



Research article

Gender and country differences in academic motivation, coping strategies, and academic burnout in a sample of Italian and Russian first-year university students

Cristina Cabras^{a,*}, Tatiana Konyukhova^b, Natalia Lukianova^b, Marina Mondo^a,
Cristina Sechi^a

^a Department of Pedagogy, Psychology, Philosophy, University of Cagliari, Via is Mirrionis 1, 09123, Cagliari, Italy

^b Division for Social Sciences and Humanities, School of Core Engineering Education, Tomsk Polytechnic University, Lenin Av. 30, 634050, Tomsk, Russia

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ABSTRACT

Background: The first year of university represents a challenging period that requires students to make significant investments in adaptive resources to face the new academic environment. The present study intends to contribute to the controversial discussion of gender differences in academic motivation, coping strategies, and academic burnout. This cross-sectional study examined above-mentioned constructs among first-year university students in a cross-cultural context.

Methods: The sample consisted of 637 Italian and 496 Russian first-year university students ($n = 1133$), 40.3% of whom were females. The participants' ages ranged from 17 to 23 years, with a mean age of 18.75 years ($SD = 1.07$). To assess academic motivation, coping strategies, and academic burnout, participants responded to the Academic Motivation Scale (AMS), the Coping Inventory for Stressful Situations (CISS), and the Maslach Burnout Inventory–Student Survey (MBI–SS) application.

Results: The findings reveal gender and country differences in academic motivation, emotion and avoidance oriented coping strategies, and emotional exhaustion and expands previous studies in this educational area.

Conclusion: Given the technical nature of the research topic, the target audience for our study is academic career guidance practitioners, who can apply the findings to the design of effective programmes aimed at improving positive academic goals and reducing the tendency to switch academic courses or abandon the university among first-year students.

1. Introduction

Avoiding failure and dropout is one of the most important goals when transitioning between different levels of education. To help students positively adapt to the new context, universities usually implement actions aimed at creating optimal conditions for student well-being. The first year at university involves several important changes in the educational environment, such as unknown academic

* Corresponding author.

E-mail addresses: ccabras@unica.it (C. Cabras), konyukhova@tpu.ru (T. Konyukhova), lukianova@tpu.ru (N. Lukianova), mmondo@unica.it (M. Mondo), cristina.sechi@unica.it (C. Sechi).

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tasks, new relationships and social expectations, more academic competition, and a novel identity [1,2]. Moving to a higher level of education may cause concern among college students because it involves a transition to adulthood and a new, complex context that can negatively influence their ability or willingness to stay on an academic course [3,4].

To evaluate this adaptation, many scholars have used the constructs of academic motivation, coping strategies, and burnout [5–7], in most cases involving participants from specific countries and focusing on subjective and contextual variables. For example, recent studies conducted on the above-mentioned constructs revealed that female university students in Russia are more likely to experience academic and interpersonal stressors than males [8]. However, other current study underlined that none of the burnout dimensions were significantly correlated with gender in a sample of Iranian university students [9]. In addition, related to academic motivation, a longitudinal study, conducted in cohorts of Iranian university students, found that females showed higher extrinsic motivation than males, and had lower amotivation levels [10].

To date, research on gender differences regarding academic motivation, academic burnout, and coping strategies has produced contradictory results due to the use of different domains (educational levels, sports, music, etc.), research methodology (quantitative or qualitative, cross-sectional, cross-cultural), sample size, and age range (child, adolescents, and adults) (e.g. Refs. [11–17]). Further, most of the studies were carried out in single European countries, not across two or more countries. Only a few studies (i.e. [10]; [18], have examined the role of gender in relation to academic motivation, whereas research on its role in academic burnout has just begun, (although quickly gaining the attention of scholars (e.g. Ref. [19]).

To the best of our knowledge, no studies have investigated gender differences in relation to academic motivation, coping strategies, and academic burnout among first-year university students living in different countries. This article explores this topic in Italy and Russia, where cultural and educational contexts differ in terms of history and social conditions. Whereas Italy is based on individualist values, Russia exhibits both collectivist and individualist values, depending on whether one considers small towns or large cities. For a long time, the Russian education system followed the Soviet paradigm, in which gender roles were interpreted as natural sexual differences [20].

In Italy, an individualistic culture permeates the educational system, and personal success is achieved through voluntary behaviours aimed at satisfying one's wishes and pleasures. In the country, the influence of the Catholic Church and patriarchal culture render gender inequalities strong [21–23]. Italy and Russia also display similarities. For instance, both countries' higher education systems are structured in a multilevel manner. Furthermore, in 2003, Russia signed the Bologna Declaration, as did Italy, to support international student exchanges through national and European programmes and distance education schemes [24].

