



The decision-making of students in post-compulsory education: influence of personal, academic, family, and socioeconomic dimensions on the choice of Vocational Education and Training

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Abstract

This article is a response to the absence of multidimensional research into the decision-making of students in their choice of post-compulsory education. The aim is to analyse the personal, academic, family, and socioeconomic dimensions which influence the choices of students in the final (4th) year of Compulsory Secondary Education in Spain, specifically of Vocational Education and Training (VET). A multidimensional, 360-degree study was conducted, using a mixed, concurrent methodology (QUALITATIVE + quantitative) which permitted the triangulation and complementing of the resulting data. A total of 14 discussion groups were formed, 8 with students and 6 with the families of students in the 4th year of Compulsory Secondary Education from public schools in four Autonomous Communities in Spain. A questionnaire was also conducted with a sample of 731 educators (tutors and guidance councillors) teaching 4th year students in Compulsory Secondary Education in these Communities. These four dimensions are closely interlinked, as revealed by an analysis of the discourses of families and students, the results of the teacher surveys, and consideration of documentation from national and European institutions specialised in this area. The conclusions of the study highlight the implications of educational policies and practices and the need for action plans which meet the requirements of students and their families for information, regarding both academic and professional opportunities, responding to their socioeconomic circumstances as well as the changing perception of VET as “remedial” compared to the more “development oriented” Baccalaureate.

Keywords Vocational Education and Training (VET) · Post-compulsory studies · Education itineraries · Mixed methodologies · Multidimensional analysis · 360-degree research

1 Introduction

Vocational Education and Training (hereinafter VET) has a long history within the Spanish education system, evolving from a highly bureaucratic and regulated model to one that is more corporate, market-oriented and alternative that aims to balance tradition (professional principle) with rationalism (academic principle) and liberalism (market principle) (Greinert 2004). In this sense, Spain implements the educational centre-based scheme. This is a learning system that is part of the education system. In-company training is not always regulated and can vary depending on the organisations involved (Fernández-Salineró et al. 2024). In relation to teaching methodology, in this context, an evolution has been identified towards the use by teachers of a variety of teaching strategies, especially those linked to active learning (Noguera et al., 2024a). Even so, despite the diversity of teaching strategies, the challenge of improving the integration of digital tools in educational processes is still identified (Noguera et al., 2024b).

The VET system of the Spanish Education System is primarily oriented towards initial Vocational Training, which is accessed by young people after Compulsory Secondary Education, and depends on the Ministry of Education, Vocational Training and Sport, which regulates the higher education system at national level, and on the 17 Autonomous Communities that make up the Spanish State and which assume, among others, the following competences in educational matters: the administrative ownership of the centres, the functions derived therefrom and the competences referring to the creation and/or authorisation and operation of both public and private educational centres; the development of the provisions of the State in matters of educational planning and regulation of the levels, modalities, grades and specialities of education; as well as the definition of the curriculum based on the minimum teaching requirements established for the whole of the State. According to the Spanish educational legislation currently in force (LOMLOE, 2020), VET is oriented towards the development of technical, organisational, communication and response skills to the contingencies of social, cultural and economic life and covers Basic, Intermediate and Higher-Level Training Cycles. In this respect, it is worth highlighting that in the 2023/24 academic year more than one million people have enrolled in VET studies, which represents an increase of 4.9% compared to the previous academic year, consolidating the growth of these courses with 35.3% more students than five years ago, when the Spanish Government started the VET modernisation process (MEFP, 2023).

It should be noted, however, that there is still a low proportion of young people in VET programmes in Spain compared to other European countries. In this sense, according to the European Commission (2022), the countries with more students in VET are Slovenia (71%), the Czech Republic (70%), Croatia (69%), Austria (68%), the Netherlands and Finland (67%) and Slovakia (66%). In Spain the figure is 37%, placing us at the bottom of the table at European level. It is hoped, in this respect, that after the approval of Organic Law 3/2022, of 31 March, on the organisation and integration of Vocational Training, it will respond to the needs, aspirations and expectations of people's professional qualification throughout their lives, as well as to the demands of the labour market.

As is the case throughout Europe, VET has become increasingly varied in its offering of educational opportunities in line with the particular industrial characteristics of Member States, leading to a process of ongoing change within the broader context of the dynamic development of the knowledge economy based on cooperation, mobility, employability and competitiveness (Ordoñez-Sierra et al. 2019; Psifidou 2014). In this regard, there is currently a new vision of VET, considered as a subsystem within a larger and broader system

of “lifelong learning” oriented towards providing individuals with the competences necessary for sustained and productive employment (Planas 2012).

In recent years, in parallel with changing national and international education and employment regulations, there has been a great deal of research into VET from different perspectives and with different purposes. VET has habitually been regarded in terms of employment rather than in terms of academics and learning (Gairín 2009). In this regard, VET has been the centrepiece of employment and social policy within the European Union (EU) since its beginnings as the European Economic Community (EEC). The 1957 Treaty of Rome already laid the foundational principles for VET (Article 128 of the Treaty of Rome), which has been maintained and broadened up until the present day (Commission of the European Communities 1987). The Copenhagen Process of 2002 marked a significant milestone in European cooperation in VET, establishing objectives and priorities to be revised every two years and general directives to be implemented by EU member states (Renés and Castro 2013). The Osnabrück Declaration (European Commission 2020) emphasised the importance of VET not only for economic recovery but also for Europe’s ecological and digital transition, and as an important aspect in employability, innovation, and competitiveness. Furthermore, the third edition of the European Framework for Education and Training (2021–2030) sets forth objectives for the modernisation of VET, making it more attractive, prioritising measures to enhance the quality of the qualification, the mobility of both students and teachers, competitiveness and teacher motivation while also fostering closer cooperation between Member States in education and employment (EU Council Resolution 2021).

