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How to Increase Students' Involvement in Extracurricular Activities: A Structural Equation Model

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Abstract: Participation in extracurricular activities (ECAs) represents an effective strategy for students to become better competitors in the labor market. Their benefits extend the academic area to professional and personal domains. Therefore, this paper examines the predictive relationship between autonomous motivation, cognitive engagement, and ECA participation. We assumed that individual attributes such as cognitive emotional self-regulation, autonomous motivation, and cognitive engagement will have an impact on students' involvement in ECAs. The results of the structural equation model results show the positive impact of positive refocus and positive reappraisal on ECA participation. Further, emotional self-regulation positively impacts autonomous motivation and cognitive engagement, which, in turn, have a positive impact on students' involvement in ECAs. The implications and limitations of the study are further discussed.

Keywords: extracurricular activities; university students; emotional self-regulation

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1. Introduction

The transitions from university into the field of employment represent critical milestones in the lives of young individuals. Therefore, for tertiary education students to successfully overcome these challenges, they should identify and develop the strengths that will make them better competitors in the labor market. In achieving this, higher-education students' engagement in extracurricular activities (ECAs) could be an effective strategy [1]. In the educational and professional contexts, ECAs are viewed as experiences that show the willingness to exert additional effort and improve personal skills [2] and hence may play a role in enhancing students' employability [2]. Participating in ECAs prepares students for their future professional lives through the attainment of participation and decision-making competencies, among others [3]. Participation in ECAs plays a significant role in student retention and preventing first-year students' dropout by assuring a smooth transition between secondary and tertiary educations. A recent analysis showed that students prefer as ECAs events such as academic activities, cultural activities, recreational/sports activities, and associative activities. Even if students perceive these activities as an added value in their education and perceive them as relevant for transversal competence development, students' participation in extracurricular activities is generally low. This paper aims to investigate the predictive relationship between autonomous motivation, cognitive engagement, and ECAs participation. The great benefits of ECA, as shown by existing studies, make us wonder what the characteristics that lead students to engage in such activities are and, by implication, how their participation could be increased. We believe that these attributes might refer to cognitive emotional self-regulation, autonomous motivation, and cognitive engagement and that the theoretical framework favorable for this analysis is the self-determination theory. SDT theory can identify the underlying causes, mechanisms, and results of human thriving, and it provides a clear prescription for motivating others to

succeed and encourages their autonomy to help support optimal motivation [4]. Extracurricular activities are academic or non-academic activities most often coordinated by the educational institution but take place beyond regular classroom time and are not integrated into the curriculum. Furthermore, involvement in extracurricular activities is elective for students and does not result in a grade or academic credit [5]. In higher education institutions, extracurricular activity can be on the part of the students, the instructors, or the system of administration. For all implicated parties, it plays a role, either for the educational and professional life of students or for the professional life of instructors and administrators of the educational institution [6]. As voluntary activities, ECAs are organized, require the presence of an instructor, keep to a routine schedule, and emphasize skills development. Giving students the opportunity to engage in individual and social experiences would help them progress through different stages of their development [7]. Jacinto [8] shows that one central value of ECAs refers to blending students' interaction, collaboration, and teamwork. Therefore, ECAs provide students with various types of opportunities, from developing social skills and meaningful peer relationships to developing self-identity [8–10]. Young people from socioeconomically disadvantaged communities have even more to gain by engaging in ECAs [11].

Balanced with academic learning, ECAs offer a wide array of benefits, such as increasing self-esteem, developing a sense of belonging, and connecting with other community members [12]. The benefits go beyond personal development and help students obtain higher academic performance and higher educational attainment and even develop entrepreneurial competencies [13–16]. This is how a direct connection is established between students' involvement in ECAs and their academic performance and their personal growth in higher education [17]. Furthermore, by enhancing students' confidence in their abilities, participation in ECAs encourages deep learning [18]. Another essential aspect that may impact the positive outcomes regarding future achievements is the level of activity engagement. Both the type of ECA and the degree of engagement may exert influence on individuals' development [16]. The more engaged students are, the more likely they are to experience more accomplishment, competence, and higher self-esteem [16]. Considering this, ECAs are regarded as playing a crucial part in fostering healthy development throughout the academic years [7].

