SIRD Società Italiana di Ricerca Didattica
Giornale Italiano della Ricerca Educativa
Italian Journal of Educational Research

E-Portfolio: a bridge between life project and university choice

E-Portfolio: un ponte tra progetto di vita e scelta dell'università

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OPEN ACCESS

Double blind peer review

Citation: Campo O., Vicente M. A. G., Martínez J. P. (2023). E-Portfolio: a bridge between life project and university choice. *Italian Journal of Educational Research*, 31, 66-85. https://doi.org/10.7346/sird-022023-p66

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Received: August 30, 2023
Accepted: November 28, 2023
Published: December 21, 2023

Pensa MultiMedia / ISSN 2038-9744
https://doi10.7346/sird-022023-p66

Abstract
In the Italian education system students must choose how to continue their studies when they finish compulsory education and when they decide to enrol at university. Our work focuses on the choice of the university course and, in particular, on the guidance that students receive in order to make this important decision, which will have a major impact on their future life. Drawing on Bruner's Narrative Psychology and Savickas' Life Design model, we hypothesised that the choice of a course of study should be linked to a wider life project and to personal identity, not least to lay the foundations for a truly decent job. We assumed that to make this connection students would need narrative and individualised tools that could help them see the trajectory of their self from past to future, and that one of these tools could be the e-portfolio. We therefore offered a narrative university orientation, integrated with the possibility of creating an e-portfolio, to a group of nearly 30 Sicilian high school students, with the intention of comparing their results with those of students who had only received a "traditional" orientation, usually consisting of group activities, information days, open days and, more recently, work-school alternation. In this article we will present the reference model, the tools we used and the analyses on this group, which show that young people need more individual support in their orientation, starting from middle school.

Keywords: University Guidance; E-Portfolio; Narrative Psychology; Life Design; Work.

Riassunto
Nel sistema scolastico italiano gli studenti devono scegliere come proseguire gli studi quando terminano la scuola dell'obbligo e quando decidono di iscriversi all'università. Il nostro lavoro si concentra sulla scelta del corso universitario, e in particolare sull'orientamento che gli studenti ricevono per prendere questa importante decisione, che avrà un impatto notevole sulla loro vita futura. Partendo dagli spunti della Psicologia Narrativa di Bruner e dal modello Life Design di Savickas, abbiamo presupposto che la scelta del percorso di studi debba essere collegata con un più generale progetto di vita e con l'identità personale, in modo anche da gettare le basi per la realizzazione di un lavoro realmente dignitoso. Abbiamo ipotizzato che per creare questa connessione gli studenti abbiano bisogno di strumenti narrativi e individualizzati, in grado di aiutarli a riconoscere la traiettoria del proprio Sé dal passato al futuro, e che uno di questi strumenti possa essere l'e-portfolio. Abbiamo perciò offerto un orientamento universitario narrativo, integrato con la possibilità di creare un e-portfolio, a un gruppo di studenti liceali siciliani, con l'intento di confrontarne gli esiti con quelli degli studenti che avevano ricevuto soltanto un orientamento "tradizionale", che di solito consiste in attività di gruppo, giornate informative, open day e, in tempi più recenti, l'alternanza scuola-lavoro. In questo articolo presenteremo il modello di riferimento, gli strumenti utilizzati e le prime analisi su questo gruppo, che mostrano come i ragazzi abbiano bisogno di un maggior orientamento individualizzato, già a partire dalla scuola media.

Parole chiave: Orientamento Universitario; E-Portfolio; Psicologia Narrativa; Life Design; Lavoro.

Introduction

All Italian students must choose how to continue their studies when they conclude compulsory education and when they want to enrol at the university. The present study focuses on the transition between secondary school and university and, in particular, on the guidance that Italian students receive in order to face this important moment.

The theoretical framework for our work is the Narrative Psychology, and particularly Bruner's approach (Bruner, 1988, 1991, 1992, 1995, 1997, 2006). According to this model, people actively search for meaning in their flow of experience, using what Bruner calls «narrative thinking». This is a particular cognitive style, probably innate, that allows people to process their experiences and to interact with the physical and social environment. It complements the paradigmatic thinking, which looks for cause-and-effect relationships and tries to find logical explanations for what happens in the world.

Narrative thinking is deeply related with language, and manifests itself as an internal dialogue, leading to a meaningful internal representation of reality, that is continually negotiated with the social context. In Bruner's narrative theory, personal identity is a narrative construction, a personal narrative that connects and gives meaning to events through a continuous negotiation with the context and the broader culture in which the individual lives (Rossi et al., 2006; Scierri et al., 2019).

Another pillar on which our study is founded is Savickas' Life Design model (Savickas, 2012). This model is based on a narrative autobiography that aims to follow the thread that leads from «the self of yesterday to the self of today and finally to the self of tomorrow» (Savickas, 2013, p. 165). In the modern world of work, which demands flexibility, it is very important that everyone knows how to self-orientate in order to achieve what Savickas (2013) calls «professional adaptability». This is also necessary to move towards *sustainable work*, that is, a work that is meaningful for the individual and that can last throughout the working life. Therefore, as Savickas states, it is necessary to move from the concept of «fitting life to work» to the concept of «fitting work to life» (SACDA, 2021).

Also Robinson (2010, 2015) believes that education systems should fully promote subjectivities, because the competitiveness of today's labour market increasingly demands the ability to create originality, and this can derive precisely from subjective and distinctive characteristics. But even the much-vaunted job flexibility cannot exist without the ability of self-orientation throughout one's working life.

Bruner's Narrative Psychology and Savickas's Life Design model share several assumptions and thus naturally merge. In Savickas' model, the autobiography is written in a special workbook in the form of a structured interview. In our study, however, we used the e-portfolio instead of a workbook, and the work with it was unstructured: students received a flexible guide that only referred to the different sections of the portfolio, which they could fill in as they wished.

According to Rossi et al. (2006), the e-portfolio helps to create a personal reflective narrative through which students become familiar with self-assessment and goal planning, thus taking an active role in their own learning and initiating a circular process between documentation of their own trajectory, personal reflection and projection into the future. From our perspective, the ability to develop this autobiographical reflection requires both narrative thinking and metacognitive competences: the literature review on narrative orientation and on the development of metacognitive skills confirmed that the e-portfolio was a suitable tool for our work (Maree, 2011; Margottini et al., 2017; Priore & Lo Presti, 2019; Savickas, 2015; Scierri et al., 2019).

Technically speaking, an e-portfolio is «any digital system supporting reflexive [*sic*] learning and practice by allowing a person … to collect, manage, and publish a selection of learning evidence in order to have one's assets recognised, accredited or plan further learning» (EIfEL, 2009, p. 4). Reflective learning is the fundamental aspect that defines the character of the e-portfolio and distinguishes it from a simple collection of evidence of learning or a multimedia curriculum vitae (Barrett, 2008). Reflection, in particular when in written form, activates the narrative processes that support metacognition which, in turn, influences the ability to define learning goals (Cornoldi et al., 2020; Laneve, 2014).

In Italy, guidance is a topic that receives both too little and too much attention. Many students see the choice of a university course as simply related to their favorite school subject or to the desire for a well-paid, prestigious job, but it will have a great impact on their future, and should therefore be linked to a

wider life project and to their personal, life-evolving identity, rooted in the past but projected into the future, in which the job or profession is only a piece of a larger picture.

Italian legislation defines two main approaches to orientation: the first states that it is a task for schools and teachers to help students find their aptitudes and talents. According to this view, teachers should transform routine schoolwork into a process of construction of the self (MIUR, n.d., 2000, 2002, 2014): to expect them to be able to do this, without parallel teacher training and psychological counselling, is probably unrealistic, but it also carries the risk, which is greater when learning is assessed by arithmetic averages, of equating school results with a quality or aptitude of the learner. Another risk of this assumption is that it may lead to the belief that schoolwork is formative *per se*, that is, that it automatically generates self-awareness, reflection and life planning.

The second approach to orientation is the so-called school-work alternation. The first law on this subject was passed in 2003 (Legge Delega 53/03), but was not put into effect until the so-called «Good School» reform (Legge 107/2015). In the meantime the Italian school system and legislation had been deeply influenced by the European *Recommendations on Key Competences for Lifelong Learning* (2006, 2018), which shed a completely new light on school activities and purposes. Also in an effort to comply with these new requirements and objectives, in 2019 a Ministerial Decree (D.M. 774/19) issued the *Guidelines* that operationalised school-work alternation. This Decree changed the name of the alternation to «Pathways for Transversal Competences and Orientation» (PTCO), which consists in requiring the students in the last three years of high school to do a number of hours of work in institutions and companies that have a partnership with their schools, assuming that these activities will help students to develop competences and self-awareness of their aptitudes.

