

## ***Students' Motivation and Adaptation to Higher Education: The Case of Portuguese Higher Professional Technical Programs***

### ***Motivación y adaptación de los estudiantes a la educación superior: el caso de los programas superiores técnicos profesionales en Portugal***

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**Abstract:** Portuguese Higher Professional Technical Programs constitute a flexible way to access Higher Education and are comparable to short-cycle higher education degrees in other countries. However, these programs in Portugal tend to have lowest percentage of new students and higher dropout rates compared to bachelor's and master's degrees. A qualitative exploratory and descriptive study was employed to understand students' (N=47) reasons for choosing a Higher Professional Technical Programs, their adaptation process, and reasons for persisting and abandoning the program. Students primarily chose one of these programs due to their interest in the scientific field and learning process, the attractive access conditions, and for not being admitted to their first-choice degree program. The main reasons for persisting are grounded on the interest in the scientific field and learning process, and employment perspectives; and for abandonment are related to vocation and career, and pedagogical relationship and learning process. Although most students revealed intrinsic motivation, the process of adaptation can influence their decision to either persist or abandon the short-cycle higher education degree.

**Keywords:** Dropping Out, Higher Education, Motivation, Student Adjustment.

**Resumen:** Los Programas Superiores Técnicos Profesionales portugueses constituyen una vía flexible de acceso a la Educación Superior y son comparables a las titulaciones superiores de ciclo o formación profesional en otros países. Sin embargo, en Portugal presentan un menor porcentaje de estudiantes de nuevo ingreso y mayores tasas de abandono que los grados y los másteres. Se llevó a cabo un estudio cualitativo, de carácter exploratorio y descriptivo, para comprender los motivos del alumnado (N=47) para elegir un Programa Superior Técnico Profesional, su proceso de adaptación y las razones para persistir o abandonar. Los estudiantes eligieron estos programas por su interés en el área científica y en el proceso de aprendizaje, por las condiciones de acceso atractivas y por no haber sido admitidos en su titulación de primera opción. Las razones principales para persistir se fundamentan en el interés por el área científica y el aprendizaje, así como en las perspectivas de empleo; mientras que las razones de abandono se relacionan con la vocación y la carrera profesional, y con la relación pedagógica y el proceso de enseñanza-aprendizaje. Aunque la mayoría del alumnado mostró motivación intrínseca, el proceso de adaptación puede influir en su decisión de continuar o abandonar esta titulación superior.

**Palabras clave:** Abandono escolar, Educación superior, Motivación, Adaptación del estudiante.

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## 1. Introduction

The Portuguese Higher Education (HE) system has been widening access and diversifying pathways to accommodate different student profiles and labour market demands. One of these flexible pathways is the Higher Professional Technical Programs ("Cursos Técnicos Superiores Profissionais"; CTeSP), created by DecreeLaw No. 43/2014 (2014). These 2year shortcycle HE programmes, offered by public and private polytechnic institutions, do not confer an academic degree but award a 120ECTS diploma. Their curricula include general and scientific training, technical training, and onthejob training through an internship, and graduates may either enter the labour market or continue to a bachelor's degree in a related field (DecreeLaw No. 63/2016, 2016; DecreeLaw No. 65/2018, 2018).

Despite this flexibility, transition data show that students from vocational secondary programmes are much less likely to be in HE one year later (24%) than those from scientifichumanistic tracks (77%; Direção-Geral de Estatísticas da Educação e Ciência, 2024c). Likewise, whereas 91% of students from scientifichumanistic secondary courses were enrolled in a bachelor or integrated master's programme, only 7% of CTeSP students were (Direção-Geral de Estatísticas da Educação e Ciência, 2024c). In 2022/23, CTeSP accounted for just 5.2% of new HE students, compared with 67.5% in bachelor and integrated master's and 20.0% in master's degrees, but had the highest dropout rate (26.6 vs. 17.9 and 17.5%, respectively; Direção-Geral de Estatísticas da Educação e Ciência, 2024a). Furthermore, among 2021/22 CTeSP graduates, 45% enrolled in a bachelor's degree in 2022/23, but 54% were no longer in HE (Direção-Geral de Estatísticas da

Educação e Ciência, 2024b). Given that an increasingly diverse HE population is crucial for reducing socioeconomic inequalities and that CTeSP students receive proportionally more grants than bachelor and integrated master's students (Direção Geral do Ensino Superior [DGES], 2021), understanding CTeSP students' trajectories, motivations, and adaptation is particularly important. Despite the strategic role in widening participation and promoting vocational trajectories into Higher Education, CTeSP students remain underrepresented in the scientific literature, with most evidence on programme choice, adaptation, and persistence deriving from bachelor programmes.

### *1.1. Reasons for Choosing a Study Program*

Students' programme choices are multifactorial. Studies with undergraduates in Ireland, Spain, and Portugal indicate that vocation, employment prospects, and interest in the study field tend to be the main reasons for choosing a degree, whereas parental and peer influence plays a smaller role (Byrne & Flood, 2005; Cordón Lagares et al., 2012; Tavares, 2017; Tavares & Cardoso, 2013). Programme choice is also intertwined with the choice of institution; in Portugal, proximity to home and institutional reputation have been central criteria (Tavares, 2017; Tavares & Cardoso, 2013). Differences emerge between HE sectors, for example, employability is more valued by public university students and less by students in public and private polytechnics and private universities (Tavares, 2017).

Though most research is conducted within bachelor's students, in populations comparable to CTeSP students, research with Australian students enrolled in 2-year university pathway programmes, designed for those who lack direct entry qualifications, found that younger entrants saw these programmes as a route into their preferred degree (Boyle & Abdullah, 2015). Understanding such choices benefits from considering both intrinsic and extrinsic motives. Self-Determination Theory (SDT) provides a useful framework for analysing motivation in transition and pathway programmes (Di Domenico et al., 2024; Ryan & Deci, 2000, 2017). SDT distinguishes intrinsic motivation, grounded in interest and inherent satisfaction, from different forms of extrinsic motivation: external regulation (rewards/punishments), introjected regulation (internal pressures such as pride or guilt), identified regulation (recognising the personal value of the activity), and integrated regulation (coherence with one's core values; Ryan & Deci, 2000, 2017). For students in bridging programmes, intrinsic motivation underpins deep engagement, but identified and integrated forms of extrinsic motivation, seeing the programme as valuable and aligned with personal goals, are also central to persistence and effort. Indeed, processes of exploration and commitment seem to be crucial, with students who report stronger alignment between their interests and programme characteristics tending to experience greater person-programme fit, academic satisfaction, and success in higher education (e.g., de Vries et al., 2024), although most findings result from bachelor programmes, leaving little evidence regarding CTeSP students.