In terms of students' perceptions regarding the benefits of ECAs, scientific literature offers mixed evidence. One study showed that students, on the one hand, underestimate the connections between their involvement in ECAs and their personal development and employability. Some students realized that even if ECAs are not directly related to their desired careers, they could nevertheless aid in their development by encouraging the acquisition of transferrable skills. Other participants focused more on how ECAs could enhance their skills and personal features rather than focusing on their role in career development [19]. On the other hand, recruiters consider student participation and involvement in ECAs more than students, who value academic performance and internships more, do [2]. There are recent studies showing the importance of these activities in students' career success [2,20]. Therefore, if students hope that ECAs will be helpful [21], the alumni can confirm and indicate how ECAs helped them in their career development [22]. Unfortunately, a decreasing number of students are inclined to participate in these activities, attributing it to either the lack time or a perceived lack of attractiveness of the activities. To sum up, it is important to know how to get students more involved in ECAs.

1.1. Autonomous Motivation, Cognitive Engagement, and ECAs

As originally indicated, the favorable theoretical approach for this paper is the self-determination theory [23], which is renowned for its multifaceted approach to motivation and describes how several types of motivation (e.g., amotivation, controlled external motivation, and autonomous intrinsic motivation) can be encouraged or inhibited. From the three factors proposed, autonomous motivation (combined identified and intrinsic motivation) has been found to produce optimal behavioral, attitudinal, and affective outcomes [24].

Intrinsic motivation is described as engagement in an activity for its own sake or because it is interesting and enjoyable in itself. Identified regulation is defined as engaging in a behavior that is recognized as having value or meaning and is adopted as one's own. This process of internalization is deliberative. Identification differs from intrinsic motivation in that the activity is performed for the value it represents as opposed to the activity's inherent satisfaction [25]. Self-determination theory states that individuals with autonomous motivation enjoy greater psychological well-being. Further, studies also emphasize its strong connection with higher academic achievement and ECA engagement [26]. Hence, students with autonomous motivation have a higher involvement in ECAs and fewer negative emotions [27,28]. Therefore, a crucial question for educators is whether encouraging autonomous motivation in an educational context increases autonomous motivation toward ECAs and whether doing so is the key for boosting the benefit of ECAs participation. This kind of student will likely enjoy the experiences of engaging in ECAs and assuming ownership of the process, regardless of gain or loss [27]. According to recent research, cognitive engagement is significantly correlated with autonomous motivation [29–31]. As a result, engagement and motivation are mutually dependent. Cognitive engagement requires careful thinking to understand complex ideas and to go above and beyond the minimal demands. Its focus is on the psychological commitment required to acquire, understand, and master the subject matter [32]. Students who are cognitively engaged show a desire to go above and beyond the minimal demands and prefer challenges, which helps them expand their knowledge and create meaningful and lasting commitments to their studies [33]. In this regard, the individual trait of motivation is also incorporated into cognitive engagement [34]. Therefore, this study aims to investigate the predictive relationship between autonomous motivation, cognitive engagement, and ECAs participation. Specifically, the hypothesis posits that autonomous motivation has a significant influence on both cognitive engagement and ECAs participation, while cognitive engagement also predicts ECAs participation.

