

# Do self-efficacy and willingness to make career efforts influence future reward expectancy among business students? A multigroup analysis of gender

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## Abstract

**Objective:** This study investigates the influence of self-efficacy and willingness to make career efforts on students' future reward expectancy.

**Method –** A survey was conducted among students attending undergraduate programs in the business field. A multigroup analysis using structural equation modeling was performed according to gender.

**Results:** The results show that self-efficacy and willingness to make career efforts influence future reward expectancy. The multigroup analysis according to gender showed that the women's self-efficacy influenced their expectations of future rewards, though, among men, significant results were found only for intrinsic rewards. Women's willingness to make career efforts did not influence their future reward expectancy, whereas it influenced extrinsic rewards among men.

**Contributions:** These findings suggest theoretical and practical implications. First, they reveal the expectations of business students concerning intrinsic and extrinsic rewards and that cognitive aspects possibly explain future reward expectancy. There are also significant practical implications for companies' managers, those in the educational field (e.g., alternative teaching strategies), and public policy, which may be inspired by the multigroup analysis results that reveal contrasting perceptions.

**Keywords:** Self-Efficacy, Willingness to make career efforts, future reward expectancy, Intrinsic and extrinsic rewards.

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## 1. Introduction

Organizations offer individuals more than a job, as workplaces enable people to experience and commit to a way of life with its own tenets, rewards, relationships, demands, and potential (Van Maanen & Shein, 1977). An individual's levels of enjoyment and happiness with work experiences tend to be influenced by self-efficacy perception and reward expectancy (Brown & Lent, 2019). Self-efficacy refers to one's beliefs about his/her ability to perform the tasks necessary to achieve personal or professional goals (Bandura, 1977). Reward expectancy involves anticipating the consequences of pursuing goals or performing well (Brown & Lent, 2019; Lent & Brown, 2006).

Previous studies note that self-efficacy is central to individuals' career planning and development (Choi et al., 2011; Heckert *et al.*, 2002). Self-efficacy is believed to determine whether individuals will occupy or avoid a specific role/position, how much effort they will exert, how persistent they will be when faced with challenges, and how well they will perform their roles (Krahn *et al.*, 2014). However, an individual's willingness to make career efforts (Kuron et al., 2015) depends on how optimistic s/he is toward the results of such efforts, i.e., reward expectancy (Twenge *et al.*, 2010). Reward expectancy is either positive or negative, with more effort ensuring better rewards and less effort leading to fewer (Brown & Lent, 2019).

Self-efficacy, the willingness to make career efforts, and reward expectancy may be influenced by gender, considering that women and men use different self-evaluation standards, which lead to different self-efficacy perceptions (Twenge *et al.*, 2010) and reward expectancy (Wynn, 2017). Women generally have lower career expectations than men (Wynn, 2017). The previous study suggests that such differences result from the work-family conflict women face; men work longer hours, as they generally have fewer family responsibilities and consequently have greater chances of being promoted.

Applying these elements to college students seems opportune given the current context, in which individuals suffer from procrastination (Altempo *et al.*, 2017), low cognitive engagement, and poor academic performance (Aguilera-Hermida, 2020). The undergraduate period is a time for exploration, transitions, and experiences for those who do not yet have a career (Super, 1970). Their expectations at this stage will influence their decisions in the different stages of their careers (Twenge *et al.*, 2010; Van Maanen & Shein, 1977). Such perceptions are shaped by work values and intrinsic and extrinsic elements that ensure satisfaction (Kuron *et al.*, 2015; Twenge *et al.*, 2010).

Given the previous discussion, the following guiding questions emerged: (i) What is the influence of self-efficacy on future reward expectancy? (ii) How does willingness to make career efforts influence future reward expectancy? (iii) What is the moderating effect of gender on the relationship between self-efficacy and willingness to make career efforts and future reward expectancy? Thus, this study examines the impact of self-efficacy and willingness to make career efforts on future reward expectancy. Hence, a multigroup analysis was performed using structural equation modeling according to gender, considering the survey's respondents.

This study's theoretical contributions include shedding light on the expectations of business students regarding future intrinsic and extrinsic rewards. Previous studies have addressed the career expectations of medical students (Veras *et al.*, 2020) and what career resources lead to success (Järnlström *et al.*, 2020). However, no studies specifically focused on identifying future reward expectancy or its explanatory factors. The third contribution is that this study differs in scope, as it addresses intrinsic and extrinsic rewards, while previous studies exclusively focused on extrinsic aspects (Schweitzer *et al.*, 2011; Twenge *et al.*, 2010; Wynn, 2017).