### *1.2. Adapting to the Study Program*

Adaptation or adjustment to HE refers to how effectively students manage the academic, social, and personal challenges of the HE context, particularly in the first six to eight weeks (Araújo, 2017; Casanova, 2020; Credé & Niehorster, 2012). According to Bean and Eaton (2001), coping processes mediate this adjustment, resulting in academic and social integration. Adaptation is multidimensional, encompassing

academic/studyrelated, social/interpersonal, personalemotional, studyprogramme/career, and institutional dimensions (Almeida et al., 1999; Araújo et al., 2014; Baker & Siryk, 1984; Soares et al., 2006).

Academic adaptation involves students' study efforts, perceptions of their competencies (e.g., study habits, time management), and perceived effectiveness of their investment, as well as classroom learning behaviours (Almeida et al., 1999; Araújo et al., 2014; Baker & Siryk, 1984; Soares et al., 2006). Social adaptation concerns relationships with peers, formation of new friendships, engagement in social activities, and, where relevant, adjustment to relocation (Almeida et al., 1999; Araújo et al., 2014; Baker & Siryk, 1984; Soares et al., 2006). Recent research highlights that feeling accepted by peers and supported by the institution appears to facilitate adjustment within a bachelor students (Verbree et al., 2025). Personalemotional adaptation relates to perceived physical and psychological wellbeing and selfesteem (Almeida et al., 1999; Araújo et al., 2014; Baker & Siryk, 1984; Soares et al., 2006). Studyprogramme adaptation reflects how students integrate their HE experience into career planning and how satisfied they feel with their programme choice in relation to vocational and professional projects (Araújo et al., 2014; Soares et al., 2006). Recent research on 1<sup>st</sup> year CTeSP students revealed that students with greater expectations of obtaining a job and students who believed to have the knowledge and competencies to implement their career goals were also those with higher CTeSP satisfaction levels (Rosa et al., 2025). Finally, institutional adaptation refers to satisfaction with the physical and human environment of the institution (spaces, services, teaching and non teaching staff; Araújo et al., 2014; Soares et al., 2006). These dimensions of adaptation can shape decisions to persist in or abandon HE (Pascarella & Terenzini, 2005), and empirical evidence shows that adjustment is a strong predictor of retention (Credé & Niehorster, 2012). However, little is known about adaptation among CTeSP students, whose characteristics and programme features differ from those of bachelor students.

### *1.3. Reasons for Abandonment and Persistence*

A literature review by Behr et al. (2020) identified three main clusters of factors associated with attrition without degree completion: characteristics of the national education system (e.g., funding models), institutional attributes (e.g., type and quality of HEI), and studentrelated variables. The latter include preenrolment aspects (such as type of secondary education) and studyrelated factors (e.g., needing to balance work and study). Within studentrelated factors, psychological variables are central: cognitive and emotional processes such as selfefficacy, coping, and locus of control (Bean & Eaton, 2000; Tinto, 2017); motivational processes such as involvement and effort (Astin, 1984; Tinto, 2017); sense of belonging and engagement (Ryan & Deci, 2000; Tinto, 2017); and perceptions of curricular quality and relevance (Tinto, 2017).

Contextual constraints, particularly financial difficulties (G'ulomovna, 2023), and institutional characteristics, including organizational culture, structure, and size (Pascarella, 1980), also influence persistence. Academic and social integration, closely linked to belonging (Wolf-Wendel et al., 2009), together with alignment between initial motivations, expectations, and actual experience, are critical for continuation (Tinto, 1997), whereas mismatches in these domains often precede dropout. Family background (Fantinelli et al., 2023), personality, skills, abilities, and prior schooling further shape trajectories (Bean & Eaton, 2000; Pascarella, 1980; Tinto, 1997). More

recent work has highlighted vocation as a significant factor in decisions to leave HE (Casanova et al., 2021a; Rosa et al., 2025), suggesting that misalignment between vocational interests and programme content can drive withdrawal even when other conditions are favourable.

#### 1.4. Current Study

Given the limited empirical evidence on CTeSP students, particularly regarding their programme choice, adaptation and persistence, the present research addresses this gap by examining three guiding questions derived from the literature and the need for more targeted evidence: (1) What are the reasons for choosing a CTeSP? (2) How is the adaptation process of CTeSP students characterized? and (3) What are the reasons for persisting in or abandoning a CTeSP?

By examining these questions, the study aims to capture CTeSP students' perceptions and experiences regarding choice, adaptation, and trajectories of persistence or dropout within Portuguese Higher Professional Technical Programs. More specifically, the objectives are as follows: to understand the reasons why student choose a CTeSP (Higher Professional Technical Program); to interpret the adaptation process of students who choose a CTeSP program; to understand the reasons that lead to perseverance or abandonment of a CTeSP program.

## 2. Method

A qualitative exploratory and descriptive study was designed (Hernández Sampieri et al., 2010), with semi-structured interviews as the main data collection technique. Data was collected in two moments: July 2020 and from June to August 2021. Below, we detail the participants and the procedures.-

### 2.1. Participants

To answer our research questions, 47 CTeSP students from different schools of a Northern Portuguese Polytechnic HEI participated in this research. Students enrolled in a CTeSP in the 2019/2020 academic year (except one student from 2018/2019) and had participated in a previous quantitative study from the same project.

A criterion-based and intensity purposeful sampling (Patton, 1990) was used. The main criterion was students' consent to access their academic data (e.g., academic performance, persistence vs. abandonment). Abandonment was defined as matriculation cancellation and no enrollment in the same HEI in the following academic year. We also sought to include students from various Schools, ensuring "sufficient intensity [of data] to elucidate the phenomenon of interest" (Patton, 1990, p. 171). Participants were recruited based on sample sizes used in previous studies, and recruitment ended when sufficient information was considered to have been gathered by the main researcher and interviewer.

Participants' sociodemographic characteristics are presented in Table 1. Of the 47 students (aged 18–32), 27 persisted in the CTeSP and 20 abandoned. These two groups were subcategorized into two groups: 15 (31.9%) students persisted and were able to complete the program in 2 years (PC2), 12 (25.5%) students persisted but were retained at least once (PR), 13 (27.7%) students abandoned in the 1<sup>st</sup> year (A1) and 7 (14.9%) students abandoned in the 2<sup>nd</sup> year (A2).

**Table 1: Sociodemographic Characterization of Participants.**

|                                                                   | Total (N=47) | Persistence (N=27) | Abandonment (N=20) |
|-------------------------------------------------------------------|--------------|--------------------|--------------------|
| Female, <i>n</i> (%)                                              | 22 (46.8)    | 14 (51.9)          | 8 (40.0)           |
| Age, M (SD)                                                       | 21.1 (2.94)  | 20.7 (2.07)        | 20.0 (3.76)        |
| 18-19 years, <i>n</i> (%)                                         | 12 (25.5)    | 5 (18.5)           | 7 (35.0)           |
| 20 years, <i>n</i> (%)                                            | 16 (34.0)    | 11 (40.7)          | 5 (25.0)           |
| 20-32 years, <i>n</i> (%)                                         | 19 (40.4)    | 11 (40.7)          | 8 (40.0)           |
| Professional Secondary Education <sup>a</sup> , <i>n</i> (%)      | 29 (61.7)    | 11 (40.7)          | 18 (90.0)          |
| Study program is the first choice, <i>n</i> (%)                   | 38 (80.9)    | 19 (70.4)          | 19 (95.0)          |
| Class Frequency Inside HEI facilities <sup>b</sup> , <i>n</i> (%) | 36 (76.6)    | 23 (85.2)          | 13 (65.0)          |
| Father with a HE Degree, <i>n</i> (%)                             | 4 (8.51)     | ----               | 4 (20.0)           |
| Mother with a HE Degree, <i>n</i> (%)                             | 10 (21.3)    | 6 (25.0)           | 4 (20.0)           |

<sup>a</sup> Those who did not graduate from a Professional Secondary Education graduated from a Scientific-Technical Secondary Education. One student who persisted did not answer.