1.2. The Role of Emotional Self-Regulation

While several studies have investigated self-determination theory (SDT) across several domains, there has been less scholarly focus on the influence of emotion on the motivational process [35]. The primary focus of SDT has been on examining emotion as a dependent variable of autonomous motivation. But recent studies have demonstrated that positive emotions play a substantial role in influencing motivation and behavior [36,37]. Similarly, other research indicates that positive emotions are a prerequisite for autonomous motivation [38] and that they predict work engagement [39–41]. Some other research suggested that positive emotions may have the ability to influence behavior through interaction with autonomous motivation [42]. Moreover, emotion regulation refers to the efforts made by individuals to control the occurrence, timing, and subjective experience of their emotions. There is a variation in the effort in terms of the level of automatism, ranging from relatively automatic to regulated and occurring either consciously or unconsciously [43,44]. Additionally, it has been argued that emotional regulation may encompass the increase or reduction in several aspects of negative or positive emotions [45]. Individuals possess an innate motivation to experience positive emotions, exhibit high levels of performance, acquire knowledge, establish connections with others, and exercise personal autonomy [45]. Hence, individuals may be inclined to engage in emotion regulation to achieve the primary categories of advantages that emotions may provide. Individuals possess an intrinsic motivation to optimize their experiences of pleasure while concurrently minimizing pain [46]. Strong evidence supports the idea that the desirability of emotions is contingent upon their valence, with pleasant emotions being perceived as desirable and unpleasant emotions being perceived as undesirable [47,48]. Moreover, in the analysis of actual regulatory attempts, individuals commonly report efforts aimed at increasing positive feelings or diminishing negative emotions [43]. Consequently, individuals may be inclined to seek out emotional experiences, due to their hedonic attributes. Individuals who actively pursue hedonic

motives are driven by the desire to experience feelings that will enhance the overall balance of pleasure in relation to pain [49]. Further, it is suggested that including instructions on emotional regulation skills within classroom settings has the potential to enhance self-determined motivational processes linked to behavioral engagement [35]. Thus, cognitive reappraisal (which involves altering one's views of a circumstance that elicits emotions) can be highly beneficial as a means of emotional regulation among students [50]. This has the potential to assist students in effectively managing and controlling their positive emotions, hence fostering the development of autonomous motivating behaviors [34]. Hence, the hypotheses stated in this study aim to investigate the predictive influence of positive reappraisal and positive refocusing on autonomous motivation, cognitive engagement, and participation in ECAs.

1.3. The Present Study

It is important to investigate whether promoting the development of emotion regulation skills together with autonomous motivation within an educational setting can effectively enhance cognitive engagement and ECAs participation, consequently maximizing the benefits derived from participating in such activities. This type of student is likely to derive satisfaction from participating in ECAs and take responsibility for their own development, independent of the outcome [27]. It is essential to assess whether the interplay between autonomous motivation and emotional regulation can have an impact on behavioral outcomes (ECAs) in order to adequately support students [42]. Additionally, it is crucial to assess whether the interaction between autonomous motivation and emotional regulation can impact behavioral outcomes and to adequately support students [39]. From this standpoint, our attention is directed towards the concepts of positive reappraisal and positive refocusing. Positive refocusing is a cognitive strategy that involves shifting one's attention towards enjoyable and pleasant topics, as opposed to dwelling on the actual event or the situation at hand. Positive reappraisal involves the cognitive process of attributing a positive significance to a given experience, particularly regarding one's own personal development [51]. Building upon existing literature, the primary objective of this study is to examine the structural relationships among various sets of variables (as depicted in Figure 1). Specifically, the focus is on investigating the impacts of emotional self-regulation (which consists of positive reappraisal and positive refocusing), autonomous motivation, and cognitive engagement on the involvement in ECAs based on a sample of university students. Hence, we formulate the following research hypotheses:

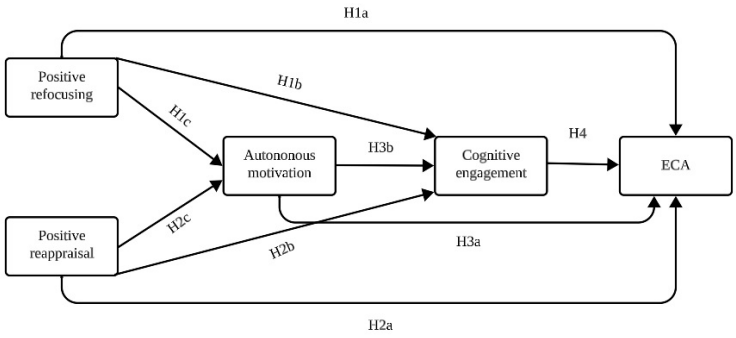


Figure 1. Hypothesized model of relations between variables.