A cross-cultural comparison can provide a fuller understanding of differences in academic motivation, coping strategies, and academic burnout among first-year female and male university students in the two countries. Moreover, the results of this study may be applied to the development of effective programmes aimed at improving positive academic goals and reducing switching academic courses or abandoning the university among first-year students.

2. Literature review

2.1. Academic motivation

Issues of academic motivation remain an important topic in education and psychology, especially in terms of activation and intention aspects such as energy, direction, persistence, and equifinality. This is because academic motivation is thought to be not only a predictor of academic achievement and performance but also a regulator of educational activity that directly affects learning quality and psychological well-being [13,25–27]. For this reason, academic motivation has been studied as one of the variables involved in the process of adaptation to the university context.

According to Self-Determination Theory (SDT) [28], academic motivation consists of intrinsic and extrinsic components. Four types of extrinsic motivation can be distinguished along a continuum of self-determination: external regulation, introjected regulation, identified regulation, and amotivation. Intrinsic (or internal) motivation is based on interest in studying per se, while extrinsic (or external) motivation on the desire to receive a reward for success. Internal motivation reflects a person's natural tendency to learn, while external motivation reflects either external control or true self-regulation [28,29]. These two types of motivation may both lead to positive effects on behaviour and individual goals; they are also not necessarily antagonistic. University students may succeed not only thanks to voluntary behaviours resulting from their interests, wishes, leisure, and satisfaction, but also thanks to the push of parents, teachers, friends, external forces, and incentives [30]. Unsurprisingly, some authors (e.g. Ref. [31]) have found that high levels of both self-determined and non-self-determined motivation occur in the most adaptive profiles among high school students.

2.2. Coping strategies

One of the most important skills when facing entry into a new academic context is the ability to manage new stressors, such as new academic demands, by putting in place adaptive strategies [32]. Coping strategies refer to the efforts—both behavioural and psychological—that people use to master stressful events. There are two principal coping strategies: problem-solving strategies, with which people attempt to control a situation by acting on the stressful circumstances, and emotion-focussed coping strategies, which are based on the control of internal emotions to regulate the consequences of stressful or potentially stressful events [33]. The studies about coping resources indicate that adaptive strategies can help decrease academic stress levels as well as promote well-being, dispositional resilience, and academic performance [16,34].

2.3. Burnout

Burnout in the workplace has received considerable attention over the years [35,36]. However, only recently has research on burnout been focussed on academic environments as a predictor of burnout in professional settings [37,38]. Academic burnout indicates a loss of student involvement [39] and is composed of three dimensions: emotional exhaustion, cynicism, and academic efficacy. Academic burnout is usually interpreted as a consequence of elevated demands and stress [40]. It involves fatigue, inability to carry on studying, loss of interest, and feelings of incompetence and failure as a student [36]. This construct is negatively related to psychological health, quality of life, and good academic performance [27,41]. It is thus considered a measure of student well-being [42].

Based on this literature, we chose to include these constructs in our study for two reasons. First, because they are inextricably linked to the process of adaptation and behavioural regulation of younger university students. Second, because the actualisation of their relevance can help better define students' learning requirements in the face of the sudden changes involved in the secondary school–university transition. The choice of these constructs aimed also at capturing additional elements that could provide incentives to institutions and stakeholders for empowering first-year university students.

2.4. Gender differences in academic motivation

Women and men tend to react differently to context demands. Many studies, therefore, have looked at gender difference as one of the most relevant variables in situations that require adaptation [15]. The literature on the role of gender differences in motivation has produced dissimilar results. In some studies (e.g., Refs. [18,31]), female students reported lower extrinsic motivation and higher intrinsic motivation than male ones. In particular, males showed lower levels of identified and introjected regulation and intrinsic motivation than females, as well as higher levels of external regulation. However, other studies (e.g., Ref. [43]) have found that males showed higher levels of intrinsic motivation. Furthermore, some research has found no gender differences regarding intrinsic motivation [44,45].

The literature has produced contrasting findings also concerning amotivation. Some studies (e.g., Ref. [43]) have highlighted substantial differences between men and women, with amotivation higher among female students. In contrast, another research has found amotivation to be more pronounced in the male sample [46].

2.5. Gender differences in coping strategies

Research on coping has discovered that men and women are different in their adjustments to new contexts and the use of strategies to manage stressful events: as well as several studies have suggested that females exhibit more emotional coping styles than males and score higher in problem-focused strategies [47–49]. In addition, female students tend to seek social support [15], while male ones are more likely to use avoidance coping strategies [50,51].