This study emphasizes the importance of understanding differences in gender expectations (Coron & Garbe, 2023; Leslie *et al.*, 2012; Ruiz-Castro, 2012; Twenge *et al.*, 2010; Wynn, 2017). Previous research on gender presents inconclusive results or results that do not represent college students in general (Twenge *et al.*, 2010; Schweitzer *et al.*, 2011), especially business students. Finally, from a social perspective, this study contributes to the 2030 sustainable global goals, as one of the objectives is aligned with decent work and economic growth that seeks full and productive employment and gender equality to empower women.

## 2. Theoretical Framework and Hypotheses

### 2.1 Self-efficacy and future reward expectancy

An individual's self-efficacy results from obtaining cognitive, social, linguistic, or physical skills and experience over time (Bandura, 1982); i.e., information about an individual's skills is based on what s/he believes to be capable so that one makes choices and efforts accordingly (Bandura, 1977). One's level of self-efficacy suggests that s/he can behave in such a manner to achieve desired objectives and results (Bandura, 1977; Chen *et al.*, 2001). Perceived self-efficacy influences one's choices and can determine, through future reward expectancy, one's efforts (Bandura, 1977; Bandura, 1982). Individuals use an evaluation process to assess their current resources and constraints and interpret such assessments to produce data that will result in perceived self-efficacy (Bandura, 1977).

We assume individuals can contribute to their life circumstances by being self-organized, proactive, self-reflective, and self-regulated (Bandura, 1977). Positive outcomes tend to build self-efficacy, while adverse outcomes destroy it (Bandura, 1997). Self-efficacy is mainly investigated in teaching environments, addressing concerns with the current context, surveying college students to identify their perceptions toward the adoption of online learning during the COVID-19 pandemic (Aguilera-Hermida, 2020), and the role of emotional intelligence and causal reasoning in the development of self-efficacy beliefs (Gundlack *et al.*, 2023). In this vein, studies such as the one by Schweitzer *et al.* (2014) sought to understand differences in self-efficacy and reward expectancy according to gender.

An important stream of research relates self-efficacy to career expectations (Lane *et al.*, 2004; Prussia *et al.*, 1998; Schunk, 1995; Schweitzer *et al.*, 2014). The shift from the educational to the work domain has relevant implications for career-related beliefs and actions. Phenomenological studies aiming to capture the subjective experiences of future graduates revealed inaccurate expectations (Kuron *et al.*, 2015; Wendlandt & Rochlen, 2008). Significant differences exist between the skills required in academic and professional environments, leading students to feel unsure about what to expect and may even lead to unrealistic expectations about their professional role (Perrone & Vickers, 2003; Wendlandt & Rochlen, 2008).

The literature presents five predominant fields of interest among the expectations of the generation comprising the current workforce: work-life balance, good salaries and benefits, opportunities for career advancement, meaningful work experiences, and a stimulating work environment (Ng *et al.*, 2010). These are legitimate concerns related to work values (Kuron *et al.*, 2015; Lyons *et al.*, 2010). Work values involve intrinsic elements, which comprise the satisfaction of work-inherent psychological needs such as prestige and esteem, and extrinsic work values, which relate to material aspects, such as remuneration, bonuses, and job security (Kuron *et al.*, 2015; Twenge *et al.*, 2010).

Previous research suggests that work values change during a career's early stages (Duarte & Lopes, 2018; Krahn & Galambos, 2014; Kuron *et al.*, 2015). Pre-career workers are believed to be attracted to a good work climate and socially responsible organizations (Kuron *et al.*, 2015), while remuneration is a more pressing concern among those already in the job market (Schweitzer *et al.*, 2014). In contrast, Krahn and Galambos (2014) point out that intrinsic work values have increased in importance in the different career phases.