<sup>b</sup> One student who abandoned had classes both inside and outside the HEI facilities.

## 2.2. Instruments

Different semi-structured interview scripts were developed, based on prior literature (e.g., Araújo, 2017; Araújo et al., 2014; Casanova & Almeida, 2016), to accommodate students' diverse trajectories. Most of the scripts were common to all participants; however, some specific questions were included to address on specific aspects related to the different experiences represented by participants in M1 (students still enrolled in the program vs. those who had abandoned) and in M2 (students who completed the program in two years, those who persisted with at least one retention, and those who abandoned in the second year).

All versions included questions on: (a) reasons for choosing the programme ("What made you choose this course?"; (b) reasons for persisting, abandoning, or being retained, with additional prompts for abandonment (e.g., "As I said, in this interview I'd like to talk to you about the fact that you dropped out of the course or withdrew your enrolment. At what point in the academic year did you start thinking about dropping out?; In which month did you actually drop out?; There are many different reasons that might lead a student to drop out of a course. What were the main reasons that led you to drop out of this course?"), (c) transition and adaptation to the program (e.g., "Now I'd like to talk to you about your time on the course. How would you describe how you settled in and your experience on the course?"), and (d) the impact of COVID19, in the second data collection moment (e.g., "To what extent might the circumstances surrounding the COVID-19 pandemic have influenced or affected your academic journey?").

More specifically, transition and adaptation questions focused on: (a) relationships with classmates (e.g., "How would you describe your relationship with your fellow students?"), (b) relationships with professors and program coordinators ("How would you describe your relationship with the lecturers and the course coordinator?"), (c) teaching/learning processes, contents and assessment ("How would you describe the teaching and learning methods, the course content and the assessment methods?"), (d) institutional infrastructures and resources ("How would you describe the educational institution's facilities and resources [classrooms; canteen; libraries; social services; student support services; leisure facilities]?"), and (e) participation in social/leisure activities ("How would you describe your involvement in extracurricular activities [such as sport; student associations, etc.]?").

To enhance the validity of the instruments, all interview protocols were first pilot-tested with former students who had previously attended a CTeSP but were not eligible for the main

study. This ensured that the pilot participants were familiar with the topics addressed while remaining independent from the study sample. Through the use of think-aloud approach, participants shared feedback on clarity, relevance and comprehensibility of the questions. Mostly feedback concerned some difficulties in understanding, leading to improving the wording, clarity and coherence of the interview protocols. In addition, all interview protocols were subjected to critical review by two senior researchers, who assessed their content validity, methodological adequacy and technical quality before data collection.

### *2.3. Data Collection Procedures*

Given the 2-year length of CTeSP, interviews were conducted at two points in students' trajectories: at the end of the first year (2019/2020) and at the end of the program (2020/2021). Data were collected in M1 (July 9–22, 2020) and M2 (June 28–August 2, 2021). Invitation emails, sent to participants identified in a previous quantitative study from the same project, explained aims, estimated duration, and included a Zoom link.

In M1, 26 interviews were conducted (13 students who persisted, 13 who abandoned), totalling 583 minutes (≈22 minutes on average). For M2, the aim was to include students who: (a) completed the program in two years, (b) persisted with at least one retention, and (c) abandoned in the second year; 21 interviews were carried out (total 568 minutes; ≈20 minutes on average). All interviews were conducted online by the same researcher; camera use was optional. The interviewer clarified questions when needed, using synonyms and examples. Interviews were transcribed and returned to participants for validation. Academic records, obtained with prior consent in the earlier quantitative phase, complemented interview data.

Procedures complied with GDPR (European Parliament & Council of the European Union, 2016) and were approved by the institution's Data Protection Officer; The wider project was also approved by the Ethics Committee of the Centre for Research and Innovation in Education. All participants were informed about the objectives and procedures of the study, and informed consent was obtained. They were informed that participation was voluntary and that they could withdraw of the study at any time. They were also informed about anonymity (code identification, aggregate reporting) and exclusive research use of data and provided prior consent for audio recording of the interviews. No compensation was provided.

### *2.4. Data Analysis Techniques*

Interview data were examined using categorical content analysis (Bardin, 2011), in three phases: (1) pre-analysis, (2) material exploration, and (3) treatment, inference, and interpretation. NVivo® (QSR) supported the process. In pre-analysis, transcripts constituted the corpus and an initial reading provided an overview (Bardin, 2011). The theme was adopted as the unit of registration, considering presence/absence, frequency, and valence (positive/negative).

During material exploration, coding, enumeration, and categorization were applied. Categories were defined both deductively and inductively (Bardin, 2011). Initially, categories were derived from the interview questions and were then further refined through corpus analysis. Each category was explicitly defined to enhance objectivity, and coding was continuously crosschecked by two researchers. In cases of discrepancies (i.e., disagreement), the insights of another two researchers were asked. Overall, the category system was discussed in several meetings involving two to four researchers. To strengthen trustworthiness (Lincoln & Guba, 1985), triangulation was used, combining multiple theoretical frameworks (e.g., Araújo, 2017; Astin, 1984; Bean & Eaton, 2000; Tinto, 2017) and data sources (interviews and

academic records). In the final phase, results were summarized statistically (tables, graphs, figures) to facilitate interpretation. Findings were then compared with existing literature to inform the interpretation and discussion.

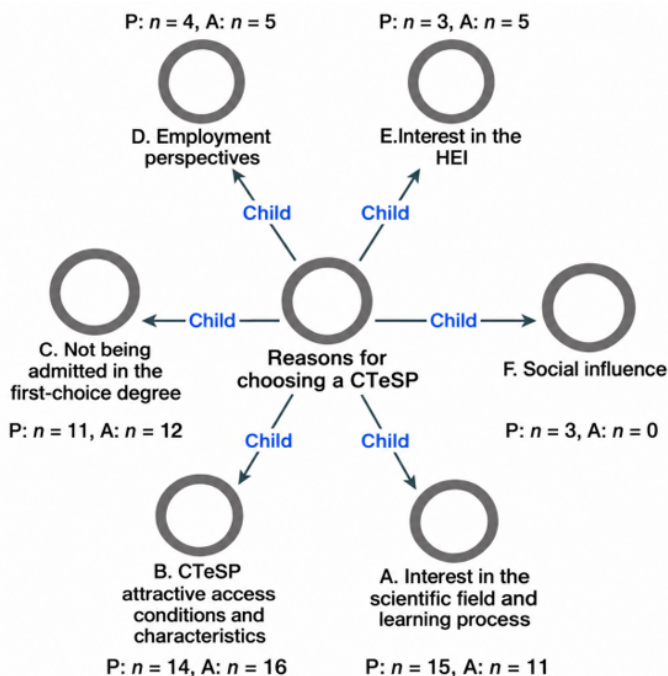
### 3. Results

In this section, we present the results for each research question.