2.6. Gender differences in academic burnout

In a literature review of gender differences in academic burnout, Walburg [52] found that females obtained higher burnout scores than males in high school, especially higher levels of exhaustion [14], despite girls showing greater academic success and higher levels of discipline and engagement compared to boys [53,54]. In contrast, other studies found that male students presented higher levels of burnout [55] and, in particular, depersonalization [56,57]. Some scholars have indicated that there are no differences between males and females in terms of academic burnout [58,59]. However, a recent meta-analysis conducted by Madigan and Curran [60] showed a consistent negative relationship across all dimensions of burnout and academic achievement, having similar effects in women and men.

3. Aims and hypotheses

The present study extends the literature discussed above by comparing two different higher education cultures (Italy and Russia), as it seeks to determine whether there are gender differences in academic motivation, coping strategies, and academic burnout among first-year university students.

Taking previous research into account, we propose the following hypotheses:

- H1.** Female students are more likely to report lower extrinsic motivation and higher intrinsic motivation than males.
- H2.** Female students use coping strategies aimed at changing their emotional responses to stressful situations, whereas males use more problem-focused coping strategies to handle stressful academic experiences.
- H3.** Females are more likely to suffer from academic burnout than males.

Given the lack of previous research on this topic, we made no predictions about country differences. The present study is exploratory and descriptive in nature. Affirming hypotheses about students based on the characteristics of the countries in which they live runs the risk of stereotyping cultural and educational groups. We will return to this issue in the Discussion section.

4. Methods

4.1. Procedure and recruitment

A cross-sectional study was conducted in the 2019–2020 academic year. All procedures performed in the present study involving human participants were applied following the ethical guidelines defined by the institutional research committee, by the American Psychological Association (APA), and by the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Informed consent was obtained from all subjects involved in the present study. The sampling frame for the study consisted of students enrolled in their first year. After obtaining internal review board approval for the research, e-mail addresses for 3000 randomly selected students were given by the universities' admissions offices. An e-mail presenting the upcoming investigation was sent out to the randomly selected students. The email stated that all individuals were invited to participate, explained the general topic of the research and the time it would take to complete and provided a link to the online survey. To collect data for our study, we used the official online platform provided by both universities.

5. Participants

The participant sample was drawn from first-year university students in Italy and Russia. Of the 3000 students contacted, 1133 participated in the study. The final sample was composed by 457 (40.3%) females and 676 (59.7%) males. Students' ages ranged from 17 to 23, with the mean age of 18.75 (SD = 1.07).

In this sample, 56.2% (n = 637) were students at Italian universities and 43.8% (n = 496) were students at Russian universities.

There were 318 females in the Italian group and 139 females in the Russian group. The participants had a mean age of 18.81 years (SD = 1.09) in Italy and 18.69 years (SD = 1.04) in Russian.

All Italian participants were living in Italy, and all Russian participants were living in Russia. The sampling was non-probabilistic; all undergraduates participated voluntarily in this study.

5.1. Measures

Academic motivation. To measure academic motivation, we used modified Italian and Russian versions of the Academic Motivation Scale (ACM) [29,61,62]. It consists of 20 responses to the question 'Why do you want to go to university?' based on SDT. This 20-item instrument is divided into five subscales: one subscale of amotivation (AMOT, e.g., 'Honestly, I don't know'), three ordered subscales of extrinsic motivation (external regulation, or EXTER, e.g., 'Because I need at least a university degree in order to find a high-paying job later on'; introjected regulation, or INTROJ, e.g., 'To prove to myself that I am able to complete my university degree'; and identified regulation, or IDENT, e.g., 'Because I think that a university education will help me better to prepare for the career I have chosen') and one subscale of intrinsic motivation (INTRIN, e.g., 'Because I experience pleasure and satisfaction while learning new things'). The items are rated on a scale ranging from one ('does not correspond at all') to four ('corresponds exactly'). Each subscale consists of four items; a high score on a subscale indicates a high endorsement of that academic motivation. The five subscales had adequate internal consistency (.78 < α > 0.91 for the Italian sample and .75 < α > 0.89 for the Russian sample).

Coping strategies. To measure coping strategies, we used the Coping Inventory for Stressful Situations (CISS) [63]. It is a 48-item tool used to evaluate three fundamental coping strategies with 16 items per scale: task-oriented (TASK, e.g., 'do what I think is best'), emotion-oriented (EMOT, e.g., 'focus on my general inadequacies') and avoidance (AVOID, e.g., 'go to a party'). Items are scored on a five-point Likert scale (from 1 'not at all' to 5 'very much'). Scores for all items are summed to create scale scores; higher scores suggest greater use of that coping strategy. The three subscales had adequate internal consistency (0.88 < α > 0.92 for the Italian sample and .87 < α > 0.90 for the Russian sample).