In general, high levels of self-efficacy are expected to improve an individual's self-image, who will, in turn, hold expectations of financial and non-financial gains (Bandura, 1977; Bandura, 1982; Bandura, 1997; Schweitzer *et al.*, 2014). On the other hand, individuals with low levels of self-efficacy tend to experience feelings of inadequacy and low ability, lowering their expectations of future gains and rewards, as they consider their efforts to be insufficient to achieve good results (Bandura, 1977; Bandura, 1982; Bandura, 1997; Schweitzer *et al.*, 2014). Thus, according to the previous discussion, we propose that:

**H1:** Self-efficacy positively influences future reward expectancy.

## 2.2 Career effort and future reward expectancy

Career priorities and expectations have changed with the new generations of workers (Savickas *et al.*, 2009). Current research on career acknowledges that there is no idealized career characterized by a set of predictable transitions, which all workers go through at specific stages of their lives (De Vos *et al.*, 2019). Such a path is based on the previously mentioned work values, which shape one's perceptions, behaviors, and expectations (Kuron *et al.*, 2015; Twenge *et al.*, 2010). The different experiences of different generations produce different career expectations and preferences as these generations achieve higher educational levels and make important career-related decisions (Twenge *et al.*, 2010).

Kupperschmidt (2000) explains that the term generation consists of a group generally identified by year of birth, generation-shaping trends, and significant life events at each stage of development. Generations Y and Z are new in the current job market, are still attending an undergraduate program, or are looking for a better work-life balance (Wong *et al.*, 2008). However, although they do not value high salaries as much as previous generations, increased living costs lead these generations to worry about remuneration and try to improve their educational level due to competition (Smola & Sutton, 2002; Wong *et al.*, 2008).

Generation Y is motivated and demanding, enjoys teamwork, wants responsibility and to participate in decision-making, and because they are adapted to changes and do not seek job security, they prioritize intrinsic gains (Smola & Sutton, 2002; Wong et al., 2008). Gen Z is idealistic and enters college to acquire the skills needed for their future careers (Chillakuri, 2020); their career endeavors involve a significant investment of time, energy, and resources in education, years of experience, hard work, and performance (Arthur *et al.*, 1999; Twenge *et al.*, 2010). These are students willing to make an extra effort to increase future rewards (Seemiller & Grace, 2017).

Another stream of research argues that new generations are short-sighted, individualistic, have difficulty working as a team, and are constantly connected to entertainment and communication technologies, which implies a short attention span (Brown et al., 2015; Comazzeto et al., 2016; Seemiller & Grace, 2017). Therefore, students from these new generations are expected to spend less effort, which, in turn, results in lower expectations. The theoretical framework and the discussion presented here lead us to conjecture that:

**H2:** One's willingness to make career efforts positively influences his/her future reward expectancy

### 2.3 Interference of gender on future reward expectancy

The priorities of men and women have drastically changed since the mid-1970s, as roles once predominantly performed by men are now performed by women (Lyons et al., 2005). In this context, generational changes have taken place over time, from the first generation of women who were raised with the perception that they could balance everything (family, work, and personal fulfillment), followed by an increased notion of equality and opportunities and the new gender roles brought by generation X (Lyons et al., 2005) to generation Z (Chillakuri, 2020).

Individual inherent factors, which in this study concern self-efficacy, need to be considered besides external environmental elements to understand career expectations better (Choi *et al.*, 2011). We assume that combining external contextual elements and an individual's internal factors may lead to different future reward expectancies between genders (Coron & Garbe, 2023). The literature seems to support this premise based on psychological factors (Twenge *et al.*, 2010).

A study on teamwork highlighted the effect of gender norms on participants' perceptions of ability, which showed that men attribute higher levels of ability than women in the field of science and technology (Joshi, 2014) and feel that they have the right to earn more (Desmarais & Curtis, 2001). This perception is attributed to female socialization, which generates low self-esteem, low self-efficacy, and negative self-perception, which may influence women's expectations of future gains (Desmarais & Curtis, 1997; Houg, 2016; Houg et al., 2010; Twenge et al., 2010). Therefore, the following is proposed:

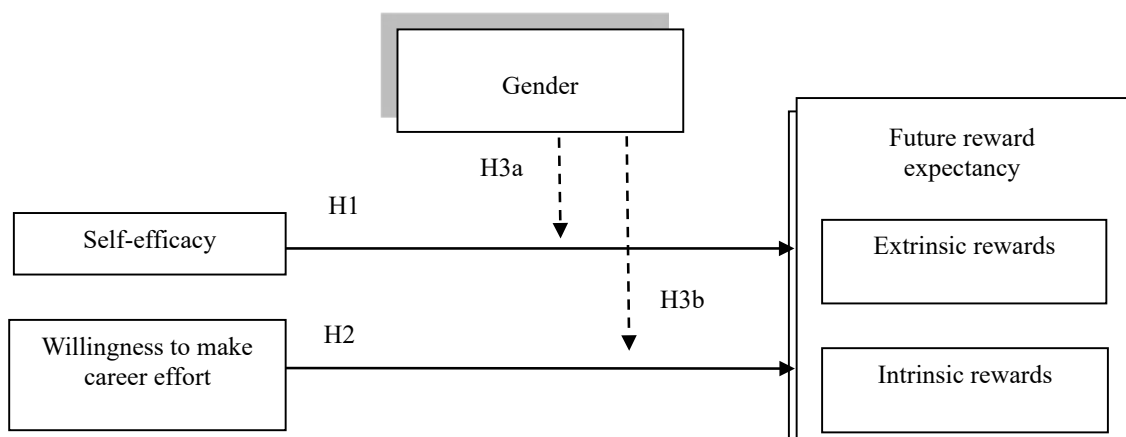
**H3a:** Gender plays a moderating effect on the relationship between self-efficacy and future reward expectancy.