Hypothesis 1. *Positive refocusing would positively predict ECAs engagement (H1a), cognitive engagement (H1b), and autonomous motivation (H1c).*

Hypothesis 2. *Positive reappraisal would positively predict ECAs engagement (H2a), cognitive engagement (H2b), and autonomous motivation (H2c).*

Hypothesis 3. *Autonomous motivation would positively predict ECAs engagement (H3a) and cognitive engagement (H3b).*

Hypothesis 4. *Cognitive engagement would positively predict ECAs engagement (H4).*

2. Materials and Methods

2.1. Participants

The study sample consisted of 502 university students who were currently pursuing either a bachelor's, master's, or PhD degree. The present study employed convenience sampling for its cost- and time-saving advantages. However, the sample obtained by convenience sampling cannot be deemed representative of the entire population. The participants were not excluded based on demographic factors. After reviewing the informed consent declaration presented on the initial page, the participants proceeded to perform an online survey. The participants were provided with information about data security, the nature of the acquired information, data storage procedures, and the measures taken to ensure their anonymity. The participants were duly notified that their completion of the survey constituted their explicit agreement to partake in the study. Additionally, participants were given explicit instructions to retain a duplicate of the paper. Participation in the study was both voluntary and anonymous.

The participants were enrolled in a large university from the north-east part of Romania and were studying in various fields from social sciences and humanities to hard sciences. The university offered students the following extracurricular activities: scientific and student conferences, scientific or student workshops, personal development training, internships, volunteering, cultural or artistic activities, career counseling, psychological counseling, and mentoring. Their frequencies varied from weekly activities, such as counseling, workshops, training, or cultural–artistic activities, to monthly activities, such as conferences, and bi-annual activities, such as internships.

The study's sample consisted of 502 individuals enrolled in a university, aged 19 to 39 years old (M = 22.72, SD = 4.32). The gender distribution of the sample population was predominantly female, accounting for 71.70% of the participants, while males constituted 28.30% of the total. Among the whole sample, a majority of 58.6% (N = 294) were found to be residing in urban regions, while a minority of 41.4% (N = 208) were residing in rural areas. The collected demographic characteristics are shown in Table 1.

Table 1. Participants' characteristics.

Scheme.	*n*	%	M	SD
Age			22.72	4.32
Gender				
Female	360	71.7%		
Male	142	28.3%		
Residing area				
Rural	208	41.4%		
Urban	294	58.6%		
Level of study				
Bachelor	356	70.9%		
Master	120	23.9%		
PhD	26	5.2%		
Field of study				
Social sciences and economics	292	58.1%		
Humanities	108	21.5%		
Physical sciences	49	9.7%		
Life Sciences	19	3.7%		
Health	18	3.5%		
Mathematics and CS	16	3.1%		

2.2. Instruments

2.2.1. Autonomous Motivation

To assess autonomous motivation, which includes the combined two factors of intrinsic motivation and identified motivation, we used the Multidimensional Work Motivation Scale (MWMS) [25], which was modified for use with students. The subscales consisted of three items each, which were to be evaluated using a five-point Likert-type scale ranging from 1 (indicating strong disagreement) to 5 (indicating strong agreement). The measurement of intrinsic motivation consisted of items such as "Engaging in this activity is enjoyable for me", whereas identified motivation was assessed with items such as "Investing effort in this activity is consistent with my personal values".