The latest addition to this legislative framework is a Ministerial Decree (MIM, 2022) which makes the use of e-portfolios compulsory for orientation in middle and high schools. At present, Italian institutions are also making considerable efforts to adapt guidance work to the directives of the National Recovery and Resilience Plan (NRRP), which is funded by the European Union and explicitly states that the purpose of orientation should not be the self-promotion of the courses, but the self-knowledge of the students (MIUR, 2022). As this is the first year of its implementation, we will have to wait and see its results in the future.

Since the school-work alternation is a recent innovation, that affects millions of students every year, it seems reasonable to ask whether and to what extent it is really effective. It also seems important to think about orientation models and tools that can improve the work of the schools in promoting the real development of students, just as the European *Recommendations* ask us to do. Therefore, our study wanted to find out whether a narrative orientation, supported by an e-portfolio, could be the answer to these questions, by comparing its results with those of the guidance usually received by students.

Research methods and tools

To select the participants in the high school population, we analysed the different study tracks in the Italian school system. This system is structured in two educational cycles: the first includes primary and middle school, while the second has two main tracks: secondary school and professional/vocational studies. Each track is divided into different sub-tracks, so that there are six different paths in secondary schools, also known as «*liceos*»: *classical*, *scientific*, *human sciences*, *fine arts*, *languages* and *music and choreography* (Crispolti & Carlini, 2020). We therefore chose to focus only on the students attending the Italian *classical*, *scientific* or *human sciences* «*liceos*», since these are the paths that presuppose the continuation of studies at university (Abbiati et al., 2017; Contini et al., 2018; Almadiploma, 2023). Our work was designed to follow up the students longitudinally to monitor the results of the narrative orientation, so the students had also to be in their final year of *liceo*.

In the original design of the study, the sample was supposed to consist of whole classes, some of which would develop an e-portfolio, while others would act as a control group, but we had to resort to a convenience sampling, partly because only the Italian researcher could do the narrative orientation work, and partly because recruitment was hampered by the fact that many of the schools contacted in Sicily didn't

agree to cooperate or did so when the school year was almost over: we therefore had to transform the original quasi-experimental research design into a descriptive one.

The initial sample consisted of 53 students, but some of them didn't meet the inclusion condition of being in their final year, and some dropped out at various times during the work, so in the end there were 28 participants (20 females and 8 males), with an average age of 18. They were all in the final class of a *classical*, *scientific* or *human sciences liceo*, and their schools were located in different cities in Sicily.

Since many studies point to the influence of social class or the socio-economic cultural status of the family on the choice of university, both in terms of the decision to continue studying and, in this case, the choice of course, we wanted to investigate this aspect (ISFOL, 2012; Abbiati et al., 2017; Bison, 2017; Contini et al., 2018; Brunetti, 2020; Crispolti & Carlini, 2020; Almalaurea, 2022; Tortuga, 2022; Almadiploma, 2023; ISTAT, 2023). The same studies suggest that social class and socio-economic cultural status can be inferred from family income level (type of parental occupation) and parental level of education. Brunetti (2020) also claims that educational attainment might have a greater impact on social mobility than family income: students with at least one parent who graduated tend to choose to continue studying, often in the same field as their parent. Table 1 and Table 2 present parents' educational level and occupations.

Educational Qualification	Father	Mother
Middle School Certificate	17.9%	25.0%
High School Diploma	50.0%	46.4%
University degree	32.1%	28.6%

Table 1: Education qualifications of parents of the high school students in the initial sample

Occupations	Father	Mother
Homemaker, Unemployed	3.6%	28.6%
Labourer, Executive work	14.3%	7.1%
Artisan, Self-employed	17.9%	3.6%
Employee, Teacher	39.3%	57.1%
Office manager, Freelance professional	25.0%	3.6%

Table 2: Occupations of parents of the high school students in the initial sample

In our study we wanted to use only tools that were easily available and usable by teachers, therefore we chose the Career Interest Profile (CIP: Maree, 2016) and the Ability and Motivation to Study test (AMOS: Meneghetti et al., 2021).

The CIP is a narrative questionnaire, based on Savickas' Life Design model, that aims to elicit autobiographical narrative reflection through several open-ended questions (Maree, 2011). It also provides a list of 19 professional categories and examples of occupations: respondents must rate their five most preferred and five least preferred occupations within them. The CIP also has a grid for matching combinations of preference ratings to a large number of occupations, but this was not used in our work as we were mainly interested in the narrative aspect.

The other instrument we chose, the AMOS test, is a battery of seven questionnaires for both high school and university students. It scores students' answers to identify their strong or weak study abilities, and includes learning tests that can be used as pre- and post-tests when working to improve a learner's study method. In our work we used only the *Study Strategies*, *Study Approach*, *Beliefs*, and *Anxiety and Resilience* questionnaires, on the assumption that weaknesses in these areas may increase the risk of failure at university and that an orientation counselling should therefore take them into account, to help the student improve the weaker skills and hone the strong ones (Cornoldi et al., 2020). The AMOS test explores

beliefs about intelligence and personality, metacognitive skills, the ability to use different learning strategies or to organise materials and time, but it is not intended to provide a global profile of the student.

As the COVID emergency was still ongoing, we had planned to conduct all the activities online. To manage this unusual setting, and in an effort to balance the flexibility required by the qualitative nature of the data with the need to analyse and compare them, we designed a protocol for each operational step of the study.

To enroll the participants we used an online application form, which also served as a means of providing and receiving informed consent from their families, as well as a pre-test to explore the students' doubts or motivations for continuing their studies. To embed the pre-test in the application form, we added some questions at the end, asking the students whether they had already chosen a course (and why, answering to a set of structured options) or not (and why, answering in a short free text). We chose this simple way to avoid overloading the students and to keep the process as straight as possible (see Figure 1). The students' answers were then discussed during the online meetings and also compared with the results of the questionnaires.

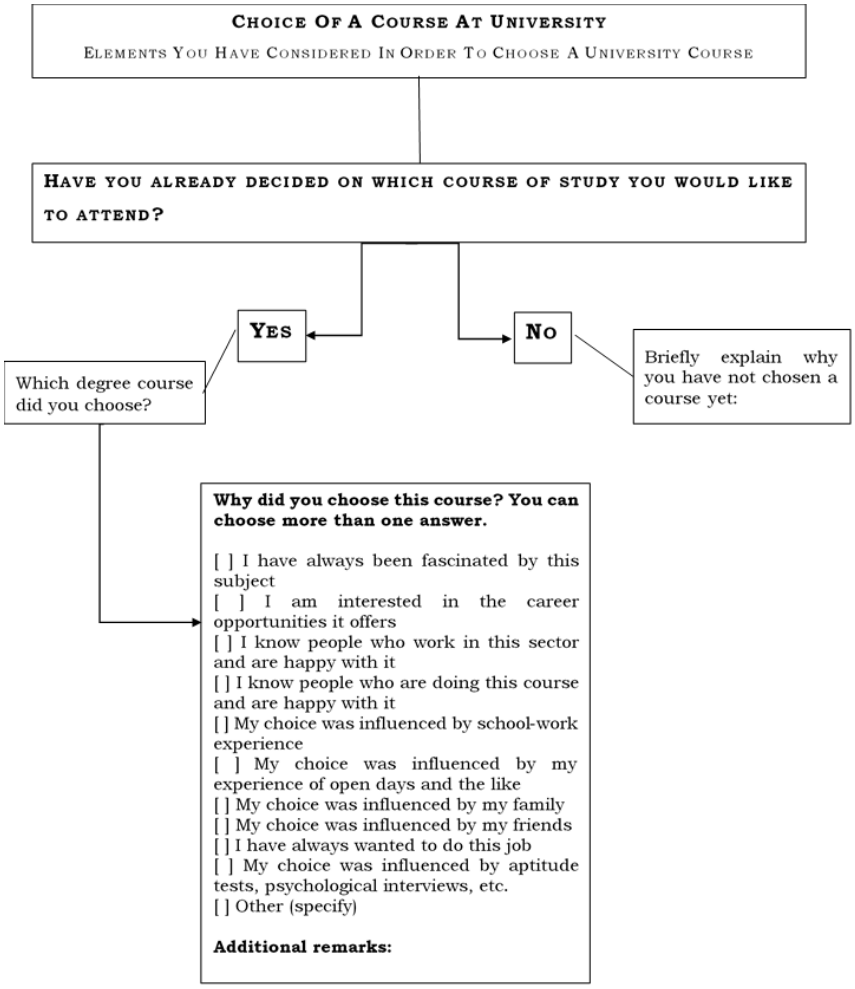

Figure 1: The flowchart used to explore students' doubts or motivations for continuing their studies (in Italian in the original text)

All the enrolled students were then met via video call. During this initial interview, they (and their parents, if they wished to participate) were given information about the work, instructions about the questionnaires, and answers to any questions they might have. They were then sent the questionnaires by email and given a few days to return them.