We see, therefore, that both throughout Europe and especially in Spain VET is increasingly a key element in addressing the significant economic challenges of the future. This will require a decisive effort to develop and enhance VET through a range of plans and programs on the part of both public administrations and the private sector. Therefore, continuous, and in-depth analysis and monitoring is necessary (OFPE 2021 and 2022). Within this context, the growing importance VET as a lever of change is reflected in several strategic initiatives. In this regard, the Spanish government’s Recovery, Transformation and Resilience Plan (2021), includes a strategic plan to transform and modernise the system of VET as one of the pillars of a knowledge-based economic model. These initiatives are accompanied by several programs undertaken by the Spanish government in the Vocational Education and Training Modernisation Plan (MEFP 2020), the I Strategic Plan for Vocational Education and Training 2019–2022 (MEFP 2018) and, particularly, in Organic Law 3/2022, of March 31, on the organisation and integration of Vocational Education and Training, based on EU proposals in this area.

All these actions underscore the importance of VET in meeting the challenges faced by Spain and Europe. An essentially socioeconomic approach which requires a comprehensive analysis of existing educational systems and institutions. Several studies have been conducted into the changing character of VET using qualitative and quantitative methods to analyse different dimensions, many specifically focussed on the different dimensions and principal actors in VET: students, teachers, families, and schools. These studies generally focus on one or several of these dimensions, offering a specific or comparative analysis of these dimensions but not of all four.

A number of studies have focussed specifically on the role of teachers in Compulsory Secondary Education, Baccalaureate and VET, identifying the challenges they face, their needs, and their role as guide and support for students, in addition to various programs and initiatives for professional development and teacher training to enhance teachers’ skills and qualifications (Lorente 2015; Merino 2005; Merino and Llosada, 2007; Misra 2011),

particularly in providing guidance to students in their academic choices. This research has contributed to a greater understanding, as noted by Tarabini (2022), of these moments of educational transition, opening the ‘black box’ of the vocation as a critical mechanism in preventing the possible replication of social inequalities through educational decisions (Tranter 2012) and challenging the “remedial” view of VET compared to the more “development oriented” Baccalaureate (García and Lorente 2015).

Other research has focused on the student, specifically in Compulsory Secondary Education, Baccalaureate and VET (Castelló and Cladellas 2021; Cedefop 2011; Fundae 2018; Merino 2005; Renés and Castro 2013), presenting a dichotomy between the “pedagogy of effort”, which associates the Baccalaureate with academic success, and the “pedagogy of interest”, associating VET with developing practical job skills rather than academic achievement. In this regard, Merino and Llosada (2007) identify the following fundamental factors which influence the choice of an academic itinerary of students: differential socialisation, conditioned by the family origin (Whiston and Keller 2004) and the expectations of social groups, gender, sociodemographic characteristics and culture (Okubo, et al. 2007); the orientation and guidance received by family, peer groups and school tutors (Schultheiss et al. 2001); previous academic career and level of academic performance (Castejón et al. 2020; 2022); cost, benefit and risk analysis; the motivation to remain within an academic environment and the instrumental motivation to seek practical benefits from educational investment (Merino et al. 2020); as well as social capital, based on self-perception, confidence, security, reciprocity, commitment and promotion within relational networks (Fernández-Salineró and Martín-Gutiérrez 2022).

A great deal of research has also focussed on families (García-Gómez and Ordóñez-Sierra 2016; Ordóñez-Sierra et al. 2019), finding that families are more conciliatory than authoritarian, and that parent involvement is conditioned by their employment circumstances and the difficulty in balancing personal and professional responsibilities. Additionally, families show a keen interest in supporting their children in deciding on their academic choices, regarding VET as one more option to achieve a happy and successful professional future; however, VET is often not the leading option, especially in situations of uncertainty or where information is lacking (Hodge et al. 2022). The family has thus proven to be one of the most important factors in the choice of VET in most cultures (Cortés and Conchado 2012; Dietrich et al. 2011; Keller and Whiston 2008; Turner and Lapan 2002), consisting of a microsystem in which family relationships and educational choices can be interpreted as a whole (Ezeani et al. 2023; Fernández-García et al. 2016).

Finally, we find studies that consider the influence of educational institutions on academic choices, particularly through their orientation and guidance systems (Dontoh and Kwabena 2021; Khatoun et al. 2023; Mtemeri 2022). A study by Luque (2015) notes that the orientation provided in schools is generally informative and introspective; that is, based on the self-awareness of the student and thus the direct influence on academic choices is not always related to the advice of a tutor or guidance councillor which appears to have less influence than that of the family. Furthermore, Elías and Daza (2019) found a bias in the orientation provided by educational institutions, which tend to encourage students to pursue academic (Baccalaureate) rather than professional itineraries (VET). Some studies (Greiten et al. 2019) also highlight the importance of undertaking an inclusive and integrated professional orientation, promoting work experience among students during Compulsory Secondary Education, serving as an initial experience of the working world.

In this regard, we can identify four different dimensions:

- Personal dimension: refers to persons who must choose post-secondary studies.

- Academic dimension: includes the teaching staff of pupils in Compulsory Secondary Education who carry out accompaniment and tutoring functions and the guidance counsellor.
- Family dimension: refers to the home and immediate environment of pupils and includes some micro socio-economic aspects.
- Socioeconomic dimension: refers to the surrounding institutional and work environment, both Spanish and European, and includes aspects of a macro nature.