2.2.2. Higher Education Students' Cognitive Engagement

Students' engagement in higher education environment and activities was assessed using the cognitive engagement sub-scale of the Higher Education Student Engagement Scale (HESES) [52]. This sub-scale included four items that must be evaluated on a five-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). The cognitive engagement measure included items such as, 'I am finding my courses intellectually stimulating'.

2.2.3. Emotion Regulation

The assessment of positive reappraisal and positive refocusing was conducted using the two sub-scales of the Cognitive Emotion Regulation Questionnaire (CERQ) [51]. Cognitive emotion regulation strategies were measured using a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost always). Positive reappraisal encompassed the belief in personal growth and development following a challenging event, with items such as "I think I can become a stronger person as a result of what happened", while positive focus referred to redirecting one's attention toward pleasant experiences and included items such as, "I think about something nice instead of what happened".

2.2.4. ECAs Engagement

To gather data on the rate of involvement in extracurricular activities, students were surveyed with the following question: 'How often in the last academic year did you participate in…'. A variety of nine activities that are commonly provided to students at no cost were listed. These activities included conferences, workshops, training events, internships, internship/job fairs, volunteering, cultural/artistic activities, psychological counseling, career counseling, and mentoring. Participants were asked to rate each response using a scale that ranged from 1 (indicating infrequent participation, occurring only once) to 5 (indicating frequent participation, occurring five or more times).

2.3. Procedure

This research was conducted between May and July 2023. The research-related announcement was sent to the students via email and contained information about the survey and an online link. The announcements pertaining to this research contained a link to the online survey. Participants were required to review the informed consent form and provide demographic information in the first section of the form. Before initiating the study questions, the participants were informed regarding the voluntary participation and that they were free to withdraw at any time from the study. They also received information regarding data collection, security, and maintenance. The study announcement reached 1500 university students from a north-east university of Romania. The response rate was 33.46%. There were no errors or missing data, as every response was required to be selected from a selection, and the form could not be submitted if any answer was missing. The completion of the online form required approximately thirty minutes.

3. Results

For the data analysis process, we entailed two sequential steps. First, we carried out various confirmatory factor analyses (CFA) to evaluate the adequacy of each scale. In addition to computing Mcdonald's omega, we calculated two more reliability indices: the coefficient of composite reliability (CR) and the average variance extracted (AVE) [53].

Therefore, the construct validity of the study was tested by using confirmatory factor analysis (CFA) for each scale, the discriminant validity was tested by computing the average variance extracted (AVE), and the reliability was tested by using composite reliability (CR) and McDonald's omega. Further, Pearson correlations between variables were calculated. Second, a structural equation model (SEM) was used to test the proposed model of relationships between variables (Figure 1), using a two-step approach to estimate the measurement model and the structural model [54]. In the two steps of SEM, the following were used as goodness-of-fit indices [55]: chi-square (χ^2), the comparative fit index (CFI), the goodness-of-fit index (GFI), the root-mean-square error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). CFI and GFI values exceeding 0.90 indicated an acceptable fit. RMSEA and SRMR values less than 0.08 indicated a satisfactory fit [55].

3.1. Preliminary Analyses

The analysis also showed good model fits for positive reappraisal (χ^2 = 11.991, df = 4, p < 0.017, TLI = 0.976, CFI = 0.987, and RMSEA = 0.075) and positive refocusing (χ^2 = 6.225, df = 2, p < 0.050, TLI = 0.991, CFI = 0.997, and RMSEA = 0.065). For autonomous motivation (combined intrinsic and identified motivation), the second item of the identified motivation was deleted due to poor factor loading. The results of the confirmatory factor analysis (CFA) demonstrated a good fit (χ^2 = 16.018, df = 4, p < 0.005, TLI = 0.985, CFI = 0.994, and RMSEA = 0.077); the results for cognitive engagement (χ^2 = 2.981, df = 2, p > 0.050, TLI = 0.997, CFI = 0.999, and RMSEA = 0.031) and ECAs engagement (χ^2 = 69.190, df = 18, p < 0.000, TLI = 0.948, CFI = 0.967, and RMSEA = 0.075) also demonstrated a good fit. The reliability indices, namely alpha, CR, and AVE, demonstrated satisfactory levels across all variables, as seen in Table 2. The asymmetry and kurtosis indices for all measured variables demonstrated adherence to the premise of univariate normality, with skewness being situated in the (−2 to +2) interval and kurtosis situated between (−7 to +7) [55,56].