The development of the individual profile was the most difficult part of the work, as it had to be based only on the questionnaires and the first short online interview with the student. The profile was always discussed with the students and reviewed in a second video call before being sent to them by e-mail.

During this second video call, the purpose of the portfolio and its main features were explained to the students. Those who chose to create one were then given the video tutorial and guide, making it clear that they could contact the researcher at any time, either for clarification or to share the portfolio.

The next step of the study took place the following year, when all the students were in their first year of university. The original goal of the study was to compare the levels of personal and academic satisfaction of the students who had received the narrative orientation supported by an e-portfolio, with those of the students who had only got traditional or narrative guidance. This goal was no longer achievable, so we developed a post-test questionnaire to be administered to a general sample of university students, that would include our initial group, in order to compare narrative and traditional guidance. The target population for the post-test, therefore, was university students, regardless of the course attended and year of study, but not outside prescribed time.

The literature review (Salsone et al., 2019; Constante-Amores et al., 2020; Almalaurea, 2022) suggested dividing the post-test questionnaire into separate sections to collect different categories of information, all relevant to academic success and the purposes of our study: sociodemographic data; general school experience, repetitions; guidance received at school and students' opinion about it; type of PTCO completed and students' opinion about their educational usefulness and the quality of the experience; course chosen, reasons for this choice, and subjective feeling of personal and academic success. A section of the questionnaire was dedicated exclusively to the students who had participated in the narrative orientation project in the previous year, with or without an e-portfolio, in order to learn their opinion about it.

The post-test questionnaire was validated by three independent professors from the University of Murcia (UMU) and administered to 272 university students (216 females, 54 males and 2 non-binary) via the UMU online platform. The average age of these students was 22, with a minimum of 18 and a maximum of 39. They were recruited using a variety of strategies, including social pages of university student associations and groups; to ensure that our initial group was involved, all the students in this group were contacted by e-mail and invited to complete the work started the previous year, as they had agreed to do when accepting to participate in the study. The post-test sample included students enrolled in a wide range of courses: Architecture, Biology, Biotechnology, Chemistry, Communications, Economics, Engineering, Literature, Mathematics, Medicine, Pharmacy, Philosophy, Primary education, Physics, Psychology and Statistics.

We are using the SPSS 24.0 program to obtain descriptive statistics and hypotheses contrast tests.

Results

The first analyses we ran focused on the pre-test questionnaire, where some exploratory questions aimed to find out the students' doubts or motives for choosing a university course. We also analysed the AMOS test answers to get a general idea of the study method, beliefs etc. of the students in the initial sample. For this group, consisting of 28 students, we also had the CIP questionnaire answers: a qualitative analysis of these was planned if the original research design had been successful. As the study became descriptive and the comparison between the pre-test and the post-test was no longer possible, the qualitative aspect was put on the background. However, a first qualitative analysis of the doubts expressed in the pre-test has been carried out, and is highlighted in Table 3.

Answers summary	Code and Groundedness	Doubts expressed in the pre-test
I am afraid of not being able to cope with studying at university.	Feeling of uncertainty Gr=3	3
I have unclear ideas	Confusion Gr=7	7
I do not know what I would like to study I don't know my own aptitudes	Lack of awareness Gr=7	7
I can't decide I don't know what to choose	Indecisiveness Gr=12	12
	Totals	29

Table 3: Doubts expressed by the high school students in the initial sample. «Groundedness» (Gr) indicates the number of quotations coded by a code: please note that a sentence may receive more than one code (Atlas.ti 8 source)

The pre-test questionnaire revealed that, despite being at the end of their final year, 45% of the students had not yet chosen a course. The reasons for their indecision are shown in Figure 2, where it can be seen that several students (22.7%) mentioned a lack of awareness of their aptitudes.

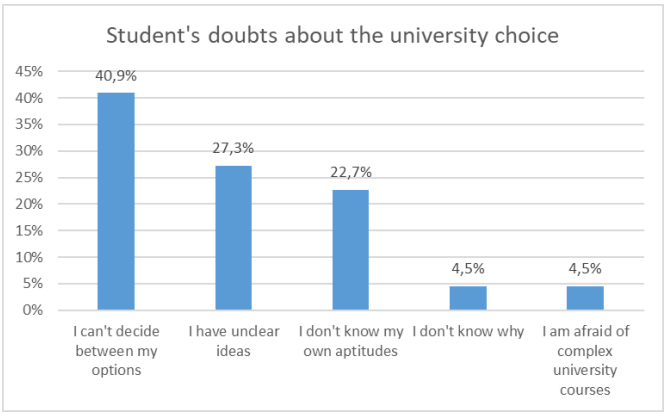

Figure 2: Concerns expressed by the students in the initial sample about their choice of a degree course

These doubts are also presented in Figure 3, that shows them in the student's words. The word «non» was left to indicate the weight of uncertainty for these students.

Figure 3: Word cloud of the doubts expressed by the the high school students in the initial sample (Atlas.ti 8 source)

Students who had already made a decision preferred the degree courses shown in Figure 4, for the reasons presented in Figure 5.

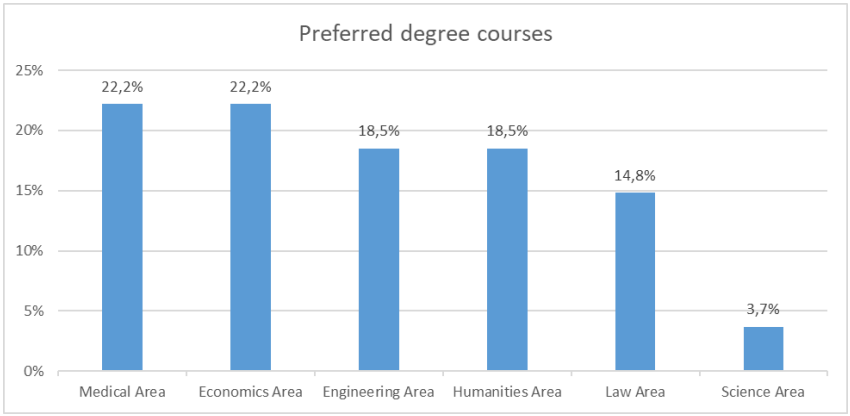

Figure 4: Preferences for courses of study as expressed in the pre-test questionnaire by the secondary school students in the initial sample

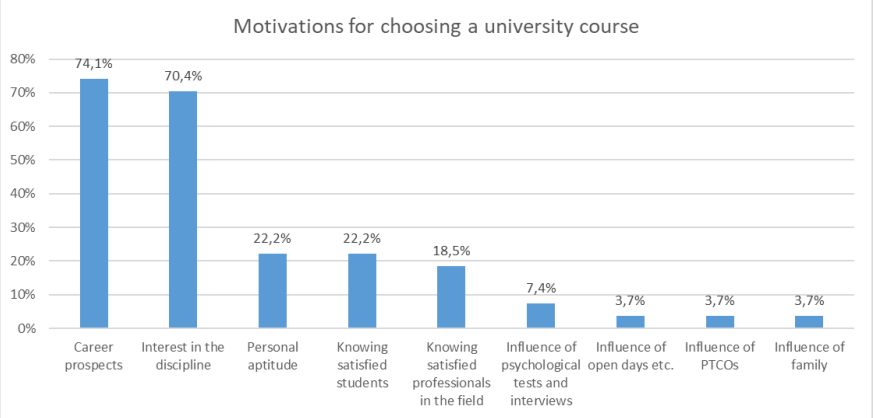

Figure 5: Reasons for choosing a degree course as expressed in the pre-test questionnaire by the high school students in the initial sample. Please note that students could choose more than one option to answer this question

We can compare these answers with those given by the university students in the post-test questionnaire, where they had to indicate their level of agreement with statements about the motivations and goals that had led them to choose a particular university course (Figure 6), together with the elements that they felt had influenced this choice (Figure 7).

