1). This result is probably due to that the Peruvian education system (elementary, high school, and university) is deficient (Kohler, 2013 Tagle et al., 2012). While the high-performance group expresses interest in the university curriculum content and the professional career. The low academic achievement in the university student can be explained by the influence of non-curricular activities and uncertainty and dissatisfaction with the career.

Figure 1
Bar chart to show the frequency of different levels of academic achievement in university students, n = 120



3.4. The Relationship among Self-Efficacy, Self-Concepts and Academic Achievement

The perceived self-efficacy was significantly associated with self-concept ($\rho = 0.79$, $P\text{-value} < 0.05$, see Table 3). The stronger relationship between these variables may be due that the perceived self-efficacy as a cognitive mediator of the behavior (Choi 2005). Ivanovna et al. (2018) found similar results in teachers from Russia. Ivanovna et al. (2018) "showed that there is a statistically significant positive relationship between the self-efficacy and personalization of the university teacher".

Table 3
Results of Spearman correlation analysis among self-efficacy, self-concepts and academic performance ** Correlation is significant at the 0.01 level.
* Correlation is significant at the 0.05 level

	Perceived Self-Efficacy	Self-concept
Self-concept	0.79 **	
Academic achievement	0.21 *	0.20 *

With respect to Self-Efficacy, the results indicate a positive (proportional) statistically significant relationship between the Perceived Self-Efficacy and the Academic achievement ($\rho = 0.21$, $P\text{-value} < 0.05$, see Table 3). Similar to the findings in university students from Puerto Rico, Argentina and Spain (Brígido y Borrachero, 2011; Serra, 2010; Gonzáles, 2010). In Peru, similar results than those reported in the present study were reported in university students from Trujillo (Condori, 2013).

On the other hand, the results indicate a positive (proportional) statistically significant relationship between the Self-concept and the Academic achievement ($\rho = 0.20$, P -value < 0.05 , see Table 3). Similar to the findings in college students from the United States (Choi, 2005), Spain (Gargallo et al., 2009) and Australia (Burns et al., 2018).

So, the significant correlations found in the present study (Table 3), may show that self-efficacy and self-concept are important factors on academic achievement, due to positive influence (Burns et al., 2018). However, the weak correlation among these variables ($\rho < 0.3$) can be explained by the influence of other variables like as the classroom- learning environment, socio-economic or parent's education level (Choi, 2005; Meral et al., 2012; Gargallo et al., 2009). This is important information for better-supporting students to promote better engagement with their university studies (Burns et al., 2018).

Future research may explore if the relationships between self-concept and academic achievement differ for undergraduate students of other faculties and universities from Peruvian Amazon. Likewise, longitudinal studies had been recommended for a more accurate estimation of the influence of the self-concept on academic achievement (Lohbeck et al., 2018).

4. Conclusions

Most of the ecotourism university students at Universidad Nacional Amazonica de Madre de Dios had a low academic achievement. However, most of the students had high levels of perceived self-efficacy and self-concept.

On the other hand, the findings from the present study indicate that university students who have a high degree of self-efficacy and self-concept tend to attain higher academic achievement. It can be used by the university professors of the student so that it establishes achievement goals to increase its academic achievement, bringing it closer to the desired or attainable.

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