Academic burnout. To measure academic burnout, we used the Maslach Burnout Inventory-Student Survey application (MBI-SS) [64]. It is a 15-item tool used to evaluate three dimensions of burnout: emotional exhaustion (EXHA, five items, e.g., 'I feel used up at the end of a day at university'), cynicism (CYNIC, four items, e.g., 'I doubt the significance of my studies') and academic efficacy (AC EFF, six items, e.g., 'During class I feel confident that I am effective in getting things done'). Items are scored on a seven-point Likert scale (from 0 'never' to 6 'always'). High scores on exhaustion and cynicism and low scores on academic efficacy are indicative of burnout. These three subscales had adequate internal consistency (0.81 < α > 0.88 for the Italian sample and .90 < α > 0.93 for the Russian sample).

5.2. Data analyses

All data analyses were conducted using SPSS Statistics Version 21. The data were preliminarily screened for errors and outliers. No variable had missing data. Descriptive statistics were calculated on the assessed variables, reporting mean scores and associated standard deviations.

Pearson's r was used to examine correlations among academic motivation, coping strategies and academic burnout.

For analyses of gender and country differences in levels of academic motivation, coping strategies and academic burnout, a multivariate analysis of variance (MANOVA) was performed. Post-hoc analyses were performed where appropriate. We report partial eta squared (η_p^2) for effect size, where 0.01 is a small effect, 0.06 is a medium effect and .14 is a large effect [65].

6. Results

The mean scores and associated standard deviations for the assessed variables by gender and country groups are presented in Table 1. The means and SDs for all assessed variable scores for males and females reported separately for the Italian and Russian samples are shown in Table 2. Table 3 presents the results of the correlation analyses. Statistically positive significant correlations were found between intrinsic motivation and academic efficacy and task-oriented coping strategies, whereas negative significant correlations were found between intrinsic motivation and emotional exhaustion and cynicism. Amotivation was positively correlated with emotion and avoidance-oriented coping strategies, as well as with emotional exhaustion and cynicism. Further, significant correlations were found between task-oriented coping strategies and academic efficacy.

6.1. Gender and country differences in academic motivation

A 2 (gender: females vs. males) × 2 (Italian students vs. Russian students) MANOVA conducted on the five motivational subscales from the AMS revealed a significant main effect of gender, with a small effect size ($F(5,1125) = 3820$; $p < .01$; Wilks' $\lambda = 0.98$; $\eta^2 = 0.02$). Given the significance of the overall test, univariate main effects were examined.

Univariate tests for gender revealed that female students had significantly higher levels of extrinsic motivation (identified regulation) and intrinsic motivation than male students, whereas male students had significantly higher levels of amotivation than female students (Table 1). Therefore, H1 was confirmed. The analysis showed a significant main effect of country, with a large effect size ($F(5,1124) = 147,293$; $p < .001$; Wilks' $\lambda = 0.60$; $\eta^2 = 0.39$). Univariate tests for country showed that Italian students had significantly higher levels of extrinsic motivation (identified regulation) and intrinsic motivation than Russian students, whereas Russian students had significantly higher levels of amotivation and extrinsic motivation (external regulation and introjected regulation) than Italian students. We observed a significant gender × country effect, with a small effect size ($F(5,1124) = 2.9$; $p = .04$; Wilks' $\lambda = 0.99$; $\eta^2 = 0.01$). On the univariate level, the interaction was significant for extrinsic motivation (external regulation) ($F(1,1132) = 5.66$; $p = .02$; $\eta^2 = 0.01$).

To further investigate the effect of gender, a MANOVA was run separately for the Italian and Russian samples. These analyses showed a significant main effect of gender, with a small effect size only in the Italian sample ($F(5,631) = 4.8$; $p < .0$; Wilks' $\lambda = 0.97$; $\eta^2 = 0.03$). Univariate tests for gender revealed that Italian female students had significantly higher levels of identified regulation extrinsic motivation ($M = 3.72$; $SD = 0.56$) than Italian male students ($M = 3.57$; $SD = 0.63$; $F(1,636) = 7.12$; $p = .01$; $\eta^2 = 0.01$). Further, Italian female students had significantly higher levels of intrinsic motivation ($M = 3.48$; $SD = 0.61$) than Italian male students ($F(1,636) = 5.58$; $p = .02$; $\eta^2 = 0.01$). The Italian male students had significantly higher levels of amotivation ($M = 1.26$; $SD = 0.50$) than the Italian female students ($M = 1.14$; $SD = 0.36$; $F(1,636) = 6.14$; $p = .01$; $\eta^2 = 0.01$). They also had significantly higher levels of external extrinsic motivation ($M = 2.76$; $SD = 0.92$) than the Italian female students ($M = 2.50$; $SD = 0.94$); $F(1,636) = 4.92$; $p = .03$; $\eta^2 = 0.01$).