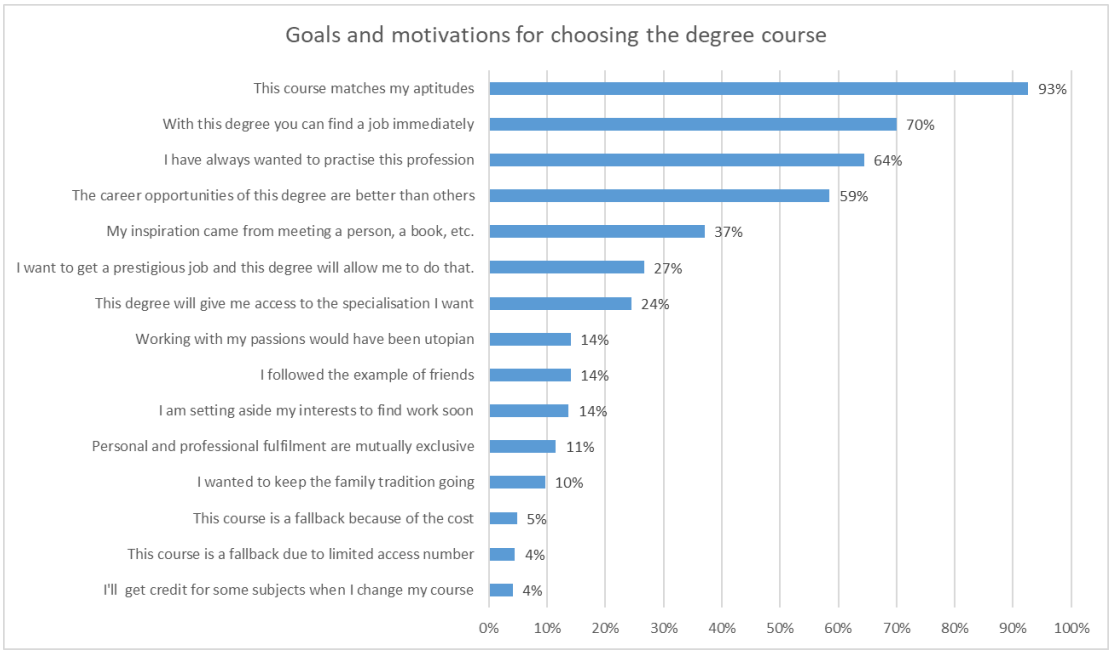

Figure 6: Reasons for choosing a degree course as expressed by the university students in the post-test questionnaire

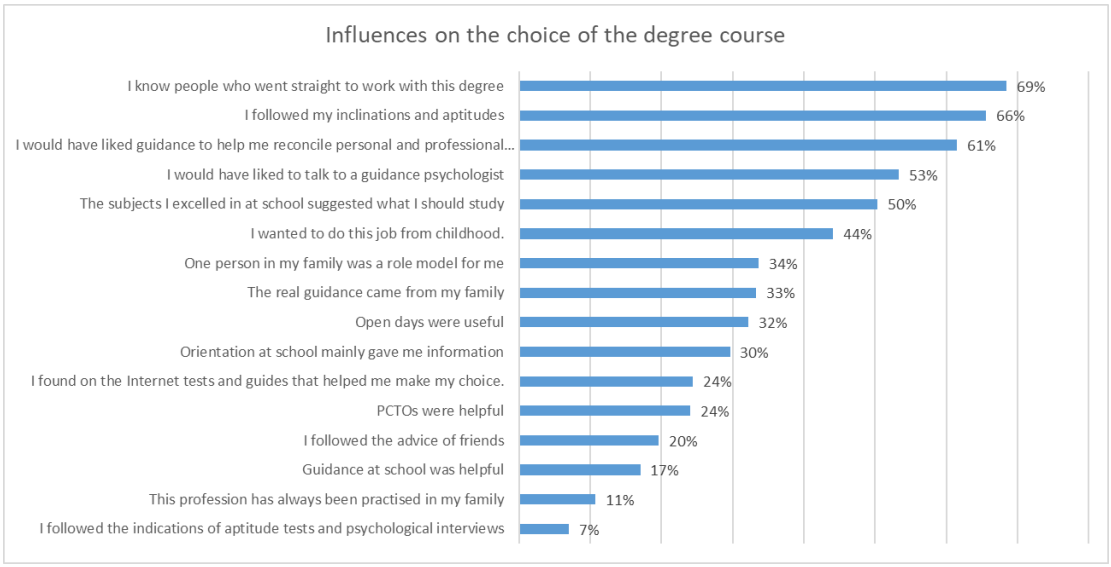

Figure 7: University students' perception of elements that influenced their choice of study

These answers also allow us to see that there is a difference between elements, like personal aptitudes/inclinations and job opportunities, when students perceive them as goals or as influences on their choice of the university course (Figure 8).

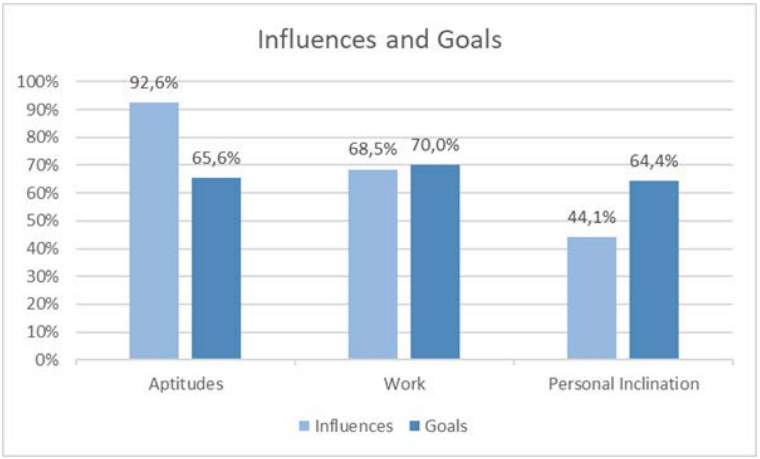

Figure 8: Comparison of the importance given by students in the post-test questionnaire to elements perceived as *goals* for choosing their course or as *influences* on their choice

Job opportunities seem to be the strongest motivation: 70% of the students agree with the statement «With this degree you can find a job immediately» among the goals/motivations, while 69% agree with the statement «I know people who started working immediately with this degree» among the influences.

The study of the initial sample included the analysis of the responses given by the secondary school students to the AMOS test. In this respect, we first observed the dimensions measured by the *Study Approach* Questionnaire (Figure 9), which showed that many students had difficulties in the five areas assessed by the test, particularly in Metacognition, where «very low» and «low» accounted for 50.0% of the total.

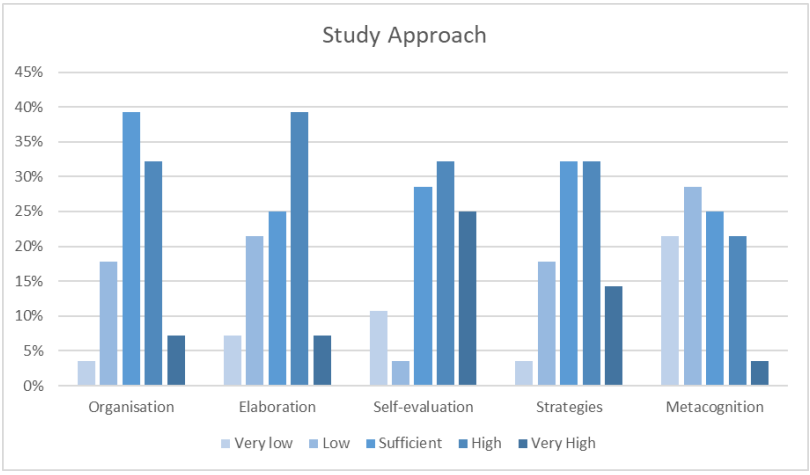

Figure 9: Elements of the study approach as measured by the AMOS test in the initial sample of students

We decided to investigate these results further by comparing the scores obtained in the five areas of the *Study Approach* Questionnaire between the students who had chosen a university course («decided» students) and those of the students who had not («undecided» students). The results are presented in Figure 10, where the greatest differences appear to be in the *Elaboration* and *Metacognition* areas.