Table 2. Pearson correlations, descriptive statistics, and reliability indices.

	1	2	3	4	5
1. Positive reappraisal	-				
2. Positive refocusing	0.42	-			
3. Cognitive engagement	0.44	0.25	-		
4. Autonomous motivation	0.36	0.26	0.54	-	
5. ECAs engagement	0.17	0.23	0.33	0.30	-
Mean	16.55	12.50	15.11	17.22	13.36
SD	3.57	4.28	4.08	5.40	6.43
Skewness	−0.95	−0.06	−0.76	−0.47	1.74
Kurtosis	−0.46	−0.70	−0.02	−0.33	3.04
Mcdonald's Omega	0.90	0.91	0.87	0.92	0.86
CR	0.93	0.93	0.91	0.92	0.51
AVE	0.78	0.79	0.72	0.70	0.89

Regarding the computed correlations, it was observed that all tested variables had positive correlations. The observed correlations showed statistical significance and moderate values, with correlation coefficients ranging from r = 0.17 to r = 0.54. Certain associations were higher compared to others, including the correlations seen between the two subscales of emotional regulation (r = 0.42), autonomous motivation and cognitive engagement (r = 0.54), and cognitive engagement and positive reappraisal (r = 0.44).

3.2. Measurement Model

The CFA was performed on a set of six latent variables and twenty-five observable variables. All latent variables were allowed to correlate with each other [55]. The maximum-likelihood method was used to assess the measurement model's fit to the data, which indicated a satisfactory fit: χ^2 = 677.775, df = 260, $p < 0.001$, TLI = 0.929, CFI = 0.937, RMSEA = 0.062 (90% [CI]: 0.05 to 0.06), and SRMR = 0.052. Moreover, the measurement model was employed to validate the hypothetical structural model.

3.3. Structural Equation Model

Lastly, we conducted an SEM to test our initial hypotheses regarding the relationships between variables (Figure 1). The indices indicated that the model was a good fit for the data as follows: χ^2 = 733.843, df = 264, $p < 0.001$, TLI = 0.934, CFI = 0.942, RMSEA = 0.060, and SRMR = 0.051. These values indicate that the model has a good fit (see Figure 2). The significance level of the hypotheses was examined by computing standard beta (β) values for each relationship (Figure 2, Table 3).

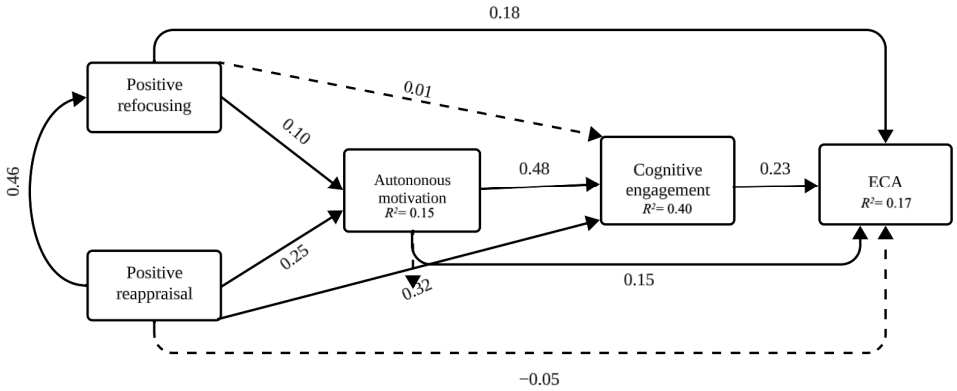


Figure 2. The results of the structural model of relations. (Standardized estimates are reported.) Note: Dashed lines illustrate nonsignificant paths ($p > 0.05$). For clarity, observed indicators are not represented.