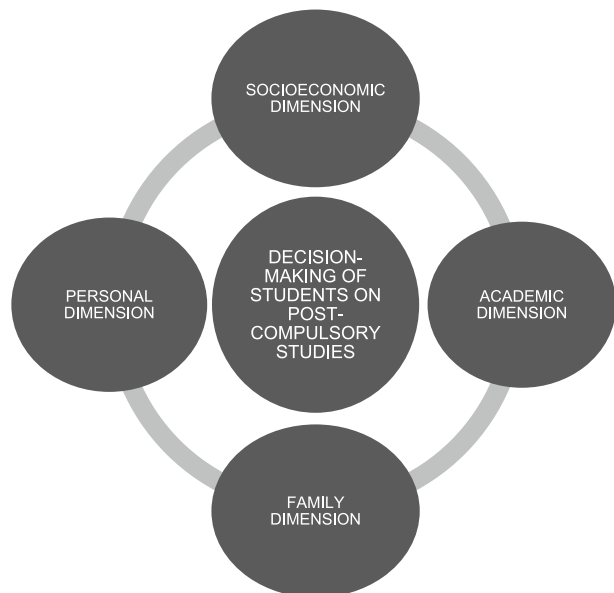
In the most of cases these have been evaluated on an individual basis. Given this situation, we proposed a multidimensional, 360-degree study which can collect data from all perspectives, both qualitative and quantitative. This type of research aims to analyse all four of these dimensions, taking as a central axis the decisions on academic itinerary of students in the final year of Compulsory Secondary Education within the Spanish education system. The goal is to have a global vision of a multidimensional phenomenon.

We propose a multidimensional study because the analysis of the literature has provided us with only a partial view of each dimension or several of them, but not of all the dimensions proposed in this work. Therefore, this multidimensional analysis is presented as a personal categorisation that aims to transcend the literature review carried out.

The structure of the present study is illustrated in Fig. 1 below:

This analysis is centred on the student who is making academic decisions about their future, exploring their perspective as well as that of families and teachers (through their role as educators and advisers) using a mixed QUALITATIVE + quantitative methodology (Creswell 2009; Mertens 2018). The data obtained is analysed in relation to European and national policies to promote VET, shedding light on the socioeconomic dimension. This multidimensional approach will help reveal how each of these dimensions can provide the support students need in taking informed decisions according to their interests and competences, thus promoting their long-term academic and professional success in line with the recommendations of the OECD (2014). These recommendations

Fig. 1 360-degree multidimensional analysis



are the result of a historic consensus among Member States, academia and industry, individuals, and families, all engaged in increasing levels of education and skills training as a driver of economic growth and prosperity (Planas 2012).

2 Objectives

The objective of this study is to analyse the personal, academic, family, and socio-economic dimensions which influence the choice of VET among 4th year students in Compulsory Secondary Education of the Spanish education system.

This will require a further series of specific objectives:

- To examine the academic, personal, and family dimensions which influence the decision-making of students in choosing VET.
- To evaluate the perceptions of the agents who may influence the decisions of students in their post-compulsory education transition towards VET.
- To contrast the views of the agents involved in the decision-making process, institutional policies and practices, and socio-economic factors in relation to VET.

3 Method

To achieve these objectives, a descriptive and exploratory study was conducted with an analytical approach. The methodology is mixed, incorporating a primarily qualitative method complementing and triangulating the information using quantitative analysis. For a holistic view of all the agents involved in the decision-making of young people, the information gathered from different groups was incorporated using different data creation and collection techniques. Firstly, information was gathered from students and families using interviews and group discussions; secondly, information was collected from teachers, tutors and guidance councillors using survey questionnaire. Audio and video recordings were made of the discussion groups and all personal data was managed in accordance with Organic Law 3/2018, of December 5, on Protection of Personal Data and Guarantee of Digital Rights.

Considering the observations of Creswell (2009), the mixed approach employed in this study is framed within a strategy of simultaneous methodological triangulation combining the use of different methods to obtain an in-depth and complete vision of the subject of study. Methodological triangulation involves the articulated combination of different methodological approaches, in this case quantitative and qualitative, which will make it possible to contrast, complement and deepen the information by considering the perception of the different agents participating in the study through triangulation of sources (students, families and teachers).

In this case, a qualitative + quantitative methodology was used (Mertens 2015; 2018), primacy being given to the qualitative approach and collecting information simultaneously from other agents involved in the decision-making of students using quantitative analysis.

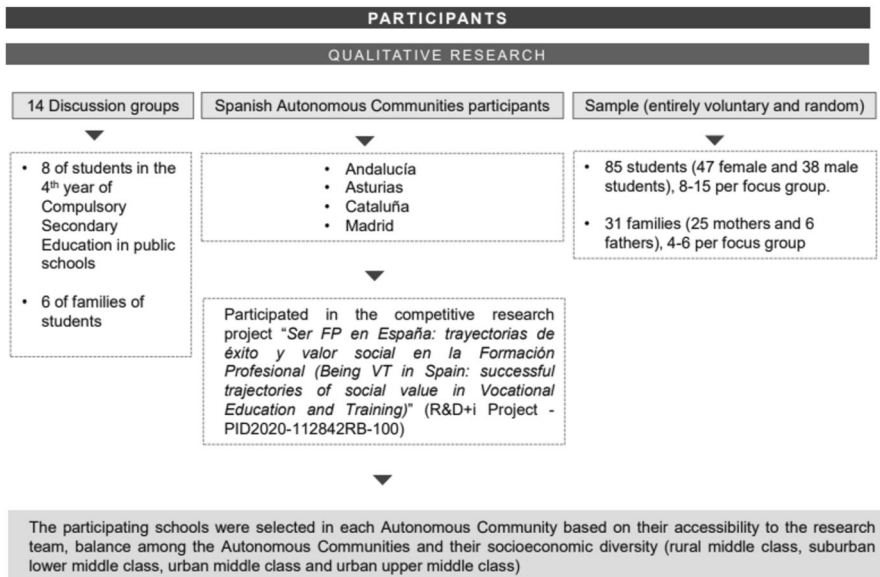


Fig. 2 Synthesis of sample qualitative research

3.1 Population and participants

Figure 2 below presents a visual synthesis of participants in qualitative research (families and students).

To triangulate and complement the information with all agents involved in student decision-making in the choice of post-compulsory studies, an ad hoc questionnaire was created. Figure 3 below presents a visual synthesis of population and participants in quantitative research.