6.2. Gender and country differences in coping strategies

A 2 (gender: females vs. males) × 2 (Italian students vs. Russian students) MANOVA was conducted on the three subscales from the CISS. A significant main effect of gender with a small effect size was found ($F(3,1127) = 6.65$; $p < .001$; Wilks' $\lambda = 0.98$; $\eta^2 = 0.02$). Given the significance of the overall test, univariate main effects were examined. Univariate tests for gender revealed that, on average, female students used emotion and avoidance-oriented coping strategies more often than male students (Table 1). Thus, H2 was confirmed.

Table 1
Means and Standard deviations for scales scores by gender x country groups (N = 1133).

	Male (N = 319)		Female (N = 318)		Italian Students (N = 637)		Russian Students (N = 496)	
	M (SD)	M (SD)	F	η^2_p	M (SD)	M (SD)	F	η^2_p
<i>Academic Motivation</i>								
AMOT	1,23 (0,58)	1,07 (0,47)	3778*	,01	0,96 (0,36)	1,43 (0,63)	215,47***	,16
EXTER	2,35 (0,65)	2,21 (0,72)	,61	,00	2,12 (0,75)	2,51 (0,50)	94,240***	,08
INTROJ	1,82 (0,70)	1,72 (0,69)	3,49	,00	1,48 (0,63)	2,16 (0,59)	319,10***	,22
IDENT	2,69 (0,54)	2,85 (0,49)	6546*	,01	2,91 (0,49)	2,55 (0,49)	125,26***	,10
INTRIN	2,54 (0,54)	2,69 (0,51)	8972**	,01	2,71 (0,75)	2,47 (0,51)	43,147***	,04
<i>Coping Strategies</i>								
TASK	3,57 (0,69)	3,54 (0,71)	,373	,002	3,59 (0,74)	3,52 (0,64)	1,79	,00
EMOT	2,64 (0,79)	2,80 (0,75)	8,80**	,02	2,80 (0,81)	2,64 (0,73)	8,79**	,01
AVOID	2,82 (0,77)	2,98 (0,85)	11,56**	,01	2,79 (0,87)	3,01 (0,68)	22,95***	,02
<i>Academic Burnout</i>								
EXHA	3,60 (1,51)	3,81 (1,48)	10,47**	,01	3,52 (1,47)	3,90 (1,51)	21,97***	,02
CYNIC	2,84 (1,67)	2,64 (1,59)	,10	,00	2,42 (1,56)	3,20 (1,65)	56,24***	,05
AC-EFF	4,68 (1,26)	4,70 (1,14)	,04	,00	4,70 (1,12)	4,67 (1,31)	,11	,00

p* < 0.05; p** < 0.01; p*** < 0.001.

Table 2
Means and standard deviations for scales scores of Italian and Russian samples by gender.

	Italian sample		Russian sample	
	Male (N = 319)	Female (N = 318)	Male (N = 357)	Female (N = 139)
	M (SD)	M (SD)	M (SD)	M (SD)
<i>Academic Motivation</i>				
AMOT	1,00 (0,39)	0,93 (0,32)	1,45 (0,64)	1,40 (0,59)
EXTER	2,19 (0,73)	2,06 (0,76)	2,49 (0,52)	2,56 (0,45)
INTROJ	1,48 (0,64)	1,49 (0,63)	2,12 (0,61)	2,25 (0,52)
IDENT	2,86 (0,51)	2,96 (0,47)	2,53 (0,51)	2,59 (0,44)
INTRIN	2,66 (0,54)	2,75 (0,51)	2,44 (0,52)	2,53 (0,48)
<i>Coping Strategies</i>				
TASK	3,62 (0,74)	3,55 (0,74)	3,52 (0,64)	3,54 (0,63)
EMOT	2,66 (0,82)	2,95 (0,79)	2,63 (0,75)	2,66 (0,70)
AVOID	2,62 (0,82)	2,93 (0,90)	3,02 (0,71)	3,00 (0,65)
<i>Academic Burnout</i>				
EXH	3,36 (1,43)	3,67 (1,50)	3,81 (1,56)	4,11 (1,36)
CYNIC	2,42 (1,56)	2,42 (1,55)	3,22 (1,69)	3,16 (1,56)
AC-EFF	4,71 (1,17)	4,70 (1,08)	4,66 (1,34)	4,70 (1,25)

Table 3
Correlations among academic motivation, coping strategies and academic burnout scores.