Table 3. The results of the structural model.

Hypothesis Path	Standardized Estimate	C.R. (t-Value)	*p*-Value
H1a: Positive refocusing → ECAs	0.185	3.353	0.000
H1b: Positive refocusing → Cognitive engagement	0.013	0.295	0.768
H1c: Positive refocusing → Autonomous motivation	0.109	2.099	0.036
H2a: Positive reappraisal → ECAs	−0.050	−0.847	0.397
H2b: Positive reappraisal → Cognitive engagement	0.255	5.207	0.000
H2c: Positive reappraisal → Autonomous motivation	0.326	6.095	0.000
H3a: Autonomous motivation → ECAs	0.156	2.570	0.010
H3b: Autonomous motivation → Cognitive engagement	0.487	10.523	0.000
H4: Cognitive engagement → ECAs	0.233	3.617	0.000

Note: → regression on.

The presence of large and statistically significant beta (β) values indicated the substantial impact of endogenous latent variables. Moreover, to examine the importance of the beta values, the crucial ratios (t-values) approach was employed.

The results showed that positive refocusing has a positive significant effect on ECAs participation (Hypothesis 1a: β = 0.458, C.R. = 3.353, and p = 0.000), showing a positive association between the two variables. In contrast, positive refocusing showed no significant effect on cognitive engagement (Hypothesis 1b: β = 0.013, C.R. = 0.295, and p = 0.768). Therefore, this hypothesis is not supported. Further, positive refocusing had a positive

significant effect on autonomous motivation (Hypothesis 1c: β = 0.109, C.R. = 2.099, and $p < 0.050$). The second hypothesis showed an insignificant relationship between positive reappraisal and ECAs (Hypothesis 2a: β = −0.050, C.R. = −0.847, and $p = 0.397$). But there was a positive effect of positive reappraisal on cognitive engagement (Hypothesis 2b: β = 0.255, C.R. = 5.207, and $p < 0.001$) and on autonomous motivation (Hypothesis 2c: β = 0.326, C.R. = 6.095, and $p < 0.000$). The results also showed a positive effect of autonomous motivation on ECAs (Hypothesis 3a: β = 0.156, C.R. = 2.570, and $p < 0.050$) and on cognitive engagement (Hypothesis 3b: β = 0.487, C.R. = 10.523, and $p < 0.001$). Finally, cognitive engagement predicted ECAs in the hypothesized direction (Hypothesis 4: β = 0.233, C.R. = 3.617, and $p < 0.001$).