In this part of the study, stratified random sampling was used at two levels:

1) On the one hand, the selection of the Autonomous Communities: the four Autonomous Communities chosen are those participating in the research project and have been chosen because Catalonia and Madrid between them represent almost 40% of Spain's Gross Domestic Product, Andalusia is the second largest Autonomous Community in Spain and Asturias has one of the highest rates of population of VET graduates.

2) On the other hand, the type of school (rural or urban), which meant that the characteristics of the different educational contexts were considered in the data analysis. Thus, the researchers contacted all the schools of Compulsory Secondary Education through the Education Departments of each Autonomous Community selected, which provided a list of the schools to which the questionnaire was administered.

The significant differences in terms of participation observed between the four Autonomous Communities participating in the research are mainly linked to the access that the research team has had to schools in each region. The variability of participation can be attributed to the ease or difficulty with which the team has been able to establish relationships and collaborations with education authorities and with schools in particular. In some of the regions (Asturias and Catalonia), the team found a more favourable environment, with greater institutional support from the regional education authorities and a

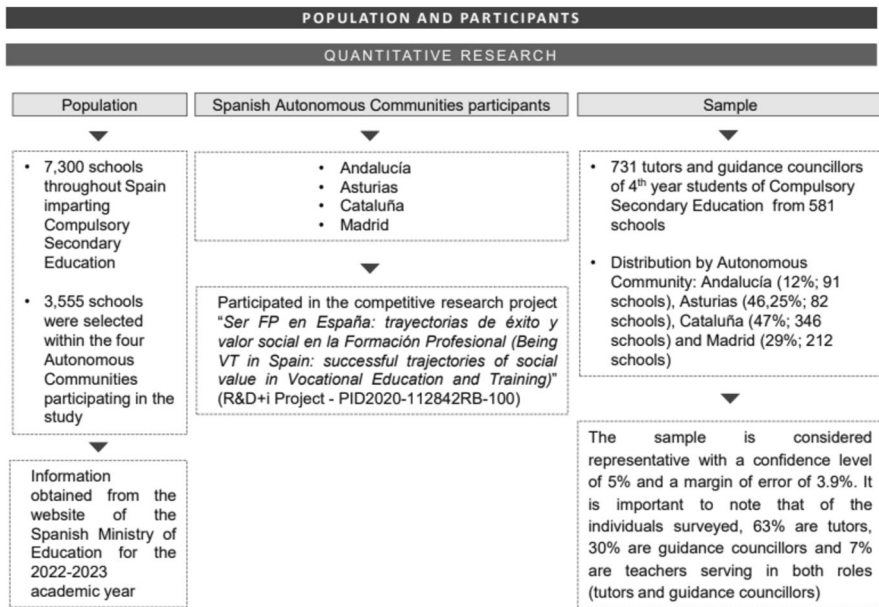


Fig. 3 Synthesis of population and sample quantitative research

greater willingness on the part of the schools to participate in the research. However, in the other two Autonomous Communities (Andalusia and the Community of Madrid), probably because they have a higher population rate, access has been much more complicated for both the educational authorities and the schools, significantly limiting their participation.

3.2 Instruments for data production and collection: design and procedure

Once the sample was selected and having signed the informed consent form, a total of 14 discussion groups were formed: 8 Student Discussion Groups (SDG) and 6 Family Discussion Groups (FDG). For the proper conduct of the discussion groups, a series of questions were drafted to elicit opinions on the following themes: decision-making in the choice of studies, family influence in the taking of decisions, attitudes of students/families regarding VET and the information available to students/families regarding VET.

As an initial step in the production of data, and to ensure the transferability and confirmability of the research findings (Sandín 2000), a panel of experts was consulted, to confirm the clarity, coherence, relevance, and sufficiency of the dimensions of analysis; and to validate the categories to determine their concordance.

Given the specific nature of the theme, 8 specialists were recruited for the panel of experts: teachers of VET and experts in the methodology of qualitative research. The panel evaluated the pertinence, coherence, and relevance of each of the established dimensions. The results of this evaluation indicated that the proposed questions for discussion were pertinent and relevant. Nevertheless, based on the evaluation of the experts the research team decided to modify the wording of certain variables to adapt more closely to the language of the students and their families.

In turn, the four researchers validated the different categories to determine their concordance. The formula of proportionality by Bakeman and Gottman (1989) was applied to analyse concordance, and the general index referring to the definition of the categories and categorisation process was 99.26%.

The procedure to produce data from the discussion groups consisted in creating teams of two researchers, one as moderator and the other as observer. Each group discussion had a duration of approximately 60 min. Audio and visual recording of the sessions were made, and a literal transcription was produced. Each transcription was reviewed by the pair of researchers participating in the session. To analyse the data, an inductive system of emergent categories was used (see Table 1) which was evaluated through an inter-judge process among the members of the research team.

As indicated above, in addition to the discussion groups with families and students, a questionnaire was administered to guidance councillors and tutors of the 4th year of Compulsory Secondary Education.

The questionnaire was designed to evaluate the influence of academic, social, personal, and family factors on the decision-making of students in their final year of Compulsory Secondary Education.

The questionnaire had a total of 45 questions, 24 using a Likert-type response scale, 10 multiple choice and 11 simple yes/no questions. The questions were divided into different thematic blocks:

Table 1 Dimensions, categories, and subcategories of analysis

Dimensions	Categories	Subcategories
Personal	Degree of difficulty	Baccalaureate–Easy/Difficult VET– Easy/Difficult
	Perception of academic success	Attributions of success–Baccalaureate Attributions of success–VET
Academic	Orientation provided by the school	Yes No
		Person providing orientation
	Focus of orientation	VET Baccalaureate VET and Baccalaureate
	Academic performance in previous years	Influence No influence
		Family
Socioeconomic profile of families	Influence No influence	
Family orientation	Yes No	

- Stages of education offered at the school.
- Teacher profile: tutors and counsellors. According to the current Spanish education law (LOMLOE, 2020), tutors are teachers at educational centres who are also responsible for a group of students, assuming the following functions: favouring the integration and participation of students in the life of the educational centre, attending to the diversity of students by carrying out personalised monitoring of their learning process, facilitating decision-making regarding their academic and professional future and promoting fluid communication with their families. Guidance counsellors are specialists (pedagogues, educational psychologists or psychologists) and are responsible for planning, organising, directing, coordinating, evaluating and controlling the guidance services of a school.
- Orientation in deciding on academic itinerary.
- Influences in decision-making.
- Attitudes of teachers towards VET.
- Attitudes of teachers towards their role in providing guidance.