#### 3.1. Reasons for Choosing the CTeSP

Students chose a CTeSP (Figure 1) mainly due to: (a) interest in the scientific field and learning ( $N=30$ ), including interest in learning and to deepen knowledge, and to continue in a familiar area from secondary school (e.g., PC2\_04: "It was really because I liked the field."; A1\_23: "I didn't want to enroll in a program just to earn the title of Engineer or Doctor, I wanted to learn, I wanted to know more."; (b) CTeSP's attractive access conditions and characteristics ( $N=26$ ), such as no national exam requirement, opportunity to access a bachelor's degree once completed, and low fees and short duration (e.g., PR\_34: "I don't see myself studying for so many years, like in a bachelor ... so I preferred to do a 2-year program"; A1\_21: "I couldn't pass the exam and so I opted for a CTeSP, because that way I could go to a bachelor in just one year."; (c) not being admitted into their first-choice program ( $N=23$ ), due to failing or not taking the national exam to access a bachelor (e.g., PC2\_31: "I first tried to apply for a bachelor, but since I couldn't get in, I chose to go to a CTeSP"; A1\_15: "I hadn't taken the national exams to immediately enter in a bachelor ... I opted for a CTeSP");

**Figure 1: Reasons for Choosing the CTeSP.**



Note. P = Persistence; A = Abandonment

Less frequent reasons were: (d) employment prospects ( $N=9$ ), by increasing job opportunities (e.g., PR\_37: "I was already 23/24 years old and the CTeSP was only 2 years long and I had a guarantee that, after 2 years, I could enter the job market."; A1\_23: "Programming is a field in expansion... nowadays there is a very high demand for technicians."), (e) interest in the HEI ( $N=8$ ), in terms of location and prestige (e.g., PR\_10: "because the [HEI's name] is literally next to my house ... I also have some friends there who spoke very highly of the college."; A2\_41: "I wanted to get into a bachelor and so I had been looking. I've always been interested in [HEI's name], it has always been a good college."), and (f) social influence ( $N=3$ ) from family, friends, boy/girlfriend, or tutors (e.g., PR\_10: "I got in a bit because of my girlfriend. She was already at [HEI name] and she made me excited about it. Honestly, if I hadn't been with her, I don't know if I would have joined this year."). Therefore, the main reasons for students who persisted were CTeSP's attractive access conditions and characteristics ( $N=15$ ) and interest in the scientific field and learning process ( $N=14$ ), whilst for those who abandoned was the interest in the scientific field and learning process ( $N=16$ ). Social influence was only identified by students who persisted.

### 3.2. Adaptation Process to the CTeSP

Based on the literature, we identified five major adaptation processes that students went through in their CTeSP (Table 2): Institutional, Study program, Academic, Social and Personal-emotional. These processes were classified as positive or negative, based on Flores et al. (2022).

**Table 2: Adaptation to the CTeSP.**

| Category                      | Subcategory                                                                 | Positive Adaptation |       | Negative Adaptation |       |
|-------------------------------|-----------------------------------------------------------------------------|---------------------|-------|---------------------|-------|
|                               |                                                                             | P (n)               | A (n) | P (n)               | A (n) |
| Institutional adaptation      | Physical environment                                                        | 12                  | 10    | 10                  | 8     |
|                               | Human environment                                                           | 10                  | 3     | 3                   | 0     |
| Study Program adaptation      | Context for the implementation of students' academic and professional goals | 19                  | 7     | 8                   | 13    |
|                               | Teaching and learning process                                               | 13                  | 9     | 17                  | 10    |
| Academic adaptation           | Pedagogical relationship with professors                                    | 11                  | 19    | 5                   | 6     |
|                               | Management of self-study                                                    | 15                  | 4     | 12                  | 5     |
| Social adaptation             | Interpersonal relationships with classmates                                 | 20                  | 11    | 5                   | 7     |
|                               | Interpersonal relationships with teaching staff                             | 21                  | 17    | 9                   | 7     |
| Personal-emotional adaptation | Identity of the CTeSP student within the student community                  | 4                   | 2     | 21                  | 13    |
|                               | Emotions experienced in the first moments during CTeSP                      | 20                  | 9     | 10                  | 15    |

Note. The sum of each group may be higher than the total N of each group since there were students who experienced both a positive and negative adaptation to a given dimension (subcategory). P = Persistence; A = Abandonment.

#### 3.2.1. Institutional Adaptation

Institutional adaptation refers to the students' adaptation in terms of the institution's physical and human environment. Some students reported satisfaction with the physical environment quality (P:  $N=12$ ; A:  $N=10$ ), perceiving the institution as having good infrastructures (i.e., big and renewed spaces, easy access) and as providing good services (e.g., PR\_34: "[At] the secretary's ... you just had to ask, in case you had any doubts. I

was easily helped"; A1\_24: "The leisure spaces were very nice, and the spaces were in good condition.").

However, some students perceived the physical environment as unsatisfactory (P: N=10; A: N=8): inadequate class/study rooms conditions (e.g., cold classroom with poor sound isolation, labs with poor hygiene and lacking materials; PC2\_29: "It was in a mall. [...] We only had a classroom. There was a lot of noise outside because it was supposed to be a store and not a classroom. In winter, the classroom was very cold."), restricted use of infrastructures and services (e.g., lack of access to the cafeteria and library, insufficient internet services), geographical distance between classrooms and services (e.g., social services, labs), difficulty orienting oneself in the HEI (e.g., difficulty finding the classroom), and lack of agility from Social Services. Since some classrooms were located outside of the main HEI building, the geographical distance may have hindered some students' social relationships (e.g., PC2\_30: "Most classes were in the factory. We only had people from our class and another program ... we didn't really have anyone else to get to know.") and academic involvement (e.g., A1\_15: "we were invited to attend lectures, but our campus was very far from the University, [so] we ended up never participating in these activities.").

Regarding the human environment, students who perceived it as positive (P: N=10; A: N=3) define it as such for the support received in reception to the HEI from students and professors and the perception of availability and friendliness (e.g., PC2\_08: "I entered in the second phase, but ... I adapted very well, [the Professor] explained to me how things worked. And from there the relationship with my peers also helped."; A1\_21: "the school itself is very accessible, and the people are very friendly and can easily communicate with us and explain anything"). Only three students who persisted were unsatisfied with the human environment for the lack of support or differential treatment for CTeSP students (e.g., PC2\_09: "I never had anyone close to me introduce me to the study program or the institution. And so, I had to learn everything on my own.").