	1	2	3	4	5	6	7	8	9	10	11
1. AMOT	-										
2. EXTER	,092**	-									
3. INTROJ	,261**	,503**	-								
4. IDENT	-,437**	,223**	,007	-							
5. INTRIN	-,426**	,063*	,062*	,568**	-						
6. TASK	-,101**	,022	-,016	,147**	,190**	-					
7. EMOT	,068**	,087**	,116**	,047	-,050	-,049	-				
8. AVOID	,068*	,118**	,159**	,029	,046	,363**	,226**	-			
9. EXHA	,342**	,193**	,177**	-,080**	-,267**	-,129**	,314**	,059*	-		
10. CYNIC	,599**	,114**	,140**	-,339**	-,402**	-,124**	,206**	,048	,564**	-	
11. AC-EFF	-,340**	,178**	,157**	,382**	,502**	,286**	-,164**	,087**	-,211**	-,327**	-

*p < .01; **p < .001.

We observed a significant main effect of country with a medium effect size ($F(3,1127) = 18.71; p < .001; \text{Wilks}' \lambda = 0.95; \eta^2 = 0.05$). Univariate tests for country showed that, on average, Italian students used emotion-oriented coping strategies more often than Russian students, whereas, on average, Russian students used avoidance-oriented coping strategies more often than Italian students.

The gender \times country effect was significant, with a small effect size ($F(3,1127) = 7.51; p < .001; \text{Wilks}' \lambda = 0.98; \eta^2 = 0.02$). On the univariate level, the interaction was significant for emotion- and avoidance-oriented coping strategies ($F(1,1132) = 5.97; p = .02; \eta^2 = 0.01$; and $F(1,1132) = 13.55; p < .001; \eta^2 = 0.01$, respectively).

To further investigate the effect of gender, a MANOVA was run separately for the Italian and Russian samples. The analyses showed a significant main effect of gender, with a medium effect size only in the Italian sample ($F(3,633) = 14.30; p < .001; \text{Wilks}' \lambda = 0.94; \eta^2 = 0.06$). Univariate tests for gender revealed, on average, that Italian female students used emotion-oriented strategies ($M = 2.94; SD = 0.68$) more often than Italian male students ($M = 2.66; SD = 0.87; F(1,636) = 29.01; p < .001; \eta^2 = 0.04$). They also used more avoidance-oriented coping strategies ($M = 2.95; SD = 0.92$) than Italian male students ($M = 2.62; SD = 0.87; F(1,636) = 16.63; p < .001; \eta^2 = 0.03$).

6.3. Gender and country differences in academic burnout

A 2 (gender: females vs. males) \times 2 (Italian students vs. Russian students) MANOVA was conducted on the three subscales from the MBI-SS. A significant main effect of gender, with a small effect size, was found ($F(3,1127) = 5.98; p < .001; \text{Wilks}' \lambda = 0.98; \eta^2 = 0.02$). Given the significance of the overall test, univariate main effects were examined. Univariate tests for gender revealed that, on average, female students had significantly higher levels of emotional exhaustion than male students (Table 1). Thus, H3 was confirmed.

A significant main effect of country with a small effect size was obtained ($F(3,1127) = 20.44; p < .001; \text{Wilks}' \lambda = 0.95; \eta^2 = 0.05$). Univariate tests for country showed that, on average, Russian students had significantly higher levels of emotional exhaustion and cynicism than Italian students. Further, no significant gender \times country effect was obtained.

To further investigate the effects of gender, a MANOVA was run separately for the Italian and Russian samples. The analyses showed a significant main effect of gender, with a small effect size in both Italian and Russian samples ($F(3; 633) = 3.42; p = .02; \text{Wilks}' \lambda = 0.98; \eta^2 = 0.02$; and $F(3; 492) = 2.90; p = .035; \text{Wilks}' \lambda = 0.98; \eta^2 = 0.02$, respectively).

Univariate tests for gender revealed, on average, that both Italian ($M = 3.68$; $SD = 1.5$) and Russian ($M = 4.11$; $SD = 1.36$) female students had significantly higher levels of emotional exhaustion than Italian ($M = 3.36$; $SD = 1.43$) and Russian ($M = 3.81$; $SD = 1.036$) male students ($F(1,636) = 7.26$; $p = .007$; $\eta^2 = 0.01$ and $F(1,495) = 3.95$; $p = .04$; $\eta^2 = 0.01$, respectively).