To confirm the reliability of the questionnaire, the Cronbach's α was analysed, with highly satisfactory results ($\alpha=0,838$). The questionnaire was also validated by a panel of 8 experts, including guidance counsellors and tutors in the 3rd and 4th year of Compulsory Secondary Education. These experts were selected based on their educational experience and knowledge, and their evaluation focussed on the pertinence, clarity, and relevance of the items in the questionnaire. After an in-depth analysis of the results, changes were made to the wording of some questions to ensure the optimum effectiveness of the instrument. The reliability and validity of the scale were also evaluated, and it was decided to retain the initial number of items in the scale as any alterations would not result in any significant variations in the results.

Quantitative data was collected using the questionnaire, conducted online and participants were requested to complete the questionnaire on three occasions over a period of two months (October and November 2022).

3.3 Data analysis

After establishing the dimensions, categories and subcategories, the data obtained in the discussion groups was transcribed and content analysis performed (reduction into units of analysis, classification and coding into thematic categories and subcategories, organisation of the data and the extraction of conclusions) (Creswell 2013; Hernández et al. 2010). The analysis used a coordinated, open, and axial system of categorisation for the presentation of the results and a selective categorisation system was adopted to present the final conclusions. Through this process the AtlasTi (v.23) qualitative analysis program was used.

Regarding the questionnaire, a descriptive and inferential analysis, evaluating complementary aspects to facilitate triangulation with the qualitative information collected in the discussion groups. To analyse the differences between the groups, analyses of variance (ANOVA) were carried out using the non-parametric Kruskal Wallis test. For this purpose, the variables under study were taken into consideration and contrasted with other variables for identifying and classifying the sample, such as the type of school (public, private or subsidised), the socio-economic level of the students (low, medium, high) and the profile of the teacher (tutor, counsellor or both). These analyses made it possible to identify significant differences considering differences in variance, thus ensuring that the

results adequately reflected the particularities of the different educational and socio-economic contexts analysed. The results that showed significant differences in relation to these variables are reported in the results section, where the value of the statistic (F), the degrees of freedom (gl) and the significance value (p) are indicated. The Jamovi (v.2.3.26) package was used for the statistical analysis of the information.

4 Results

The following section presents a synthesis of the results using the dimensions and categories indicated above as expressed by the different agents involved.

4.1 Personal dimension

The personal dimension encompasses the categories: *degree of difficulty* and *perception of academic success*.

Regarding *degree of difficulty*, families expressed the perception that the Baccalaureate is more difficult than VET, adding that this is not their own opinion but rather mainly that of their children or teachers:

I think that when teachers make recommendations it's based on that, if a student is studious, they should do the Baccalaureate. If they see the student struggling, then they suggest trying Vocational Education and Training, an intermediate cycle. (FDG3)

Other families noted the curricular differences between the two itineraries, with VET perceived as being easier and more oriented towards employment, without certain more difficult subjects:

The subjects [in VET] are not very complicated, there is no physics, no chemistry, no biology... (FDG6)

The interviews also revealed more critical opinions in the perception of VET, pointing out the competences traditionally associated with academic success in earlier stages of education:

The types of intelligence that the system demands are more abstract, logical, and memory-based; if you fit in with that then fine, but those that don't have difficulties and are offered alternatives like Vocational Education and Training. (FDG5)

The results of the teacher questionnaire (tutors and guidance councillors) are generally in line with those of the interviews with families, with some 65.7% of teachers agreeing that *good students* should be steered towards Baccalaureate (Fig. 4). Exploring the responses of teachers further, we see that over 90% of those surveyed believe that VET is not necessarily for students with poor academic or intellectual abilities (totally disagree: 58.10% or disagree: 33.57% that this itinerary is aimed at students with poor academic skills). Furthermore, 44.3% of teachers disagree with the notion that VET is oriented towards students with poor academic results. This is in contrast with other responses and may suggest a certain degree of social desirability in their responses. In this regard, several studies (Martín et al. 2020; Yurrebaso and Martínez-Rueda 2019)