### 3.2.2. Study Program Adaptation

This category refers to the context for the implementation of students' academic and professional goals. Most students who persisted (N=19) perceived the program as a context to implement their academic and professional goals (e.g., PR\_13: "mainly it prepares us for the future, ... for the job market, so that it won't be a shock when we get there.") with the CTeSP content syllabus well-designed or students' interest or pre-knowledge in it acting as a facilitator for the implementation of such goals. However, only some students who abandoned (N=7) experienced a positive adaptation to the program (e.g., A2\_41: "In high school, I was already in the [same] field. So, adaptation was quite easy. The [CTeSP] classes were very appealing and very interesting.").

Contrary to this result, only some of those who persisted (N=8) did not perceive the program as a context to implement their academic and professional goals, revealing lack of interest and motivation and/or working in that job market, or even a feeling of uncertainty (e.g., PR\_36: "when I learned the theory, I liked it. I thought it was something I wanted to do ... for the rest of my life [but] now that I'm doing the internship [...] I know it's not."). Most students who abandoned (N=13) experienced a more negative adaptation to the program, mentioning lack of interest or unmet expectations (e.g., A2\_45: "I thought it would be something more related to Management, like really selling, and not so much like in a store. I've never been 100% focused on the study program"). An interaction between adaptation (negative vs. positive) and CTeSP student (abandonment vs. persistence) is visible.

### 3.2.3. Academic Adaptation

This category includes the (a) teaching and learning process, (b) pedagogical relationship with professors and (c) management of self-study. Students who described the teaching-learning process as positive (P:  $N=13$ ; A:  $N=9$ ), valued and were satisfied due to teaching methods that facilitated learning (e.g., practical exercises), well-designed materials and well-explained contents (e.g., PC2\_06: "I liked the way they presented the contents, how they explained them"; A2\_41: "The curricular units were very appealing and very interesting"). This stimulated motivation to learn, facilitating their academic adaptation. Adaptation in some cases was facilitated by the help of classmates when learning was considered difficult.

However, more students (P:  $N=17$ ; A:  $N=10$ ) experienced difficulties in the teaching-learning process, sharing that it was due to both external and personal factors. As external factors, they mentioned difficult and complex subjects, whose contents were quickly and insufficiently explained due to demanding and uninteresting teaching methods (e.g., expository methods with little active student participation), and disturbed by noisy classroom environments (e.g., students talking to the side). As personal reasons, they mentioned lack of: effort, dedication, identification with the curricular contents, foundational knowledge (e.g., PR\_03: "The professors should explain better, and not just spit out the contents, or tell us to do a Google search"; A1\_17: "It was [taught in] such depth that I didn't understand certain things").

Globally, the teaching-learning process was sometimes negatively influenced by the pandemic, leading to concentration/attention, motivation, and learning difficulties, with an impact on academic performance (e.g., PC2\_28: "My grades dropped more when I took online classes"; A2\_44: "It started to become very tiring... having only online classes. The motivation and concentration are not the same."). The exception was one working student, for whom distance learning improved time management.

Most students perceived positive pedagogical relationships with professors (P:  $N=11$ ; A:  $N=19$ ) since most of them were perceived as available and ready to help and clarify questions, and as having adequate training for teaching (e.g., PC2\_31: "They are always very available and ready to help and answer any questions"; A2\_47: "The way that some professors dealt with the students, to encourage us, to make us think"). This posture and a small classroom in which it becomes "easier for that trust between student and professor [to develop] and for one to talk more openly about the issues and discuss more" (PC2\_33) favored a positive academic adaptation.

Despite this general positive perception, some students also mentioned having a negative pedagogical relationship with some professors. Indeed, a smaller number of students (P:  $N=5$ ; A:  $N=6$ ) perceived that some professors were very demanding, not available to supported, did not articulate or communicated with other professors, were not assertive enough, and did not fully take into account working students circumstances (e.g., PC2\_29: "It was very difficult ... because I think the professor wasn't very available to teach the students."; A1\_17: "The professors didn't want to explain how the work projects should be done ... some even lacked respect, so there wasn't anything that pulled me in to go to that class.>").

Concerning the self-study management, some students (P:  $N=15$ ; A:  $N=4$ ) reported greater dedication to study (e.g., to improve performance or keep the study updated, or for lack of foundations), search for other study methods, and the ability to elaborate, organize,

manage, and present academic work. This contributed to a positive academic adaptation (e.g., PC2\_31: "I've always been used to having tests, doing [school] works, so basically I was used to it, it wasn't a difficult adaptation."; A2\_43: "I was able to adapt well. But I had to make a small adjustment, studying a little more than I did in high school.").

Others (P: N=12; A: N=5) mentioned lack of dedication and interest, poor time management and study methods, insufficient study time, increased pressure compared to secondary school, very demanding workload and challenges in group work. Consequently, they experienced a more negative academic adaptation (e.g., PR\_34: "The difficulty I felt the most perhaps was... making my study plan and studying each subject correctly."; A1\_17: "There was a lot of last-minute works. Many works, right from the beginning [...] it was very demanding.").

Lastly, students' circumstances (i.e., entering in the 2<sup>nd</sup> phase or after a temporary break from studies, being a working student, receiving a student grant, doing long daily commutes to the HEI) influenced academic adaptation (e.g., PR\_11: "I felt a lot of pressure, of having to have those credits to enrol for a scholarship. [...] And I think that made a difference", A1\_17: "I entered the 2<sup>nd</sup> phase [...] I joined the class a bit late and it was also one of the reasons why I couldn't adapt afterwards"). This influence was mostly negative (P: N=5; A: N=8) – due to work-study balance difficulties or having to meet academic achievement criteria to qualify for a grant – but for some that persisted (N=4), peer support and the ability to focus on one's studies minimized this negative effect.

### 3.2.4. Social Adaptation

It refers to the interpersonal relationships with classmates and with teaching staff and the identity of the CTeSP student within the student community. Most students (P: N=20; A: N=11) characterized their relationships with classmates as positive, promoted by one's ability to make friends, but also by the helpful and available peers, and cohesion and friendships (e.g., PC2\_09: "I've always been good at making friends, so I didn't have any problems at all."; A2\_42: "we created our class group, and it was good, I liked it. I think we helped each other a lot"). However, some students (P: N=5; A: N=7) characterized social adaptation as negative, for instance, due to difficulty establishing friendships with peers and dealing with younger ones, but also the competitiveness (e.g., PR\_36: "It was visible from day one... they instilled that there is only one vacancy to enter the bachelor and each one has to be better."; A1\_17: "I didn't identify much with people who are one thing and then they are another. I'd rather be in my corner.").