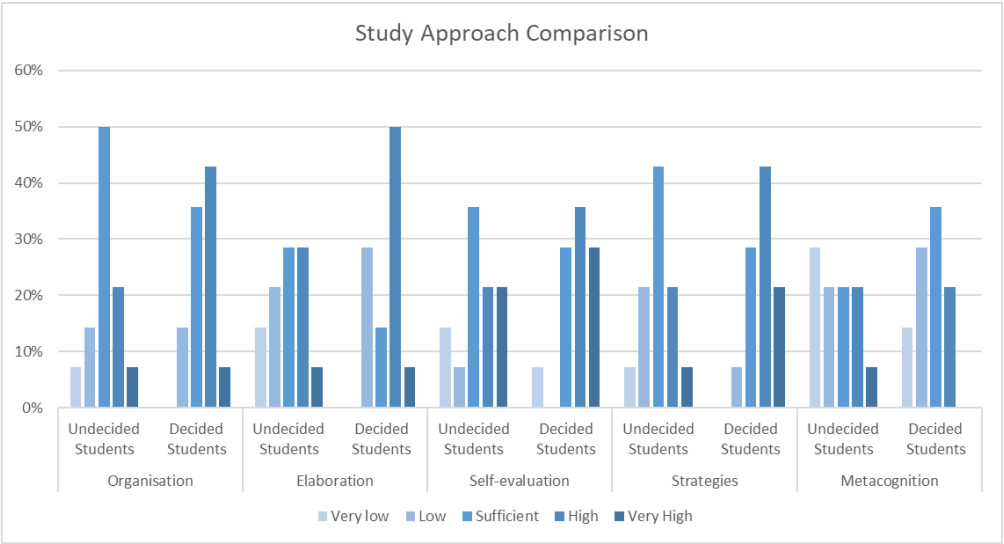

Figure 10: Comparison of the scores obtained by «undecided» and «decided» students in the five dimensions of the *Study Approach* – Questionnaire

The AMOS *Study Strategies* Questionnaire examines whether students know and use effective study strategies, and measures the consistency between the strategies they know and those they use. As can be seen in Figure 11, most students show good consistency (46.4% between «very high» and «high»), but many of them do not seem to know (32.1% between «very low» and «low») or to use (21.4% between «very low» and «low») an adequate number of effective study strategies.

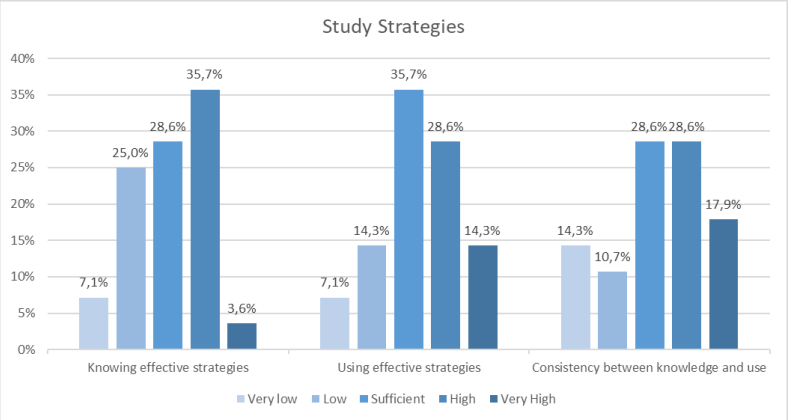

Figure 11: Study strategies of the secondary school students in the initial sample as measured by the AMOS test

The results of the *Anxiety and Resilience* Questionnaire of the AMOS test are shown in Figure 12. Many students present «high» or «very high» levels of Anxiety (54.6% of the total) but also a good Resilience (63.7% between «very high» and «high»), while about 20% of them show «very low» or «low» levels of both Anxiety and Resilience.

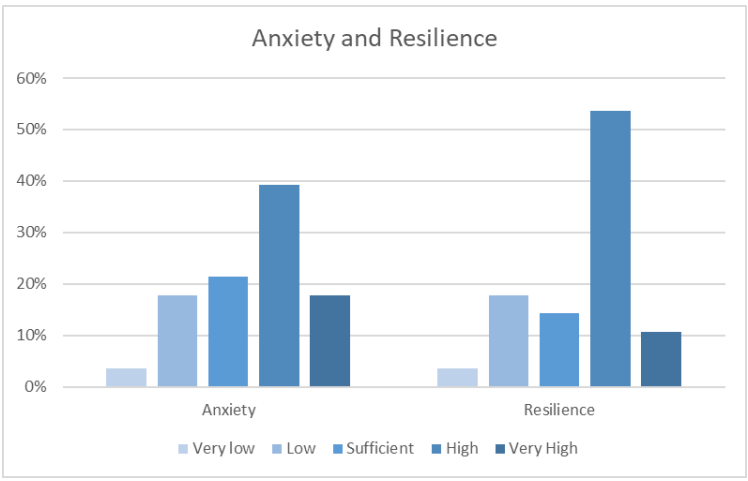

Figure 12: Levels of Anxiety and Resilience as measured by the AMOS test in the original sample of high school students

The AMOS *Beliefs* Questionnaire explores students' theories regarding intelligence and personality, their confidence in their own intelligence and personality, their perception of their own learning abilities and their learning goals. According to the model adopted by the test (Dweck, 2000; Meneghetti et al., 2021), intelligence and personality are defined as opposite extremes of a continuum ranging from «entity» (fixed) to «incremental» (modifiable). Learning goals are defined on a continuum ranging from «performance» (focused on an outcome) to «mastery» (focused on the assimilation of the learning content). In this model, «entity» theories should lead to «performance» learning goals and to a lower motivation to learn. Given the importance of these dimensions in Dweck's model and the AMOS test, we decided to analyse separately the beliefs of the «decided» students and those of the «undecided» students. The students' theories on Intelligence and Personality are shown in Figure 13 and Figure 14: the differences in the two sub-groups appear to be smaller for personality, but more marked for intelligence. Almost half of the «undecided» students (42.8% of the total) expressed a «mostly entity» or «tending to entity» theory of intelligence, in contrast to the «decided» students who instead preferred a «tending to incremental» or «mostly incremental» theory (50% of the total).

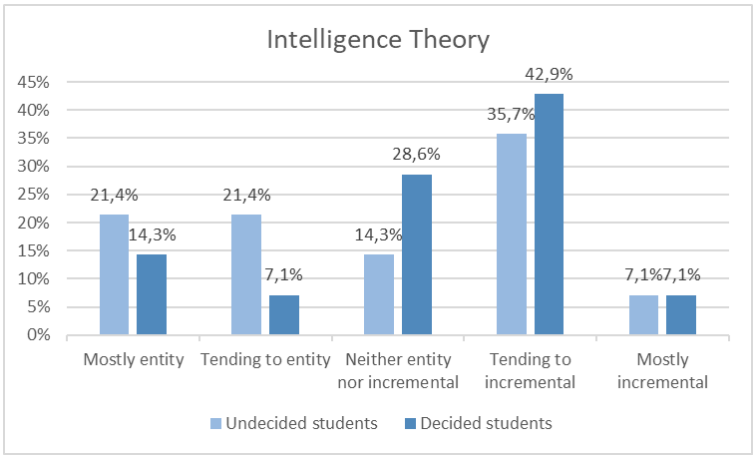

Figure 13: Comparison of the Intelligence Theory between the students who had chosen a course in the pre-test questionnaire and those who had not

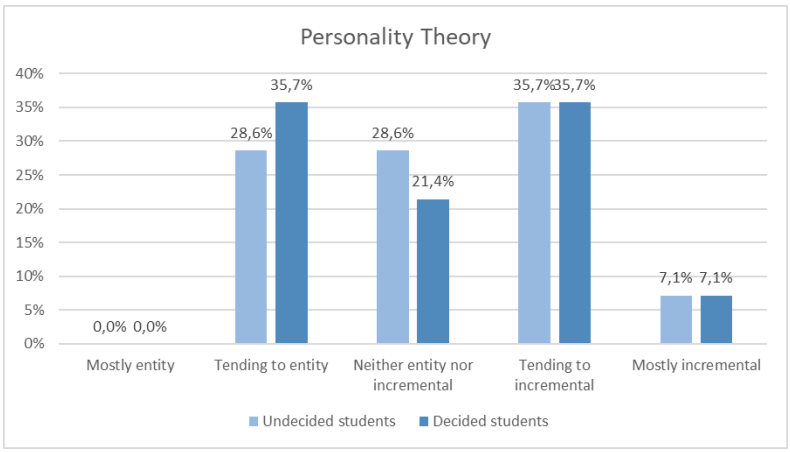

Figure 14: Comparison of the Personality Theory between the students who had chosen a course in the pre-test questionnaire and those who had not

The learning goals of the two sub-groups of students are shown in Figure 15, where it is easy to see that no «undecided» students had «mastery» learning goals, but some «decided» students also had «performance» goals. Almost 80% (78.6%) of the «undecided» students chose «performance» or «tending to performance» learning goals, which were chosen by only 35.7% of the «decided» students. «Mastery» goals were chosen by 57.1% of the «decided» students, versus 7.1% of undecided students.