7. Discussion

The aim of this study was to explore gender and country differences in the academic motivation, coping strategies, and academic burnout profiles of first-year Italian and Russian university students. The findings revealed several gender and country differences that confirm and expand previous studies in this educational area.

7.1. Gender differences in academic motivation

Consistent with H1, our findings showed gender differences in academic motivation in the entire sample and in the Italian subsample. Female students had significantly higher levels of extrinsic motivation–identified regulation and intrinsic motivation than their male counterparts, whereas male students had significantly higher levels of amotivation and extrinsic motivation–external regulation than female students. These findings strongly support those of previous research on gender differences in academic motivation (e.g. Refs. [18,31,46]). This might result from distinct patterns of academic prospects and social roles for females and males. Scholars have underlined that female academic motivation is often linked to gratifying significant adults (e.g. teachers and parents), whereas male academic motivation is often related to external stimuli and material reinforcers [66].

However, such a trend was not observed in the Russian subsample, in which males and females did not differ significantly in academic motivation levels. This result is partially consistent with other investigations that found no differences between males and females in intrinsic motivation (e.g. Refs. [44,67]) and amotivation [46]. No gender differences in the Russian sample could be interpreted because the effect of collectivist values (e.g. egalitarianism, ingroup goals, and cooperation) prevailing in the Russian educational system moderated the level of gender differences and reduced gender stereotypes and gender gaps [68,69]. The collectivist values change gradually and persist [70], although Russian society is introducing individualistic cultural elements [71].

7.2. Country differences in academic motivation

Russian and Italian students differed in their levels of academic motivation. Italian students had significantly higher levels of extrinsic motivation–identified regulation and intrinsic motivation than Russian students, whereas Russian students had significantly higher levels of amotivation, extrinsic motivation–external regulation, and extrinsic motivation–introjected regulation than Italian students.

One possible explanation for these results is that people from different cultures internalise different ways of exerting autonomy on motivation [72,73].

In fact, cultural forms provide different levels of external support to people, and the dimensions of individualism/collectivism assign different priorities to individual goals, such as academic success. According to the concept of collectivism in the sense of cooperativeness, as interpreted by Petrovsky [74], norms, needs, and goals in a collectivist culture are those of the group and the community, and independence is not awarded priority value [75–77]. Further, according to the SDT framework, one person could be autonomously dependent on others if those others are perceived as caring, receptive, and supportive [78,79]. From this perspective, the differences between Italian and Russian students in academic motivation take different meanings and should be further investigated in the context of socio-cultural and educational system differences. It is undeniable that even Russian culture has been undergoing a transition towards individualistic nuances since the 19th century, but these nuances remain a secondary component of the culture, since schools and universities are anchored in the predominant collective values [71,80,81].

7.3. Gender differences in coping strategies

In line with H2, gender differences in coping strategies were found in the entire sample and in the Italian subsample, showing that female students used emotion and avoidance-oriented coping strategies more often than male students [49]. Our results support the findings of previous studies relating to more passive ways to overcome difficulties for girls compared to boys [82], especially with regard to the utilisation of emotion-oriented coping strategies [48]. Tinklin [83] suggested that one explanation for this outcome could be anchored in differences in male and female education that are permeated by stereotypes, whereas Matud [49] linked gender differences to socialisation being more instrumental and operative for males and more inactive and emotion-focused for girls.

However, in accordance with a study conducted by Shirazi and colleagues [84], this trend was not observed in the Russian subsample, in which males and females did not differ significantly in their coping strategies. Role-Constraint Theory [85] proposes that males and females in similar situations and similar roles (e.g. in the university context) do not differ in how they deal with stress, and it is possible that gender variables influence students less than other variables in the educational context.

7.4. Country differences in coping strategies

Russian and Italian students did not differ in their use of task-oriented coping strategies. However, there were differences in the use of emotion and avoidance-oriented coping strategies. Italian students used emotion-oriented coping strategies more often than Russian

students, whereas, on average, Russian students used avoidance-oriented coping strategies more often than Italian students. We must note that the literature presents contradictory results relating to cultural differences in the use of coping strategies, particularly for problem-focused and emotion-focused coping in collectivist and individualistic cultures [86]. Our findings confirm previous studies, such as those of Lee and Mason [87] and Shirazi and colleagues [84], with regard to the tendency of collective cultures (e.g. Russian culture) to guide people towards the use of avoidance-focused coping that encourages self-monitoring and harmonisation with the ingroup. Further, the absence of differences between Russian and Italian students in task-oriented coping scores is similar to the results obtained in a cross-culture study by Sinha and colleagues [88] from a sample of Indian and Canadian students. Lastly, the higher levels of emotional coping shown by the Italian sample are in line with the results obtained by Cole [86] in a comparison between a Nepalese sample and an American one, in which Americans were more likely to use emotions as reactions to difficult situations. In fact, individualistic cultures do not limit the use of emotions to face difficult situations, and these limits are even more slight in the Latin cultures of regions of southern Europe, particularly Italy [89,90].