Most students (P: N=21; A: N=17) mentioned having a positive relationship with professors and the CTeSP coordinator for these were, even during the pandemic, accessible/available, helpful/supportive, nice/pleasant, thoughtful, open to interact with students (e.g., PR\_39: "The professors are very attentive, they care, something I didn't expect... I had an idea that Higher Education was more distant, colder, and it turned out not to be."; A1\_46: "Our professors put a lot of effort into encouraging students to... find ways to overcome the problems they had. And I really liked them."). Some (P: N=9; A: N=7) however reported having a negative/distant relationship with at least one professor, in some cases due to their lack of availability and difficulties communicating with them (e.g., PR\_34: "Other professors didn't even care so much, in terms of being close and knowing what's going on with the student. Usually, the student has to go after the professor"; A2\_43: "We never had a very close relationship with the coordinator.").

Students also mentioned negative views on the CTeSP student identity within the student

community (P:  $N=21$ ; A:  $N=13$ ), including: (a) perceived prejudice regarding CTeSPs and its students, hindering adaptation (e.g., PR\_36: "My father was not much in favor of me going to the CTeSP because he said that it was for people ... who were not very smart, who were mischievous"; A2\_25: "I feel, even from other students, that CTeSPs are a bit trivialized. [Many think] 'people enter without taking the national exams, they no longer deserve to enter.'"), (b) a sense of not belonging, negatively impacting adaptation (e.g., PC2\_33: "someone [who] is in a CTeSP is usually looked down by other students, and usually always feels that inferiority."; A2\_45: "There was a reception for the new students, and we [CTeSP] didn't have it. I think it would be good if CTeSP was a normal course."), and (c) limited social participation in the student community, affecting adaptation (e.g., PC2\_04: "I didn't participate in anything, because some activities, for example, from the Student Association don't allow the integration of CTeSP students."; A1\_19: "everything that is part of academic life, we wanted to have [but] didn't.")

Few students (P:  $N=4$ ; A:  $N=2$ ) mentioned being able to participate in some social activities outside class, with positive social adaptation; while others (P:  $N=8$ ) mentioned not being interested or not having had time to participate in such activities, thus experiencing a neutral adaptation.

### 3.2.5. Personal-emotional Adaptation

This last category refers to the emotions experienced in the first moments during CTeSP. Positive emotions experienced by students (P:  $N=20$ ; A:  $N=9$ ), reflecting a positive adaptation, include a general sense of well-being, happiness, satisfaction, pride, pleasure, and confidence for their personal and emotional development (mostly in terms of independence and autonomy), academic development, and learning process (e.g., PC2\_05: "I had never lived alone, [so] I had to do everything [laughs] by myself ... It was a push for me to get out of my comfort zone, so it was quite good for me."; A2\_47: "I don't feel regretful, no. I'm proud of myself for being able to get to where I am.").

Negative emotions (P:  $N=9$ ; A:  $N=15$ ) reflected a negative adaptation and included anxiety/stress, and feeling confused or lost during the first moments (e.g., PR\_36: "that class is all about competitiveness. It was stressful for me. That's why I didn't mind failing the year."; A1\_26: "[The] first month was a bit of a crazy experience because I didn't even know where or what it was like ... I felt confused."). Students who persisted also mentioned fear in the beginning and exhaustion at the end of the year, while those who abandoned also stated loneliness or missing home, discouragement, unhappiness, pressure, and rejection, and revolt. Students mentioned that some of these negative emotions were influenced by their traits or circumstances (e.g., being a working student) and by negative social and study program adaptation experiences (e.g., competitive class).

A pattern is thus seen in the data: more students who persisted experienced more positive emotions rather than negative, whilst more abandonment students experienced fewer positive emotions compared to negative.

### 3.3. Reasons for Persistence and Abandonment

For students who persisted ( $N=27$ ), the most frequent reasons to continue their studies were: (a) interest in the scientific field and learning process ( $N=14$ ), thus revealing motivation to persist (e.g., PC2\_01: "I'm really enjoying the CTeSP, and I intend to continue and go beyond that."), (b) employment perspectives ( $N=9$ ), both for opening more job opportunities and for helping to perceive what the job market looks like (e.g., PR\_37: "The CTeSP ends

up helping us a lot in terms of entering the job market and it teaches us very well what the future will be when we start working.”), and (c) opportunity to enrol in a bachelor's degree ( $N=8$ ), thus remaining motivated to finish the CTeSP (e.g., PR\_11: “I want to stay because there is also the possibility of getting into a bachelor without having to take the national exams.”).

Less frequent reasons were: (d) academic performance ( $N=3$ ; PC2\_32: “My results were also good, I was enjoying the course, so I decided to dedicate myself and take it to the end, and it ended up going well.”), (e) intention to complete because they had already enrolled ( $N=3$ ; PR\_10: “I already completed the 1st year and there is only one year left. I think that's the main one.”), (f) positive relationships built with classmates and professors ( $N=2$ ; PC2\_07: “...to feel the union we have between students and professors, which I thought I wouldn't have in college. [...] and I notice that this is a very important thing.”), and (g) family influences ( $N=2$ ; PC2\_01: “I want my parents to be proud of me, considering that they couldn't go beyond what they would have liked, and I'd like to gift them that.”).

**Table 3: Reasons for Persistence.**

| Reasons for Persistence                                  | PC2 $N=15$ | PR $N=12$ | Total $N=27$ |
|----------------------------------------------------------|------------|-----------|--------------|
| <b>Intrinsic Motivation</b>                              | <b>15</b>  | <b>3</b>  | <b>18</b>    |
| Interest in the scientific field and learning process    | 12 (44.4%) | 2 (7.41%) | 14 (51.9%)   |
| <b>Extrinsic Motivation</b>                              | <b>11</b>  | <b>12</b> | <b>23</b>    |
| Employment perspectives                                  | 2 (7.41%)  | 7 (25.9%) | 9 (33.3%)    |
| Opportunity to enroll in a bachelor's degree             | 6 (22.2%)  | 2 (7.41%) | 8 (29.6%)    |
| Achieved academic performance                            | 3 (11.1%)  | 0 (0.00%) | 3 (11.1%)    |
| Intention to finish the CTeSP for already being enrolled | 0 (0.00%)  | 3 (11.1%) | 3 (11.1%)    |
| Positive relationships built                             | 2 (7.41%)  | 0 (0.00%) | 2 (7.41%)    |
| Family influences                                        | 1 (3.70%)  | 1 (3.70%) | 2 (7.41%)    |

Note. Some students selected more than one reason for persisting. PC2 = persistence students, who concluded the CTeSP in 2 years; PR = persistence students who were retained at least once.

Also, persistence students who concluded the CTeSP in 2 years (PC2) had discourses more coherent with intrinsic motivation than persistence students who were retained at least once (PR; see Table 3). On the other hand, this second subgroup was more motivated to persist due to employment perspectives than the first subgroup.