For decades, the ideal worker was considered an individual who would leave his family and personal goals in the background to give priority or dedicate full-time to work. However, changes in society and the job market lead to a search for work-life balance (Coron & Garbe, 2023; Leslie et al., 2012; Ruiz-Castro, 2012). However, finding such a balance falls preferentially on women (Schweitzer et al., 2011), who decrease their career expectations. Men may also be impacted if they choose the role of caregiver, though such a choice is usually not expected of them. (Coron & Garbe, 2023).

A career is formed by an objective and subjective duality (Coron & Garbe, 2023). The objective aspect focuses on how careers are seen from the outside, while the subjective factor influences the subjective aspect and consists of one’s interpretation and reinterpretation of work experiences and expectations (Coron & Garbe, 2023; Spurk et al., 2019). Women generally expect gender discrimination before entering the job market, undermining their self-confidence and restricting their career aspirations (Coron & Garbe, 2023; Wynn, 2017). Therefore, we assume that:

**H3b:** Gender plays a moderating effect on the relationship between career effort and future reward expectancy.

Figure 1 presents this study’s conceptual model and hypotheses



Note: Dotted arrow indicates hypothesized moderating effect.

Source: Developed by the authors.

**Figure 1.** Study’s conceptual model

As shown in Figure 1, two hypotheses (H1, H2) postulate direct relationships and two hypotheses (H3a, H3b) postulate a moderating relationship.

### 3. Methodological Procedures

#### 3.1 Survey respondents

A survey was applied to the students attending the business administration and Accounting undergraduate programs at a federal university in south Brazil. These programs were chosen because business students generally undertake internships in companies or enter the job market in the early stages of the programs. Additionally, the survey was conducted at a federal university because we assumed that these were less strongly affected by student dropout after the COVID-19 pandemic; hence, a larger number of responses was expected.

Data were collected in June 2023 among students attending the morning and evening classes from the 1<sup>st</sup> to the 9<sup>th</sup> semesters of both programs, totaling approximately 2,000 students. A total of 203 valid responses were obtained, an adequate sample size for the modeling proposed here (Pazetto et al., 2020; Santos et al., 2021). The sample's statistical power was determined using the G\*Power software, considering the number of predictor variables (i.e., self-efficacy, willingness to make career efforts, intrinsic and extrinsic rewards), an effect size of  $f^2=0.15$ , level of significance of  $\alpha=0.05$ , and sample power of  $1-\beta=0.8$  (Faul et al., 2009), which resulted in a minimum sample of 85 responses. Hence, 203 valid responses were sufficient to test the model.

### 3.2 Study's instrument and constructs

This study's theoretical model comprises four constructs: self-efficacy, willingness to make career efforts, intrinsic rewards, and extrinsic rewards. The last two constructs represent the future reward expectancy; gender was included as a moderating variable. The research instrument (Appendix A) contains statements rated on a seven-point Likert scale, in which the respondents indicate their level of agreement ranging from 1 = completely disagree to 7 = completely agree. Questions were included at the end of the questionnaire to identify the respondents.

Eight statements from Chen *et al.* (2001) measured self-efficacy. The respondents were asked to indicate their level of agreement with items such as: "I will be able to achieve most of the goals I set for myself" and "I am sure I will overcome difficult tasks whenever I face them." Willingness to make career efforts was measured with two statements based on the text by Schweitzer *et al.* (2014). The respondents were asked to indicate their level of agreement with items like: "I am willing to continue my studies after graduating from my current undergraduate program to advance my career" and "I am willing to work many hours beyond normal hours to advance my career."