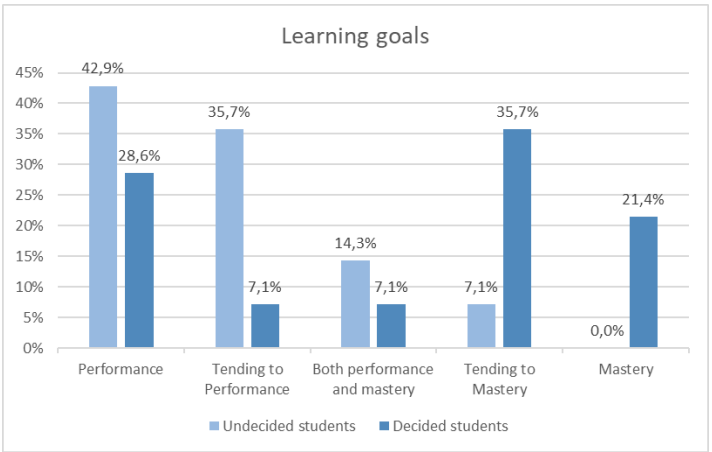

Figure 15: Comparison of students' learning goals between those who indicated a chosen course in the pre-test questionnaire and those who did not

Other dimensions of the *Beliefs* Questionnaire explore students' confidence in their own intelligence and personality, and their perception of their own learning skills. The comparison between «decided» and «undecided» students on these aspects is shown in Figure 16 - Figure 18.

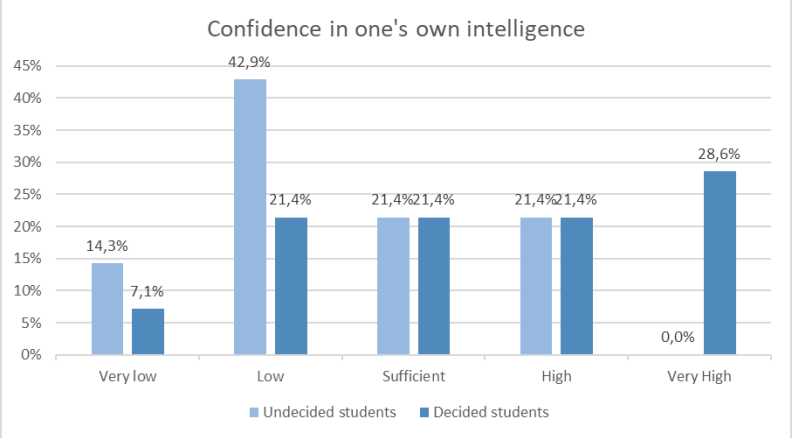

Figure 16: Comparison of students' confidence in their own intelligence between those who indicated a chosen course in the pre-test questionnaire and those who did not

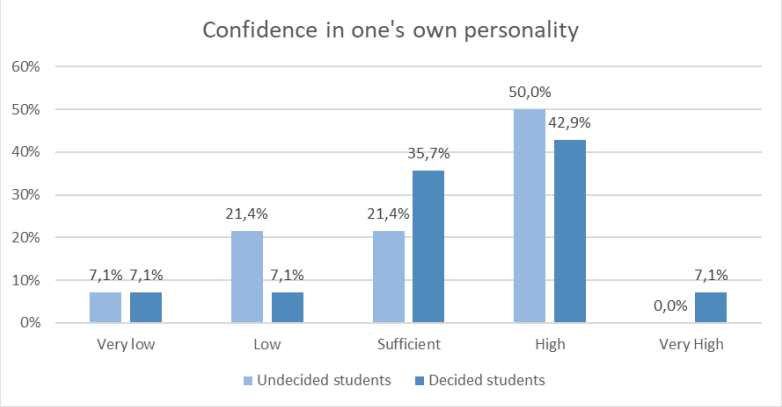

Figure 17: Comparison of students' confidence in their own personality between those who indicated a chosen course in the pre-test questionnaire and those who did not

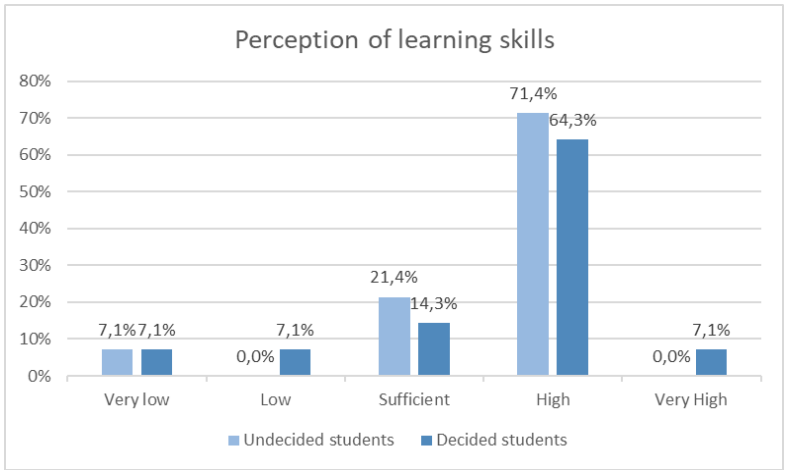

Figure 18: Comparison of students' perception of their own learning abilities between those who indicated a chosen course in the pre-test questionnaire and those who did not

Both sub-groups of students seem to rely more on their personality than on their intelligence, but both sub-groups still rate their learning ability as mostly good.

Finally, in the section of the post-test questionnaire dedicated to the students who had participated in

the Narrative Guidance project, we asked whether they had found it useful to participate. Their answers are shown in Figure 19.

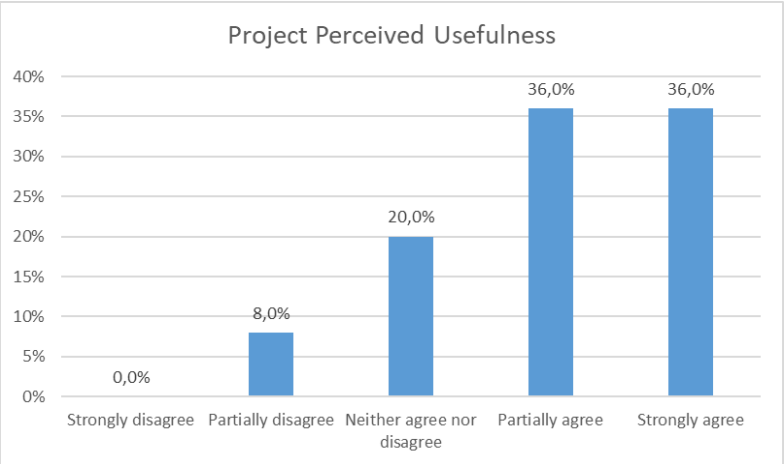

Figure 19: Level of agreement expressed in the post-test questionnaire by students in the initial sample to the statement «Participating in the project helped me in my choice of study and career path»

None of the students involved in the project found the project useless, while most of them «partially» or «strongly» agreed that it had helped them to find the answers they were looking for when they enrolled in the Narrative Guidance project.

The next step of our study focused on the students' perception of PTCO (or school-work alternation), obtained from the post-test questionnaire. The post-test group of students was heterogeneous in this respect: not every student had done PTCO activities, or for the same number of years, partly because of the pandemic interruption, partly because some of the students had attended high school in years when PTCO were not required. In our sample, 76.1% of the students had completed at least one year of PTCO, but not evenly across the three years required by law, as shown in Table 4.

First year of PTCO (Third year of secondary school)	Second year of PTCO (Fourth year of secondary school)	Third year of PTCO (Fifth year of secondary school)
68.8%	61.4%	50.0%

Table 4: Percentage of students who completed PTCO activities for each of the three years required by the law

For a variety of reasons, including their age or the year they were in, students may have been required to do PCTO at different stages of their schooling. As a result, there are also differences in the number of years of PCTO that each student was able to complete, as shown in Table 5.

Number of years of PTCO	Percentage of students
3 years	55.1%
2 years	26.6%
1 year	18.4%

Table 5: Percentage of students who carried out PTCO activities for three, two or one year

To understand what students thought of their PTCO, the post-test questionnaire asked them to briefly describe the activities they had to do and then to rate their usefulness and quality on a five-point scale. The *Usefulness* scale ranged from «Totally useless for my education» to «Very useful for my education», while the *Quality* scale referred mainly to the experience itself and ranged from «Very negative» to «Very

positive». We first analysed the students' answers from a general perspective and found that most of them had a good idea of both usefulness and quality of their experiences, as shown in Figure 20 and Figure 21.