4. Discussions

There are various strategies that students can adopt to facilitate a smoother transition from higher education to the employment field, with one such strategy being active engagement in extracurricular activities [2]. In addition to academic learning, extracurricular activities (ECAs) provide a diverse range of advantages, including the enhancement of self-esteem, the development of a sense of belonging, and the development of connections with other members of the community [12]. The advantages extend beyond individual development and contribute to improved academic results, educational attainment, and even the development of entrepreneurial competencies [13–16]. The main objective of the present study was to determine the predictive relationship between autonomous motivation, cognitive engagement, and ECAs participation. These skills include emotional regulation, intrinsic motivation, and cognitive engagement. To determine the relevant factors that may enhance individuals' involvement, we proposed a structural equation model that suggests a predictive association between emotional self-regulation, autonomous motivation, cognitive engagement, and participation in ECAs. Although several studies focused on the relationship between emotion and autonomous motivation, the present research has indicated that positive emotions have a substantial impact on both motivation and engagement [36,37]. The findings suggest that positive refocusing plays an important role in enhancing autonomous motivation and ECAs participation. Moreover, despite the lack of predictive power of positive reappraisal on involvement in extracurricular activities (ECAs), it was found to have a beneficial influence on both autonomous motivation and cognitive engagement, in line with previous research indicating the potential benefits of emotional regulation skills development on improving one's capacity to foster autonomous motivation and engagement [35]. Hence, integrating targeted workshops and training sessions aimed at developing these abilities within classroom settings has the potential to enhance students' engagement in ECAs. The positive refocusing strategy involves shifting attention to pleasant and enjoyable subjects. This coping mechanism, once used, will lead to intrinsic engagement in an activity or behavior. The fact that positive refocusing is a good predictor of ECAs suggests that students' engagement in these types of activities is also because they rate them as pleasant and enjoyable. On the other hand, although cognitive reappraisal is not a direct predictor of ECAs, it has been found to have a significant positive influence on both autonomous motivation and cognitive engagement, which in turn predict engagement in ECAs. In other words, mentally reidentifying a context, event, or activity by giving it a positive connotation ("I think I can learn something from the situation") will lead to engagement in that activity for its own sake and increase cognitive engagement ("I enjoy the intellectual challenge" or "I get a lot of satisfaction from studying something else"). These results are consistent with previous research that indicated the potential benefits of developing emotional regulation skills on improving one's ability to boost motivation and autonomous engagement [35]. Therefore, developing and integrating cognitive–emotional regulation strategies early in young people's development can lead to increased autonomous motivation and cognitive engagement in various types of academic activities. According to recent studies, there is a substantial link between cognitive engagement and autonomous motivation, indicating a mutually reliant relationship

between the two [29–31]. The findings of this study indicate that autonomous motivation is a significant predictor of cognitive engagement, and both autonomous motivation and cognitive engagement are predictors of involvement in extracurricular activities (ECAs). Hence, it can be observed that students who exhibit cognitive engagement demonstrate a tendency beyond the basic requirements and exhibit a preference for tasks that are more demanding. Therefore, this causal relationship suggests that students who show interest in engaging in an activity for its own sake, without expecting an external reward, also denote increased cognitive involvement that ultimately manifests itself through a tendency to exceed basic requirements and a preference for extracurricular assignments. This inclination aids in the acquisition of knowledge and the development of a profound and enduring dedication to their academic pursuits [33]. Further, previous research also showed that students' involvement in ECAs might encourage future involvement in and commitment to their profession [56]. The results show that positive refocusing and positive reappraisal represent essential factors in students' ECA participation. Furthermore, the results support the benefits of developing emotional self-regulation skills in students' autonomous motivation and cognitive engagement. The present study could inform educational practices in the higher education area, as it provides empirical support for integrating self-regulation skills development and autonomous motivation, which will enable students to increase their participation in ECAs. The current study aims to contribute to the understanding of extracurricular activities participation by providing empirical evidence for the substantial influence of emotional self-regulation skills on autonomous motivation and participation in extracurricular activities, as indicated by previous studies [35]. Integrating the development of emotional self-regulation skills would provide students with benefits, not just in terms of personal growth but also in their academic and professional progress. When interpreting the present findings, several limitations must be considered. First, the cross-sectional design of the study prevents us from establishing a causal relationship between the studied variables. The sample is characterized by a gender imbalance, which might impact the generalizability of the results. Furthermore, this aspect is also negatively affected by using a convenience sample. Even if the response rate was satisfactory, it did not reach 50%. Also, the self-administered questionnaire represents a risk for response validity. Another limitation is linked to the fact that this paper focused only on students' characteristics, while other research showed [57,58] that ECAs participation is also related to institutional structure and context. Future studies should develop an intervention and follow its impact on students' ECAs participation. Notwithstanding these limitations, the results provide further support for the existing body of research regarding the link between emotional self-regulation skills, autonomous motivation, cognitive engagement, and ECAs participation. Also, the use of the structural equation model suggests a means for clarifying the potential mechanism through which emotional self-regulation skills impact autonomous motivation, cognitive engagement, and participation in extracurricular activities.

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