Intrinsic rewards were measured with six statements from Lyons (2003). The respondents were asked to indicate their level of agreement with items like: "doing work that involves creativity and original thinking" and "having the ability to influence the organization's results." Extrinsic rewards were measured with four statements by Twenge *et al.* (2010), in which the respondents were supposed to indicate their level of agreement with items such as: "A job with high status and prestige" and "a job that most people admire and respect."

### 3.3 Data analysis and procedures

The partial least squares structural equation modeling technique (PLS-SEM), operationalized in the SmartPLS 3 software, was implemented for data analysis. This technique is suited when data is not normally distributed and for exploratory layout modeling (Hair et al., 2017). It is a technique widely used in research in the management field (Pazetto et al., 2020) to test the direct relationship between independent and dependent variables and the relationship of these elements with the mediating (intervening) variable, which may not facilitate, partially or totally facilitate the relationship (Hair et al., 2017). Three tools from the SmartPLS3 software were used for the modeling: (i) the PLS algorithm to estimate the path coefficients; (ii) bootstrapping to assess the paths' statistical significance; and (iii) blindfolding, an indicator of model adequacy due to predictive relevance. Multigroup factor analysis assessed whether the relationships between the constructs (structural coefficients) varied depending on gender (Hair *et al.*, 2017).

We followed the recommendations from Podsakoff et al. (2003) to mitigate common method biases (CMB): (i) the respondents were informed that there were no right or wrong answers, and they were asked to provide the most reliable answers concerning their expectations perceptions; (ii) the respondents were ensured that their identities and information would remain confidential, considering a consolidated data analysis. The common method bias (CMB) test, commonly used in cross-sectional studies, in which responses are collected in the same period and from the same source, was also applied (Podsakoff et al., 2003). The t-test was applied to compare the answers of the first 10% with those of the last 10% of respondents, assuming a significance level of 5% (Mahama & Cheng, 2013), to check for potential response distortions. No statistically significant differences were found, indicating no concern about non-response bias.

#### 4. Description and Analysis of Results

Table 1 presents the demographic profile of the 203 students attending the Business Administration and Accounting Sciences programs.

Table 1

##### Demographic data

Gender	Number	%	Age	Quant.	%
Female	100	50%	17 to 20 y/o	76	37%
Male	102	50%	21 to 23 y/o	75	37%
Not informed	1	-	24 to 27 y/o	42	21%
			Above 27 y/o	10	5%
<b>Total</b>	<b>203</b>	<b>100</b>	<b>Total</b>	<b>203</b>	<b>100</b>
Programs	Quant.	%	Employment contract	Quant.	%
Business Administration	77	38%	Formally employed	100	49%
Accounting Sciences	126	62%	Internship	69	34%
			Not employed	34	17%
<b>Total</b>	<b>203</b>	<b>100</b>	<b>Total</b>	<b>203</b>	<b>100</b>
Semesters	Quant.	%	Children	Quant.	%
1 <sup>st</sup> to 3 <sup>rd</sup>	75	37%	Yes	8	4%
4 <sup>th</sup> to 6 <sup>th</sup>	79	39%	No	195	96%
7 <sup>th</sup> to 9 <sup>th</sup>	49	24%			
<b>Total</b>	<b>203</b>	<b>100</b>	<b>Total</b>	<b>203</b>	<b>100</b>

Source: Study's data.

The respondents' demographic data show balance in terms of gender and the prevalence of young people; most were under 23, and only 4% of the respondents had children. As for the academic program, most students attended the Accounting Sciences program and were in the initial semesters or halfway through the program. Additionally, 49% of the students were in the job market under the CLT regime (formally employed), and 34% attended corporate internships. Such a profile indicates that the respondents met the requirements to complete the questionnaire.



## 4.1 Measurement Model

The first step in structural equation modeling involved analyzing the measurement model and any necessary adjustments. The items' factor loading (all reflective), internal consistency reliability, and the model's discriminant and convergent validity were verified (Hair et al., 2017). Analysis tests with first and second-order elements were performed, and no significant changes were found.

Table 2

### Path analysis - General

Constructs	Mean	Standard deviation	$\alpha$	CR	Adjusted R <sup>2</sup>	AVE	Fornell-Larcker/HTMT			
							1	2	3	4
<b>1. SELF</b>	5,657	1,129	0,862	0,892	-	0,541	<b>0,735</b>	0,422	0,398	0,476
<b>2. CE</b>	5,143	1,729	0,488	0,756	-	0,624	0,242	<b>0,790</b>	0,271	0,330
<b>3. IR</b>	5,888	1,167	0,786	0,861	0,114	0,608	0,254	0,295	<b>0,780</b>	0,418
<b>4. ER</b>	6,116	1,040	0,810	0,859	0,171	0,507	0,403	0,223	0,376	<b>0,712</b>

Note: Values in bold represent the square root of the AVE, and the lower left diagonal presents the correlation values. In turn, the upper right diagonal presents the HTMT values. In turn, the upper right diagonal presents the HTMT values.