Regarding students who abandoned ( $N=20$ ), the major reason for abandoning the CTeSP was (a) vocational and career-related ( $N=13$ ), either due to the unmet expectations (e.g., A1\_21: “The CTeSP wasn't motivating me enough to continue [...] and I'd think [...] 'I'm supposed to come here to learn more and I'm learning exactly the same I learned in high school.'”) or due to the reformulation of students' vocational and career projects. The second major reason was (b) the pedagogical relationship and learning process ( $N=6$ ) due to learning difficulties considering the lack of foundations and insufficient preparation for HE, and due to perceived insufficient support and encouragement from professors to learn, requiring some students to engage in self-learning for some courses (e.g., A1\_19: “Whenever we had a doubt, the answer was always ‘Look it up online. If I had had the support ... I would have continued’”).

Less frequently, the reasons for abandonment were: (c) social integration ( $N=3$ ; A1\_14: “They talked more among themselves, they were younger and all, they were also from the same hometown [...] I felt a bit left out.”) (d) HEI-related ( $N=3$ ), which includes the lengthy daily commutes between the HEI and residency, and having classes in a shopping mall (e.g., A2\_44: “It is very demotivating [...] the fact that it's not in a college setting, it's in a

shopping center, a shop transformed into a room. And that's not a school climate for me, it didn't make sense.”), (e) economic ( $N=3$ ; A2\_25: “As soon as I lost the study grant I couldn't support the university because I had expenses to pay.”), (f) reconciling roles as a working student ( $N=2$ ; A1\_23: “I couldn't fail with my work. Work had to be up to date all the time, so it got to a point that I had to choose.”), and (g) personal health-related ( $N=1$ ; A1\_18: “It was just the health issue, my reason for cancelling the enrolment. It was nothing else.”).

Moreover, there were no substantial differences between students who abandoned in the first year (A1) and or in the second year (A2), albeit the first ones identified more reasons related to vocation and career (8:5) and to pedagogical relationship and learning process (5:1). Social integration was only identified by the first group. Additional information on the abandonment process was collected from the interviews (Table 4).

**Table 4: Abandonment Decision-making Process.**

| Abandonment Decision-making Process    |              | Total, <i>n</i> (%) |
|----------------------------------------|--------------|---------------------|
| Stopped attending classes <sup>a</sup> | Immediate    | 10 (52.6)           |
|                                        | Gradual      | 9 (47.4)            |
|                                        | Stopout      | 14 (70.0)           |
|                                        | Optout       | 3 (15.0)            |
| Abandonment type <sup>b</sup>          | Dropout      | 3 (15.0)            |
|                                        | Immediate    | 10 (50.0)           |
|                                        | Intermediate | 3 (15.0)            |
| Moment of abandonment <sup>c</sup>     | Late         | 7 (35.0)            |

<sup>a</sup> Decision taken regardless of formalizing the matriculation cancellation. Immediate = 0-2 weeks to decide, Gradual = minimum of 1 month to decide.

<sup>b</sup> From Casanova (2020): Stopout = temporary break from studies (intention to return to HE), Optout = study program and/or HEI change (intention to return to HE), Dropout = effective abandonment from HE (no intention to return to HE).

<sup>c</sup> Information collected from interviews triangled with academic information from Academic Services. Immediate = stopped attending classes and/or cancelled matriculation before the 1<sup>st</sup> semester of the 1<sup>st</sup> year, Intermediate = cancelled matriculation at the end of 1<sup>st</sup> year, Late = attended classes for (almost) the 1<sup>st</sup> year before cancelling the matriculation.

## 4. Discussion

This study examined CTeSP students' reasons for choosing the programme, their adaptation, and reasons for persisting or abandoning. In line with previous research in HE (Breetzke et al., 2024; Byrne & Flood, 2005; Cordón Lagares et al., 2012; Tavares, 2017; Tavares & Cardoso, 2013; Vulperhorst et al., 2020; Wild, 2023) interest in the study field and learning process, often intertwined with vocation, emerged as the main reason for choosing a CTeSP, whereas social influence was least relevant. Contrary to some prior findings (Quinlan & Renninger, 2022; Souto-Otero et al., 2023), employability was not a primary reason at the programme-choice stage, echoing Tavares' (2017) result that employability weighs more in the decision to enter HE than in the selection of a particular degree. Other central reasons were attractive access conditions (including the possibility of later entering a bachelor's degree) and not being admitted to the first-choice degree, paralleling Boyle and Abdullah's (2015) findings for 2year university pathway programmes. This pattern points to the coexistence of intrinsic motives (enjoyment of learning, vocational interest) and extrinsic motives (pathway to university), an alignment compatible with SDT conceptions of motivation supporting commitment and persistence (Ryan & Deci, 2000, 2017). The relevance of institutional attributes, such as type and perceived quality, also echoes Behr et al. (2020). Family expectations did not appear as a salient factor, diverging

from Fantinelli et al. (2023), whereas institutional prestige and location did play a role as in Tavares (2017), Tavares and Cardoso (2013), and G'ulomovna (2023). Overall, CTeSP choice reflects a multifaceted mix of intrinsic (vocation, interest) and extrinsic (pathway to bachelor's, better qualification) motives for both who persisted and abandoned.

Adaptation to HE is multidimensional and students may adjust well in some domains and struggle in others (Araújo, 2017; Casanova et al., 2021a; Credé & Niehorster, 2012; Dominguez-Lara et al., 2021). Although many CTeSP students reported satisfaction with institutional resources and services, they also faced obstacles, such as restricted access to infrastructures, which may have reduced involvement and engagement, with potential negative impacts on learning, development, and persistence (Astin, 1984; Kuh, 2001; Mulrooney & Kelly, 2020; Wolf-Wendel et al., 2009). Human institutional support, formal and informal, appeared less frequently than expected as a positive factor, which is concerning given its known influence on intentions to complete a programme (Ledo & Antunes, 2026; Thomas, 2014; Tinajero et al., 2020).

At the academic level, some students attributed difficulties to low motivation (e.g., lack of interest or identification with the syllabus), others to external factors (fast teaching pace, predominantly expository methods). Clear explanations and interactive classroom dynamics were associated with better learning, consistent with studies showing that teacher motivational attitudes and student-centred, technology-supported pedagogies enhance motivation and success (König, 2021; Rodrigues, 2012; Tormey, 2021). Beyond programme fit for implementing students' vocational and professional plans (Araújo et al., 2014; Soares et al., 2006), academic adaptation depended strongly on study investment (Almeida et al., 1999; Araújo et al., 2014; Baker & Siryk, 1984; Dierendonck et al., 2023; Soares et al., 2006). Most students who finished in two years reported sustained effort (13/15), while those who persisted but did not complete on time tended to invest less (10/12), aligning with Astin's (1984) theory linking involvement and academic success. Low involvement was tied to motivational and cognitive difficulties, work-study-life imbalance, and gaps in prior knowledge, reinforcing the need for support to develop self-regulated learning strategies (Willems et al., 2021).