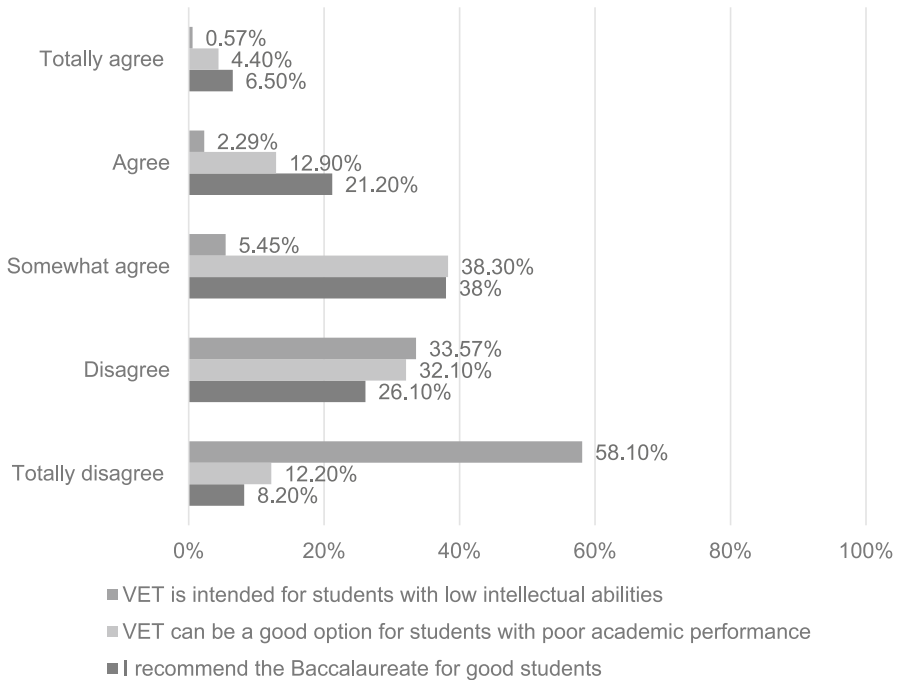


Fig. 4 Level of agreement of teachers in the orientation of students in post-compulsory studies

note that teacher may respond to questions in a manner they consider socially acceptable, but which may differ from the reality of their educational practice.

Based on an analysis of the comments of those surveyed, it can be affirmed there are significant differences between the items analysed according to teacher profile ($F=7,885$; $p=0.021$; $gI=8$). In this regard, tutors in Compulsory Secondary Education are more likely than guidance counsellors to recommend Baccalaureate for those considered good students. Analyses using the Kruskal Wallis test indicate no significant differences in relation to this regard, tutors in Compulsory Secondary Education are more likely than guidance counsellors to recommend Baccalaureate for those considered good students. Analyses using the Kruskal Wallis test show no significant differences in relation to the profile of the school or the socio-economic level of the students.

Students, for their part, coincide with families and teachers in the belief that the Baccalaureate is more difficult; in their case suggesting that the Baccalaureate is more theoretical, requires more study and it's easier to do well in VET:

I don't know... I think [VET] is easier. And [...] you get your qualification, and you learn things. (SDG3)

[VET] is super easy. You can pass without studying because you don't have to apply yourself, just review a bit and you pass, and if you like the subject, even better (SDG7)

Similarly, research by Merino (2005), Cedefop (2011), Renés and Castro (2013), Fundae (2018) and Castelló and Cladellas (2021), have all called for overcoming the dichotomy between the “pedagogy of effort”, which associates the Baccalaureate with

academic success, and the “pedagogy of interest”, associating VET with developing practical job skills rather than academic achievement.

Regarding the category *perception of academic success*, the opinions of families are often oriented towards professional qualifications without reference to academics. Thus, there are families who, when considering the post-compulsory education choices, value the employability offered by different areas of study, and the high employability of certain cycles of VET is information passed on to young people.

[With VET] you can start working quickly, become independent and if later you want to continue studying, you can go to university. (FDG2)

Other families also associate VET with success, regarding university studies as unhelpful in terms of future employment opportunities:

I think they have boosted the profile of Vocational Education and Training because of the lack of success in university. Universities are saturated, and the job market is absorbing graduates and when it can't anymore, they begin to promote Vocational Education and Training. (FDG1)

In the case of students, their perceptions differ from those of families, associating the Baccalaureate with both academic and professional opportunities. Several students opted for the Baccalaureate because they believed it enabled them to pursue from specialised studies in the future, offering broader professional opportunities than VET, which enables students to enter the job market more quickly without further studies:

With the Baccalaureate you have more opportunities and with Vocational Education and Training you have only one; if you want something higher you won't be able to advance. (SDG7)

From what I understand, and what I've been told, at university... [...] you can study more, or even after university there are different degree and... specialisations you can do that, I think, many of them you can't do if you choose Vocational Education and Training, like a Master or Doctorate... etc. (SDG1)

Vocational Education and Training will only open one door, while the Baccalaureate will open all of them. (SDG7)

In this regard, there is a need for greater information to clarify the academic and professional opportunities offered by both itineraries which would facilitate the appropriate decision-making on the part of students.

The results of the questionnaire completed by teachers, in line with the responses of families, reveal that VET contributes more to the employability of students than the Baccalaureate (84.64%) (Fig. 5). Analysis shows significant differences in the responses depending on the profile of the teacher ($F=11,38$; $p=0.011$; $gl=12$) with tutors principally associating VET with greater employability compared to the Baccalaureate, while guidance counsellors show a lower level of agreement with this statement. In this case, the Kruskal Wallis test also shows no significant differences in relation to the profile of the school or the socio-economic level of the students.

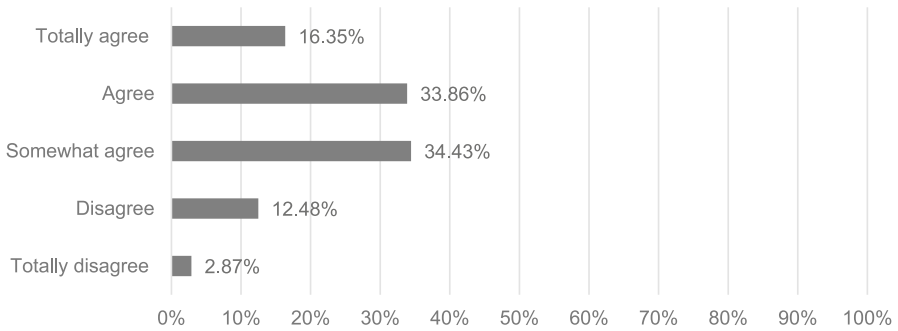


Fig. 5 Level of agreement of teachers with the statement “VET permits students to increase their employability more than the Baccalaureate”