Source: Study's data.

Cronbach's alpha values are higher than or close to 0.70, confirming the model's reliability and ensuring that the students' responses are not biased (Hair et al., 2017). Among the constructs, self-efficacy presented the highest Cronbach's alpha (0.862), followed by extrinsic rewards (0.810). Although willingness to make career efforts is below satisfactory, the numbers are adequate. Potential reasons for these numbers include the sample size and the number of variables observed (Hair et al., 2017).

The factor loadings are adequate; all are above 0.60 (lowest loading = 0.6225) (Hair et al., 2017). Internal consistency reliability is verified by composite reliability (CR) between 0.70 and 0.921 (Hair et al., 2017). Convergent validity is also verified, as the average variance extracted (AVE) is higher than 0.50 (Hair et al., 2017). The correlation between the constructs is lower than the square root of the AVE for the construct, indicating discriminant validity (Hair et al., 2017).

Extrinsic rewards presented the highest mean, corroborating previous studies that indicate the high relevance of this element in future reward expectancy. Even the item with the lowest mean, self-efficacy, presented a high value, which confirms the findings and highlights the role of psychological factors in expectancy. The descriptive analysis indicates that the respondents showed a high agreement toward the variables rated on a seven-point scale; agreement in all the variables was above 5.143.

## 4.2 Structural Model

We used the bootstrapping technique with 5,000 resamples in the structural model (which highlights the path coefficients) to analyze the research hypotheses (Hair et al., 2017). We adopted 5,000 subsamples and 5,000 interactions as parameters, a bias-corrected and accelerated bootstrap confidence interval, and a two-tailed test at a significance level of 5% (Hair et al., 2017). The direct relationship between the variables was analyzed, and the moderation analysis was performed afterward.

Evaluation of the structural model begins with path analysis, with the established relationship, Beta ( $\beta$ ), *t-value*, *p-value*, and decision for each hypothesis. The analysis of the elements was performed with the first-order technique. The relationships proposed here were significant at 5% or 1%, as shown in Table 3.

Table 3

### Structural Model - General

Panel 1 - General					
Hypotheses	Relationship	Beta ( $\beta$ )	t-value	p-value	Decision
H1	AUTO $\rightarrow$ RE	0,194	2,817	0,005***	Failed to reject
	AUTO $\rightarrow$ RI	0,371	7,024	0,000***	
H2	EC $\rightarrow$ RE	0,248	3,270	0,001***	Failed to reject
	EC $\rightarrow$ RI	0,134	1,761	0,078*	
Panel 2 - Women					
H3a	AUTO $\rightarrow$ RE	0,270	2,410	0,016**	Failed to reject
	AUTO $\rightarrow$ RI	0,439	5,437	0,000***	
H3b	EC $\rightarrow$ RE	0,100	0,799	0,424	Reject
	EC $\rightarrow$ RI	0,133	0,788	0,431	
Panel 3 - Men					
H3a	AUTO $\rightarrow$ RE	0,152	1,479	0,139	Reject
	AUTO $\rightarrow$ RI	0,377	4,872	0,000***	
H3b	EC $\rightarrow$ RE	0,351	3,529	0,000***	Failed to reject
	EC $\rightarrow$ RI	0,096	0,875	0,381	

Note: \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$ .

Legend: SELF = Self-efficacy; ER = Extrinsic reward; IR = Intrinsic reward; CE = Career effort

Source: Study's data

Multigroup structural equation modeling was adopted (Damásio, 2013). Hence, models that discriminated the respondents according to gender (configural invariance), factor loadings (metric invariance), and scalar thresholds (scalar invariance) were tested. Multigroup analysis was performed according to gender.

### 4.3 Discussion

H1, which postulates that self-efficacy positively influences future reward expectancy, was statistically supported ( $\beta=0.194$ ;  $p<0.01$ ;  $\beta=0.371$ ;  $p<0.01$ ). This finding corroborates the literature, indicating that the ability to make changes in personal life based on experiences may imply changes that will affect other domains of life (Bandura, 1977; Bandura, 1982). Hence, self-efficacy potentially affects self-esteem, goal orientation (learning), motivation, need for achievement, and consciousness (Chen et al., 2001; Chen et al., 2001). Individuals with high levels of efficacy expect to succeed in various task domains (Chen et al., 2001).