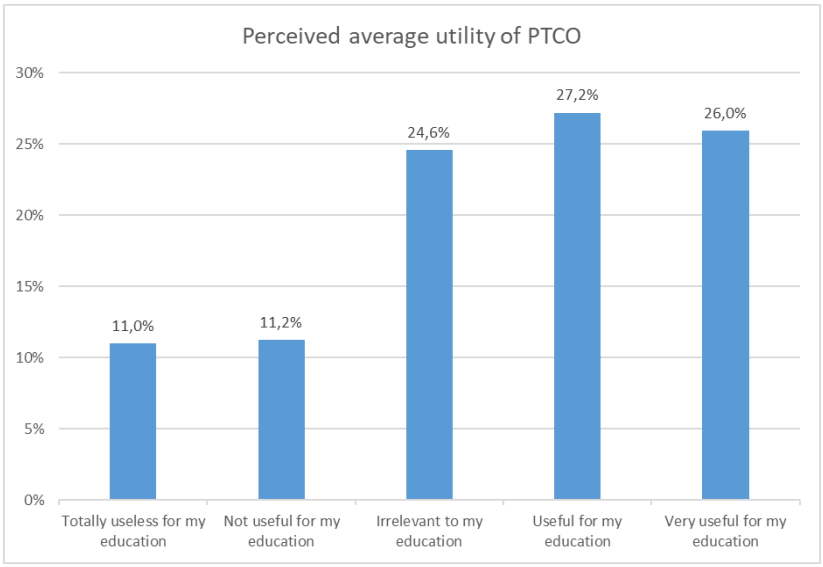

Figure 20: Average usefulness of the PTCO experiences as expressed by the university students in the post-test questionnaire

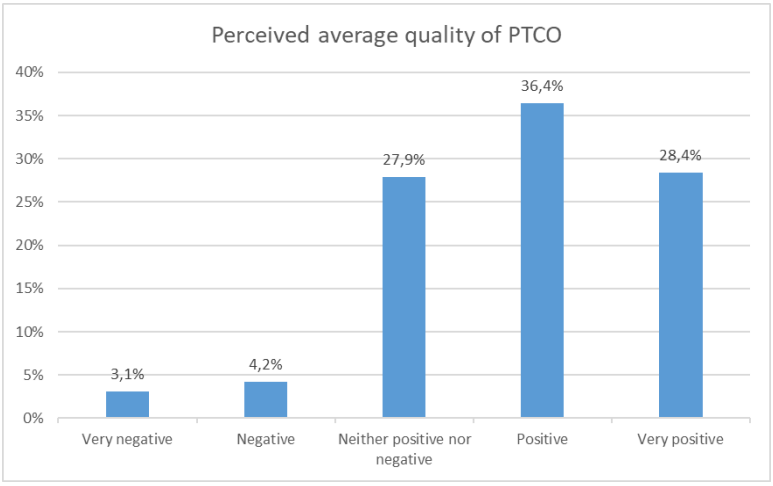

Figure 21: Average quality of the PTCO experiences as expressed by the university students in the post-test questionnaire

Even if many students chose the «neutral» middle answer, the majority of them seemed to perceive positively both the quality and the usefulness of PTCO. According to these data, the number of students who experienced PTCO as a bad or useless experience is low: 7.3% for quality and 22.2% for usefulness.

To deepen this analysis from a more specific perspective, we decided to observe whether the students' perceptions of PTCO varied depending on the school they had attended. As it is already known (Almalaurea, 2022; Salsone et al., 2019), most university students come from Italian *Liceos*: our sample confirmed this pattern, as well as our intuition to select the pre-test sample from students attending Scientific, Classical or Human Sciences *Liceos*. The percentages of students in our post-test sample from the different types of schools are shown in Table 6.

School	Students	Students who did PCTO
Scientific *Liceo*	34.2%	35.3%
Human Sciences *Liceo*	25.4%	27.1%
Classical *Liceo*	15.8%	15.5%
Linguistic *Liceo*	8.1%	7.7%
Technical High School	11.4%	10.6%
Professional High School	4.0%	3.4%
Arts *Liceo*	1.1%	0.5%

Table 6: Percentage of students in the post-test sample coming from the different types of schools and percentage of those, among them, who completed at least one year of PCTO activities

Regarding school, the post-test questionnaire also explored some of the students' beliefs related to their choice of secondary school: Figure 22 and Figure 23 summarise two of them.

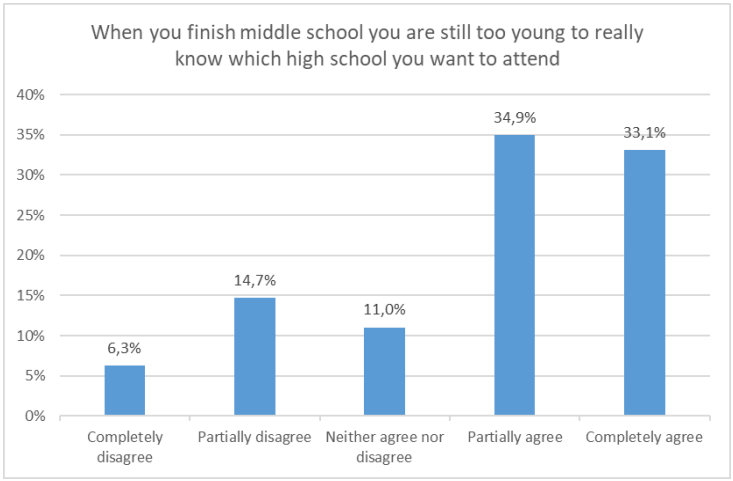

Figure 22: Level of agreement on the statement regarding to the age of the high school choice, as expressed by the students in the post-test questionnaire

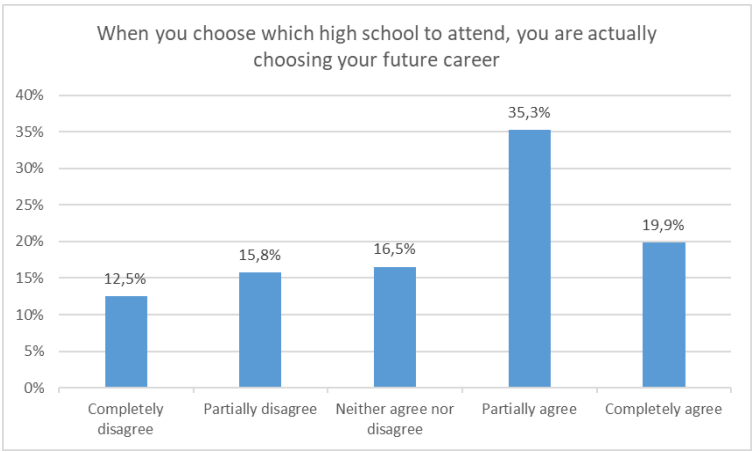

Figure 23: Level of agreement on the statement regarding the link between the choice of high school and career paths, as expressed by the students in the post-test questionnaire

The average ratings of PTCO for each sub-group of students across the three years of secondary school are presented in Figure 24 and Figure 25.

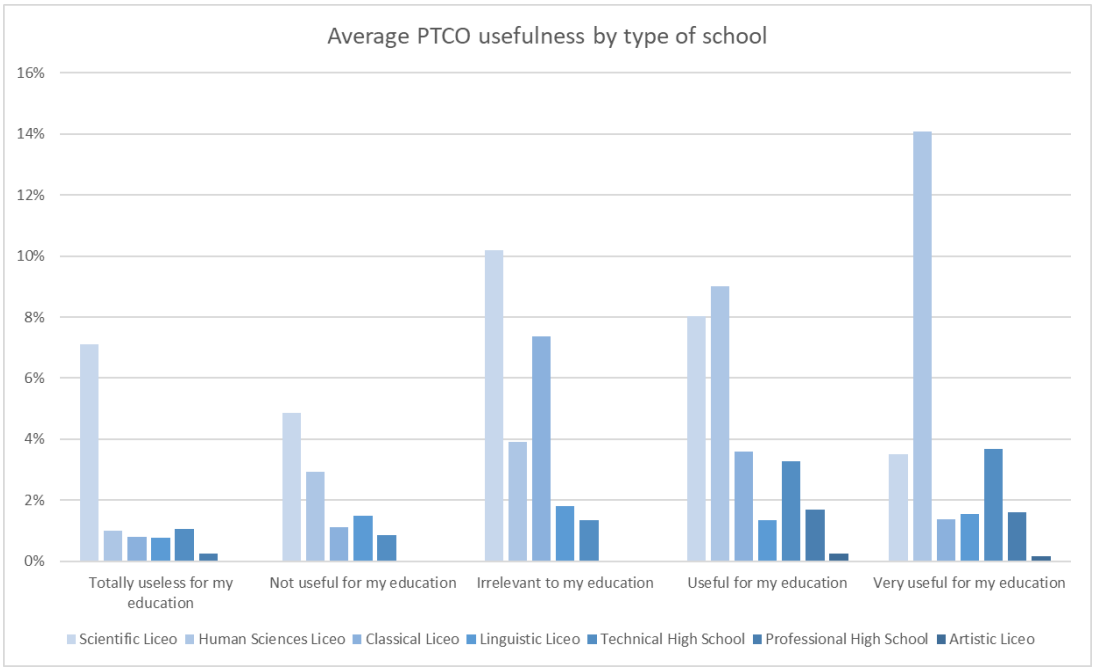

Figure 24: Average perception of the usefulness of PTCO according to the school of origin of the students in the post-test sample