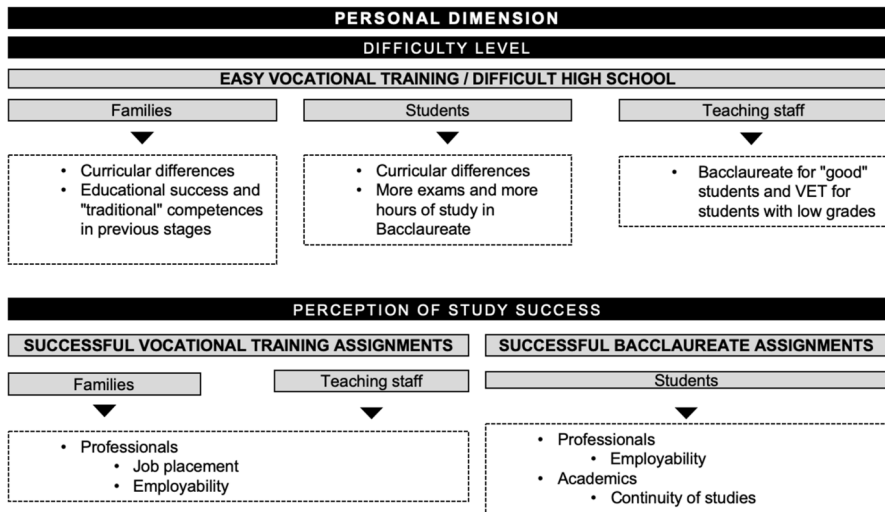


Fig. 6 Synthesis of categories associated with the personal dimension

To clarify these results, these are illustrated in Fig. 6, below, providing a synthesis of the categories associated with the personal dimension.

4.2 Academic dimension

For the academic dimension, the results are associated with the categories: *orientation provided by the school*, *person providing orientation*, *focus of orientation* and *influence of academic performance in previous years*.

For the category *orientation provided by the school*, families largely confirm that schools provide a degree of orientation. However, families also commented on the need for a more complete and personalised orientation, expressing doubts about the information and orientation their children receive. Many families note that the orientation received from

schools is very general and incomplete. Leading many families to seek other sources of information. Furthermore, they suggest that the orientation provided by schools should not be limited to a simple chat but should be provided continuously throughout the academic year.

There should be more support throughout the academic year, more focussed on the students and not just a brief chat. (FDG5)

More positive valuations refer to the *Fourth + Companies* program offered specifically by the Community of Madrid in which students in the final year of Compulsory Secondary Education can carry out a brief, voluntary work placement (from 3 to 5 days) to gain experience of the working world and better prepare them to make decisions about their academic and professional future. In this line, a study by Greiten et al. (2019) highlights the importance of inclusive and integrated professional orientation through work placements for Secondary students as a first exposure to the job market.

Like the comments from families, students also note that, while there are presentations at schools, the information provided is limited and offers little help in their decision-making.

In my opinion, the talk they gave us was poor. For me, I came out no wiser than when I arrived. It didn't solve any of my doubts. It didn't focus on what would happen if I took one itinerary or another, they just mentioned the subjects, nothing more. (SDG2)

In the case of this category, as presented below, the data was not triangulated with the results of the teacher surveys given that the function of orientation is inherent to both teachers and guidance councillors. Thus, applying the criteria of data saturation in both categories (Hernández et al. 2010), evaluating functions intrinsic to the role of these agents would not provide any significant contribution to the study.

For the category *person providing orientation*, in the most of cases, students report that orientation is provided by the guidance councillor of the school. Only in one case, was there mention of input from former students at the school who opted for VET, and in many cases allusion to the input of teachers and tutors.

I [spoke] with the guidance councillor on what I wanted to study, and they really gave me a lot of information. (SDG5)

The fact that former students come who are doing what the class wants to do is helpful... one former student did [VET] and gave me lots of information... it's a big help. It's better someone tells you from direct experience, not like the teacher who tells it from the other side. (SDG4)

Our tutor, in the tutoring sessions, gives us guidance and explains what the different itineraries we can choose depending on what we want to study... which area of the Baccalaureate we should choose or which Vocational Education and Training. (SDG1)

Lately, they are giving presentations on ... the courses in Vocational Education and Training, and while we look at the courses, the teachers giving that subject explain how it is, and you can get valuable information that way. (SDG1)

The information reported by families coincides with that provided by students. Notably, mothers emphasise the important role played by school tutors in the decision-making process:

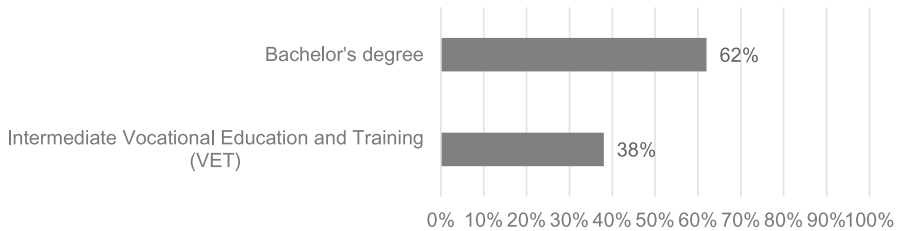


Fig. 7 Level of agreement of teachers with the statement “What possible post-compulsory itineraries are presented to students?”

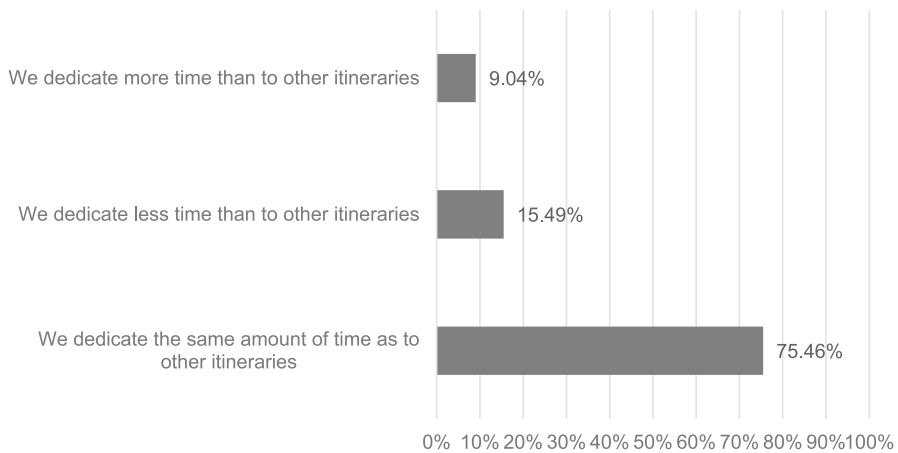


Fig. 8 Level of agreement of teachers with the statement “In your school, how much time to you dedicate to presenting VET as a possible post-compulsory academic itinerary?”