Higher levels of self-efficacy change the importance of intrinsic career values, such as rewards; the more experiences an individual collects, the greater the importance assigned (Krahn & Galambos, 2014). From a psychological perspective, the results suggest that the importance assigned to these factors already manifests during the undergraduate program (Duarte & Lopes, 2018; Krahn & Galambos, 2014; Kuron *et al.*, 2015). However, the results corroborate the literature addressing changes in the new generation *vs.* previous generations (Kupperschmidt, 2000; Savickas *et al.*, 2009). Previously, concern with financial rewards remained in the background of young individuals' prospects, whereas, nowadays, financial and non-financial rewards are considered early on. We conjectured that high levels of self-efficacy result in greater expectations of financial and non-financial rewards (Bandura, 1977; Bandura, 1982; Bandura, 1997; Schweitzer *et al.*, 2014).

H2, which predicts that willingness to make career efforts positively influences future reward expectancy, was also supported ( $\beta=0.248$ ;  $p<0.01$ ;  $\beta=0.134$ ;  $p<0.1$ ), as it is significantly related to intrinsic and extrinsic rewards. The construct of willingness to make career efforts is centered on increasing the number of working hours and making sacrifices to keep studying, expecting future gains. The results show that students are willing to put more effort into their careers, envisioning quantifiable and financial gains. At the same time, they are inclined towards intrinsic aspects, which comprise work values aimed at satisfying career-inherent psychological needs, such as prestige and esteem. Career efforts focused on extrinsic rewards are aligned with previous studies (Kuron *et al.*, 2015; Twenge *et al.*, 2010). However, the findings concerning intrinsic rewards are aligned with studies reporting evidence of young people's inaccurate expectations (Kuron *et al.*, 2015; Wendlandt & Rochlen, 2008).

H3a, which predicts a moderating effect of gender on the relationship between self-efficacy and future reward expectancy, was supported among women ( $\beta=0.270$ ;  $p<0.05$ ,  $\beta=0.439$ ;  $p<0.01$ ) and only partially among men ( $\beta=0.152$ ;  $p>0.1$ ,  $\beta=0.377$ ;  $p<0.01$ ). H3b, which predicts a moderating effect of gender on the relationship between willingness to make career efforts and future reward expectancy, was not supported among women ( $\beta=0.100$ ;  $p>0.1$ ,  $\beta=0.133$ ;  $p>0.1$ ; and partially supported among men ( $\beta=0.351$ ;  $p<0.01$ ;  $\beta=0.096$ ;  $p>0.1$ ). Previous studies have shown that women have lower levels of self-efficacy (Hogue *et al.*, 2010; Lenny, 1977; Twenge *et al.*, 2010), which contrasts with the results found in this study.

Intrinsic work values related to psychological satisfaction obtained at work, such as having an interesting, challenging, diverse, and intellectually stimulating career, are associated with high levels of self-efficacy (Krahn & Galambos, 2014; Kuron *et al.*, 2015). Nonetheless, concern with these aspects tends to be greater in youth (18 to 22 years old), and after this period, extrinsic elements gain greater importance (Kuron *et al.*, 2015). Therefore, we assume that the new generation entering the job market differs in terms of cognition. Additionally, women currently have greater self-esteem and recognize their qualities and commitment, aiming to obtain intrinsic and extrinsic rewards in the future.

The results show no statistical significance for the relationship between willingness to make career efforts and women's intrinsic and extrinsic rewards. Previous studies showed that women do not feel comfortable setting financial goals and are more interested in the work-life balance, as they consider intrinsic factors to be a source of motivation and increased self-esteem (Jackson *et al.*, 1992; Schweitzer *et al.*; 2011; Twenge *et al.*, 2010). Thus, women may feel that they do not receive a salary compatible with their efforts, but not that they are poorly compensated (Jackson *et al.*, 1992).

The results concerning the relationship between men's self-efficacy and intrinsic and extrinsic rewards corroborate previous literature. Men are assumed to have greater self-efficacy because they present higher levels of self-confidence in their cognition and skills (Joshi, 2014; Schweitzer *et al.*, 2011), which would impact intrinsic and extrinsic rewards. However, this relationship was only found with intrinsic rewards, possibly explained by the respondents' age (Desmarais & Curtis, 2001; Kuron *et al.*, 2015). In contrast, Krahn and Galambos (2014) found evidence that people between 18 and 25 experienced an increase in the importance they assign to extrinsic work values, which differs from the findings presented here.