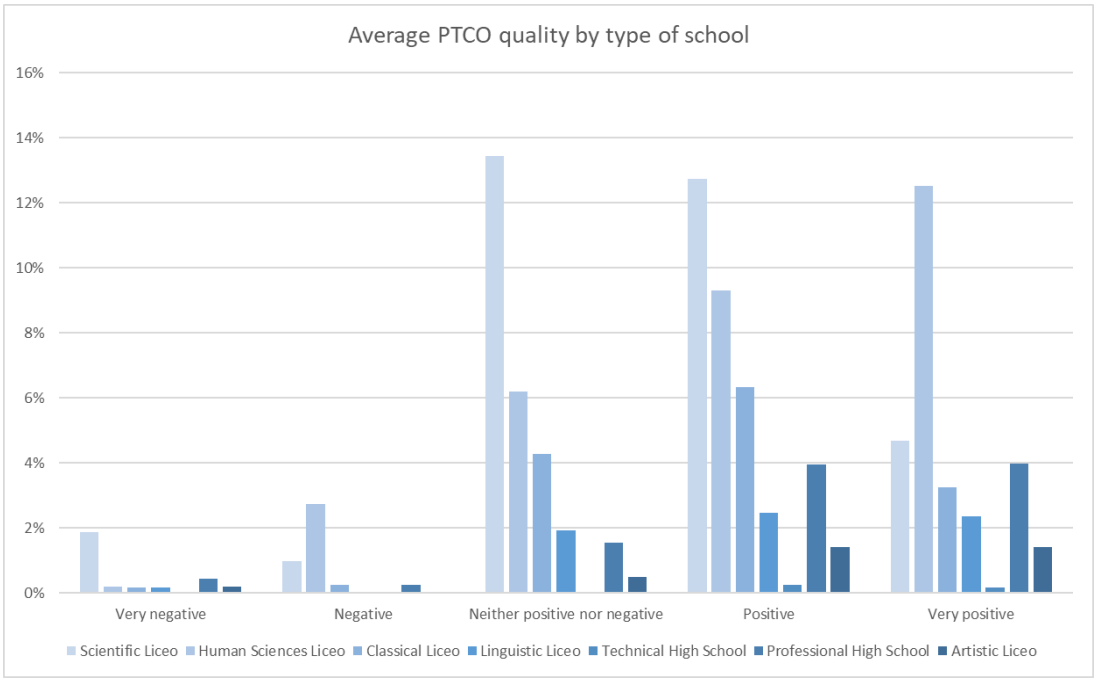

Figure 25: Average perception of the quality of PTCO according to the school of origin of the students in the post-test sample

While the students' ratings of the utility of their PTCO experiences vary according to the schools they had attended, the quality of these experiences is more homogeneous across the sub-groups. Very few students had a «very negative» or «negative» experience and, while for many of them it was unremarkable («neither positive nor negative»), most of them still felt it was «positive» or «very positive».

Discussion and Conclusions

It may be useful to recall that our work revolved around the guidance that students receive at school in order to find their path in life, study and work, and that our hope was to find tools that could be used in schools to carry out this task.

Although it is no longer possible to assess the impact of the e-portfolio on guidance, still we can learn a little more for our study purposes. For example, we can ask whether the perceived usefulness of the narrative guidance could simply be related to the individual attention the students received from the researcher. Perhaps the combination of school work and PTCO for guidance purposes is not able to meet all the different needs of the students, whereas a professional figure, such as a school psychologist, could respond much better to the students' demands and doubts than standardised routines or mass events like Open and Information Days. This hypothesis is supported by the fact that in the post-test questionnaire 53% of the students agreed with the statement «I would have liked to talk to a guidance psychologist» and 61% of them agreed with the statement «I would have liked guidance to help me reconcile personal and professional fulfilment» (Figure 7). The same figure also shows us that the PCTO help in deciding which university course to choose was the same as the online tests found on the Web (24%).

This leads us to think that finding a job seems to be a major concern for young people, probably due to the modern labour market condition, perceived as too fluid and unstable. As can be seen from Figure 8, although personal aptitudes are mentioned as an influence by the vast majority of students, the main goal is to find a job. This is in line with the answers of the high school students in the pre-test questionnaire, where job opportunities are also the main reason for choice (74%: Figure 5).

The AMOS test results, taken globally, suggest that students struggle to find a good study approach and that their theories of intelligence and personality often fail to support their motivation to learn. These are certainly areas where schools can do much, especially given the impact that poor metacognition, study strategies, organisation, etc. can have on learning and academic achievement.

Considering the differences between «decided» and «undecided» students, we can hypothesise that the latter may need more support from the school to gain more confidence in their intelligence and learning abilities, which they may not be able to assess correctly. It would be interesting to investigate whether these beliefs about intelligence are related to a personal history of school failure or struggle, which may lead these students to identify «intelligence» with «school success». Identifying students' dysfunctional beliefs early and correcting them in ways that increase their motivation and sense of self-efficacy may be a simple way to prevent school failure and also contribute to meaningful guidance for young people.

Another aspect that could easily be addressed in schools is the study method. The AMOS questionnaire on Study Strategies (Figure 11) shows that many students do not know and/or do not use effective study strategies. For example, the interviews conducted with the high school students in the first phase of the study revealed that many of them didn't know what a mnemonic was, and consequently had difficulties in memorising technical data, names or dates. Teachers may take it for granted that secondary school students have acquired a good study approach in previous stages of schooling, but maybe it would be better to always investigate this aspect in order to intervene quickly and correct ineffective approaches.

The PCTO analysis based on the different sub-groups of schools also offers interesting elements of reflection. For example, Scientific *Liceo* students seem to be less satisfied with their PCTO usefulness than students in Human Sciences *Liceo* or Professional High School. Again, it is responsibility of schools to offer their students meaningful PTCO experiences, but it can be easier in certain types of schools than in others. While Human Sciences *Liceos* can assume their students will enjoy teaching and working with children, or Technical High Schools can take for granted that their students will enjoy doing office work, Classical and Scientific *Liceos* have to manage a much wider variety of students' interests and goals.

Perhaps the students' perception of the usefulness of their PTCO is linked to the reasons why they chose that particular secondary school at the end of middle school, i.e., what purpose they had in mind for their future by choosing it and what they expected from that type of school. This is a topic that deserves further investigation, but as a starting point we should reflect on the students' beliefs shown in Figure 22 (73% agreed with the statement «When you finish middle school you are still too young to really know which high school you want to attend») and Figure 23 (75% agreed with the statement «When you choose which high school to attend, you are actually choosing your future career»).

Our sample, apart from being small, only includes young people who intend to invest time and money in university education and who are therefore likely to have the resources to do so. But even in this «select» group, young people's main concern seems to be work as such, rather than as a means of personal fulfilment linked to a life project. This is a challenge that teachers and psychologists should take up, for without this assumption there will never be decent work. This concern is underlined by the fact that in the post-test questionnaire 61% of the students agree with the statement «I would have liked guidance to help me reconcile personal and professional fulfilment», so we can suppose that the idea of finding a decent job is really far away from them.

The realisation of our work suffered from the limitations imposed by the Covid pandemic, which allowed us to work only online, and from the long response times of the schools, which penalised the students in the process of their narrative guidance. Taking this into account, it would be interesting to propose the project again in presence, with more relaxed times and involving both students and teachers in the realisation of the e-portfolio as a narrative guidance tool.

Acknowledgements

We are sincerely grateful to all the people who have made this study possible, first and foremost the students, the schools and university teachers, and the many family members, friends and colleagues who have provided help and support.

Conflict of interests

The authors declare no conflict of interest.

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