Social experiences, widely recognised as crucial in HE (Astin, 1984; Bean & Eaton, 2000; Carlhed Ydhag & Osman, 2025; Kinzie, 2023; Reindl et al., 2022; Strayhorn, 2018), were salient for both persisters and leavers. Most students reported positive relationships with peers and staff, but some, especially those who were shy or older, experienced social difficulties, consistent with research on personal characteristics shaping social integration and sense of belonging (Bean & Eaton, 2000; Gill, 2021; Tinto, 2017). Strayhorn (2018) highlights that peer relationships enhance belonging and reduce dropout intentions, while Kinzie (2023) stresses creating opportunities for interaction, especially in contexts such as the COVID19 pandemic. In this study, feelings of exclusion from the academic community, stigma attached to being a CTeSP student, and barriers to participation in extracurricular and social activities (e.g., students' unions, hazing) undermined social adaptation and belonging.

At the personal-emotional level, students reported a wide range of emotions that either facilitated or hindered adaptation. Positive emotions (e.g., satisfaction, happiness, wellbeing linked to good grades) appeared to enhance involvement and self-efficacy (Bandura, 1977), while negative emotions, including anxiety, disorientation, loneliness, and homesickness, indicated the need for continuous emotional and academic support. Persisting students tended to report more positive and fewer negative emotions than

those who abandoned, who described a broader spectrum of negative feelings. Taken together, these findings suggest that adaptation is not only multifaceted (Araújo, 2017; Credé & Niehorster, 2012) but also interactive: for some students, academic difficulties were exacerbated by poor institutional reception, while for others, peer support buffered negative academic experiences. This aligns with Tinto's (2017) model, where goal fulfilment, perceived curricular relevance, social interactions that foster belonging, and self-efficacy jointly shape motivation and persistence.

Regarding persistence and abandonment, students who persisted were more motivated by interest in the scientific field, learning, and employment prospects; those who abandoned were mainly driven by vocational and career misalignment and dissatisfaction with the pedagogical relationship and learning process. This pattern parallels Casanova et al. (2021b), where vocation and learning/achievement dominated reasons for engineering students' dropout, with financial and health problems less frequent, findings that can be inverted to understand persistence. Among students who persisted, those who completed on time were more intrinsically motivated, whereas those taking longer were more driven by employment prospects, a form of external regulation (Ryan & Deci, 2017). This supports the negative association between less internalised extrinsic motivation and academic achievement (Jeno et al., 2018; Ryan & Deci, 2000). Among leavers, early dropouts frequently cited amotivation (e.g., unmet expectations regarding curriculum) and unmet needs for competence (poorly structured learning environments in both secondary education and HE), processes known to reduce engagement and motivation quality and thus favour withdrawal (Ryan & Deci, 2000).

CTeSP-specific features also shaped decisions. The possibility of progressing to a bachelor's degree was an important extrinsic motive for persistence, but access depends on academic performance (DecreeLaw No. 63/2016, 2016; DecreeLaw No. 65/2018, 2018), linking persistence to achievement and, in turn, to involvement and effort (Astin, 1984; Berger & Milem, 1999; Tinto, 2017). Additional factors included commitment and social integration: some students persisted simply because they felt committed to finishing once enrolled, consistent with Lizarte Simón and Gijón Puerta (2022), who report commitment as related to dropout, and with evidence that positive social integration supports persistence, while negative integration predicts withdrawal (Berger & Milem, 1999; Tinto, 2017). Less frequently, contextual factors such as health issues, role conflicts, economic difficulties, distance, and infrastructure were cited (Casanova et al., 2021b; Lizarte Simón & Gijón Puerta, 2022; Pascarella, 1980). Overall, a combination of academic, social, emotional, motivational, and contextual conditions underpins students' decisions to remain in or leave CTeSP, mediated by the quality of their adaptation.

Several implications arise. First, vocational and career guidance should be strengthened in secondary education, using psychoeducational interventions to support students in clarifying interests and goals (Taveira et al., 2017). Because realistic expectations reduce dropout intentions (Scheunemann et al., 2022), cooperation between secondary schools and HEIs is needed to offer information resources (e.g., talks, podcasts, videos) that help students understand programme contents and HE environments, facilitating better expectation–experience alignment and more positive adaptation (Longden, 2006; Pleitz et al., 2015).

Second, improving students' access to educational and cultural capital, libraries, well-equipped classrooms, lectures, and basic support infrastructures such as cafeterias and residences, is essential for learning, involvement, and motivation. At the time of

data collection, CTeSP were not included in the regular funding formulas of polytechnic institutions, which favoured shortterm rather than strategic planning. The OECD (2022) suggests that including CTeSP in standard funding models after 2027 could ensure more stable support. Such funding should also reinforce academic and psychosocial support services that enhance selfstudy skills and general and academic selfefficacy (Bandura, 1977), thereby improving coping with psychological and academic challenges and reducing dropout risk. Given the diversity of student profiles, teaching should combine varied, studentcentred methods.

Third, peer mentoring programmes are recommended, especially for firstyear and socially vulnerable students. These programmes can strengthen belonging, persistence, and success, particularly for those facing social difficulties or relocation (Lunsford et al., 2017), and may alleviate negative emotions such as anxiety and disorientation, thereby facilitating institutional, social, and personalemotional adaptation. Reception programmes can further foster social integration. In addition, HEIs should address student organisations to ensure CTeSP students' full participation in extracurricular activities, thus countering perceptions of exclusion.

Finally, HEIs and legislators should acknowledge the heterogeneity of CTeSP students' circumstances and organise flexible learning opportunities and services (Kuh, 2001; Wolf-Wendel et al., 2009), including, for example, distancelearning options for working students and partnerships with local accommodation providers for commuters. Implementing such measures requires early identification of vulnerable students, for instance through systematic surveys. These actions align with the United Nations (2015) Sustainable Development Goals on Quality Education (Goal 4), Decent Work and Economic Growth (Goal 8), and Reduced Inequalities (Goal 10).

This study has some limitations that should be considered when interpreting the results. First, the sample consists of CTeSP students from northern Portugal, which limits the transferability of the findings to other regional or international contexts. Although participants from ten locations were included, these locations share contextual characteristics that may reduce the diversity of experiences analysed. Second, the study focused exclusively on the students' perspective, without including other key stakeholders in the educational environment, which may limit a comprehensive understanding of the phenomenon and affect the credibility of the results. Future research should include other regions to explore geographical variation and incorporate multiple informants, teachers, programme coordinators, administrative and support staff, to triangulate data and better capture CTeSP students' experiences. Such triangulation may also increase institutional accountability for student development and learning (Wolf-Wendel et al., 2009). Third, regarding the participants, the requirement of consent for access to academic data may have excluded relevant profiles, such as students with more vulnerable or interrupted educational trajectories. Despite these limitations, the findings from this study provide important implications for future research and for supporting student adaptation to higher education settings and persistence in their programs until successful completion.

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