Finally, the results for the relationship between men's willingness to make career efforts and intrinsic and extrinsic rewards is contrary to that observed for self-efficacy. Their willingness to make career efforts influences extrinsic rewards. Previous studies show that society expects men to dedicate their time and efforts to receive a good salary; hence, they expect to avoid facing the same barriers as women (Coron & Garbe, 2023; Desmarais & Curtis, 2001; Wynn, 2017). It is a potential explanation for not finding significant results for intrinsic rewards, even though most respondents were young, aged between 17 and 23.

## 5. Conclusions

This study investigated the influence of self-efficacy and willingness to make career efforts on students' future reward expectancy. The multigroup analysis according to gender revealed that self-efficacy influences women's intrinsic and extrinsic rewards, whereas, among men, self-efficacy appears to influence only intrinsic rewards. No significant results were found regarding the influence of willingness to make career efforts on women's future reward expectancy, though it influences extrinsic rewards among men. Thus, there appears to be greater compatibility between self-efficacy and future reward expectancy in the form of intrinsic rewards. Willingness to make career efforts seems more aligned with future reward expectancy in the form of extrinsic rewards; however, caution is needed to interpret these results, considering gender differences regarding the elements that affect the students' plans.

This study's implications for the literature include establishing relationships not previously found regarding the expectations of business students in terms of future rewards and explanatory factors for their career expectations. Hence, this study shows a path for future studies aiming to understand changes in the expectations of young individuals and what actions can motivate them (Brown & Lent, 2019) to pursue success (Järlström *et al.*, 2020). This study also contributes to expanding the flow of research on rewards (Chenhall, 2003; Deci, Olafsen, *et al.*, 2017; Gagné *et al.*, 2010; Langfield-Smith, 1997; Obiageli *et al.*, 2015). Also noteworthy is the contribution concerning the findings indicating changes in social standards regarding career and reward priorities.

Practical implications include the significant relationship between self-efficacy and willingness to make career efforts on future reward expectancy, both intrinsic and extrinsic rewards. However, the multigroup analysis shows differences in expectations according to gender. In addition to the population addressed here, these findings can be helpful for organizations' managers who will possibly employ these students, as the results indicate their work values; such values shape one's perceptions, behaviors, and expectations (Kuron *et al.*, 2015; Twenge *et al.*, 2010). Likewise, educational institutions can benefit from this study's results to make teaching-learning more interesting and valuable for students.

This study's limitations must be accounted for when interpreting its results, as causal relationships are prevented due to the study's cross-sectional design. Therefore, other methods, such as case studies, interviews, and longitudinal studies, are suggested for future studies with a similar purpose. Another limitation arises from the theoretical model proposed here. From this perspective, future research can analyze generational differences and compare gender barriers and expectations. Other taxonomies could be used to propose constructs and relationships; thus, future studies can investigate models with other configurations. Finally, theoretical and methodological choices enable recommending alternative forms to be proposed and tested to verify whether these relationships remain.

## Appendix A. Study's constructs and instruments

### Self-efficacy (Chen *et al.*, 2001)

1. I will be able to achieve most of the goals I set for myself.
2. I am sure I will overcome complex tasks whenever I face them.
3. In general, I believe I can obtain results that will be important for me.
4. I believe I can achieve maximum success in anything I set my mind to.
5. I will be able to overcome many challenges successfully.
6. I am confident that I can effectively perform many different tasks.
7. Compared to others, I can perform most tasks very well.

### Willingness to make career efforts (based on Schweitzer *et al.*, 2014)

1. I am willing to continue my studies after concluding my current undergraduate program to advance my career.
2. I am willing to work many hours beyond regular hours to advance my career.

### Intrinsic rewards (Lyons, 2003)

1. Doing work that involves creativity and original thinking.
2. Having the ability to influence the organization's results
3. Doing intellectually stimulating work.
4. Doing work that you consider interesting, exciting, and involving.
5. Doing work that you consider personally gratifying.
6. Doing work that enables you to use skills obtained through education and experience.

### Extrinsic rewards (Twenge *et al.*, 2010)

1. A job with high status and prestige.
2. A job most people admire and respect.
3. A job that allows you to earn a lot of money.
4. A job with good chances to advance and get promoted.

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