7.5. Gender differences in academic burnout

In line with H3, gender differences were exhibited by the entire sample and in the Italian and Russian subsamples, showing that female students had significantly higher levels of emotional exhaustion than male students. Although previous research has shown conflicting results regarding the correlation between gender and academic burnout, our results are congruent with Herrmann and colleagues [14]'s study, which connects a high level of exhaustion with low self-esteem. Low self-esteem is associated with dysfunctional coping, as well as burnout and depression [91].

7.6. Country differences in academic burnout

Our findings show that Russian and Italian students did not differ in their levels of academic efficacy. However, they differed in their levels of emotional exhaustion and cynicism. In fact, Russian students had significantly higher levels of emotional exhaustion and cynicism than Italian students. These results are consistent with prior research conducted on a Russian sample that revealed that university students appeared frustrated and exhausted [92], even if there were excellent students, indicating high levels of emotional burnout.

Many causes can increase academic burnout levels in students from different countries, including cultural changes, a superabundance of tasks, new environments and new fellows, high demands for successful performance from family and the community, traditional values, and different levels of engagement [92–96]. It is interesting to observe that similar results regarding cynicism were obtained in a recent investigation by Palupi and Findyartini [19] in a sample of Indonesian medical students. Future research could explore the differences between students enrolled in the humanities and sciences.

7.7. Limitations

Despite the interesting findings regarding gender and country differences, our results should be considered in light of their limitations. The most critical limitation of this study is its cross-sectional design. Our results should be supported by further investigations based on longitudinal methods aimed at exploring the evolution of students' academic motivation, coping strategies, and academic burnout across time. The study is also limited to participants studying in Italian and Russian universities. Therefore, it is crucial to examine the contribution of academic motivation, coping strategies, and academic burnout of students in other European universities. Lastly, by exploring and including additional variables, such as students' perceived expertise, autonomy, and relationships, future studies may be able to expand our current knowledge on gender differences in an academic context.

8. Conclusion

Although our findings should be replicated by a longitudinal study, they can still provide a valid contribution to the design of psycho-educational programmes aimed at improving academic motivation, coping strategies, and reducing academic burnout among university students with respect for gender and country differences. This is particularly important for first-year students because the first year of university is a very complex and sensitive moment that, on the one hand, can bring unique and positive changes but, on the other hand, can often give rise to negative outcomes, such as switching academic courses or abandoning the university altogether. During the transition from secondary school to university, students are not always able to ask for support, and when they do, the situation has often become problematic. For these reasons, based on our results, career guidance practitioners should reinforce some personal dimensions in the final year of secondary school students and towards girls and boys enrolled in the first semester of the first year of academic courses. They could propose interventional activities that prevent the risk of amotivation, aimed particularly at male students. Further, concerning female students, career guidance practitioners could define interventions with the goal of reducing the need for emotion-oriented coping strategies and decreasing the amount of emotional exhaustion in academic burnout. Where our results indicate a lack of gender and/or country differences, strategies could be applied in a similar way in different cultural contexts and towards males and females. In general, our results suggest that during the first year of university, it is important to implement gender-focused actions to improve students' awareness of their social roles and personal characteristics, reduce maladaptive behaviours, check levels of academic motivation, and foster academic success.

In the context of Italian and Russian universities, our findings offer new knowledge on how male and female students from different

geographical areas and cultures react to the first-year stimulus of university life. Academic staff and stakeholders should design learning contexts that are more supportive, flexible, and suitable for the cultural and gender features of first-year university students. Doing so will promote well-being, reducing the tendency to switch academic courses or abandon university among first-year students. Further, our results can help improve the academic guidance services offered to first-year students, which should provide support in reaching expected achievements through gender- and culture-sensitive tools.

Author contribution statement

Cristina Cabras: Conceived and designed the experiments; Performed the experiments; Contributed analysis tools and data; Wrote the paper.

Tatiana Konyukhova; Natalia Lukianova; Marina Mondo: Performed the experiments; Contributed analysis tools and data; Wrote the paper.

Cristina Sechi: Conceived and designed the experiments; Contributed analysis tools and data; Analyzed and interpreted the data; Wrote the paper.

Data availability statement

Data will be made available on request.

Additional information

No additional information is available for this paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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