The guidance councillor of the school spoke to them a lot and, the truth is by giving them so much information and answering their questions they begin to see which path is right for them, depending on what they're interested in and what they like. The tutor is also really involved, giving information and, in the tutoring, sessions giving talks about all these issues. (FDG5)

Regarding the category *focus of orientation*, the responses were varied. Some students reported the orientation they received focussed on VET, and others on the Baccalaureate. They also reported schools offering informative talks about both itineraries.

Someone in my class told a teacher: no, I'm thinking of doing a certain course. And [the teacher] said: but the Baccalaureate would be better for you. (SDG4)
 Carlos [the tutor] gave us a talk, mainly steering us towards Vocational Education and Training. (SDG7)

In third year [in the talks] they tell you to go for either academic or applied studies. Academics is oriented towards the Baccalaureate and applied is towards Vocational Education and Training. (SDG5)

The surveyed teachers reported that the orientation provided in schools is largely focussed more on the Baccalaureate (62%) than VET (38%) (Fig. 7). Regarding this issue, there is a notable lack of coherence in these figures given that while only 9.04% of teachers report dedicating more time presenting VET than other academic itineraries, some 75.46% affirm they dedicate the same time (Fig. 8). Here again, these results suggest a degree of social desirability in the responses.

Families report receiving orientation and information about the Baccalaureate but not about VET. These findings are in line with those of Elías and Daza (2019), who found a bias in the orientation provided by schools, promoting academic itineraries (Baccalaureate) to a greater degree than employment-oriented itineraries (VET).

In this regard, one mother made a worrying observation that highlights the need for more balanced information and orientation for all the educational itineraries available:

Lots of kids do the Baccalaureate because they think they have no other options... (FDG4)

Regarding the category *academic performance in previous years*, the most of respondents, both families and students, affirm that this issue does influence their choice of post-compulsory studies, both in terms of their qualifications and their previous choice of itinerary:

In terms of [academic performance] in Compulsory Secondary Education, he was doing well and then with adolescence [there were] a few ups and downs and then his marks suffered. And then, although he didn't have a preference when we spoke about what he wanted to do. And so, you keep asking. I know they give orientation at school [although] it didn't show, but in a situation when he was failing, he decided: I'm going for Vocational Education and Training. (FDG6)

They put me in applied¹ [education] because I come from the PMAR² [Learning and Performance Improvement Program], not because I wanted to. (SDG7)

These affirmations by families and students coincide with the findings of Merino and Llosada (2007), who found that the prior academic results and the level of academic performance are key factors in students' choice of their post-compulsory academic itinerary (Castejón et al. 2020; 2022).

In the case of teachers, the results of the survey are mixed. Some 46.77% of teachers report advising students on their choice of academic itinerary based on their marks, while 44.62% report they do not believe that marks should be the sole basis for the choice of itinerary (Fig. 9).

Figure 10 below presents a visual synthesis of the categories associated with the academic dimension.

¹ This is a curricular itinerary in the final year of Compulsory Secondary Education oriented to accessing Intermediate Vocational Education.

² The PMAR Program originated with the Organic Law for the Improvement of Education Quality (LOMCE 2013). This is a program of curricular diversification oriented towards students with significant learning difficulties not attributed to the lack of study or effort. These programs are implemented in the second and third year of Compulsory Secondary Education. Currently, in the Organic Law modifying Organic Law 2/2006, of May 3, on Education (LOMLOE 2020) these programs came to be called Curricular Diversification Programs aimed at students in third and fourth year of Compulsory Secondary Education experiencing significant learning difficulties and who received support in the first and second year or for whom this program will be beneficial in graduating from Compulsory Secondary Education.

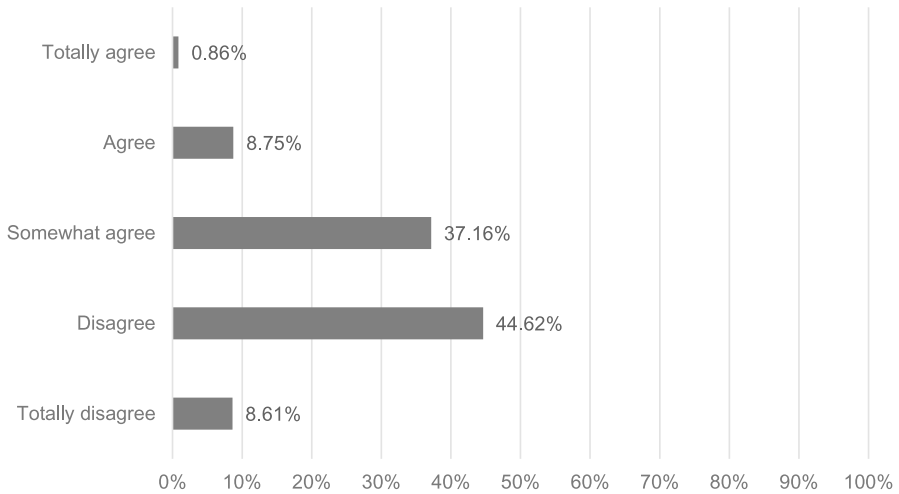


Fig. 9 Level of agreement of teachers with the statement “I advise students on their academic itinerary according to their marks”

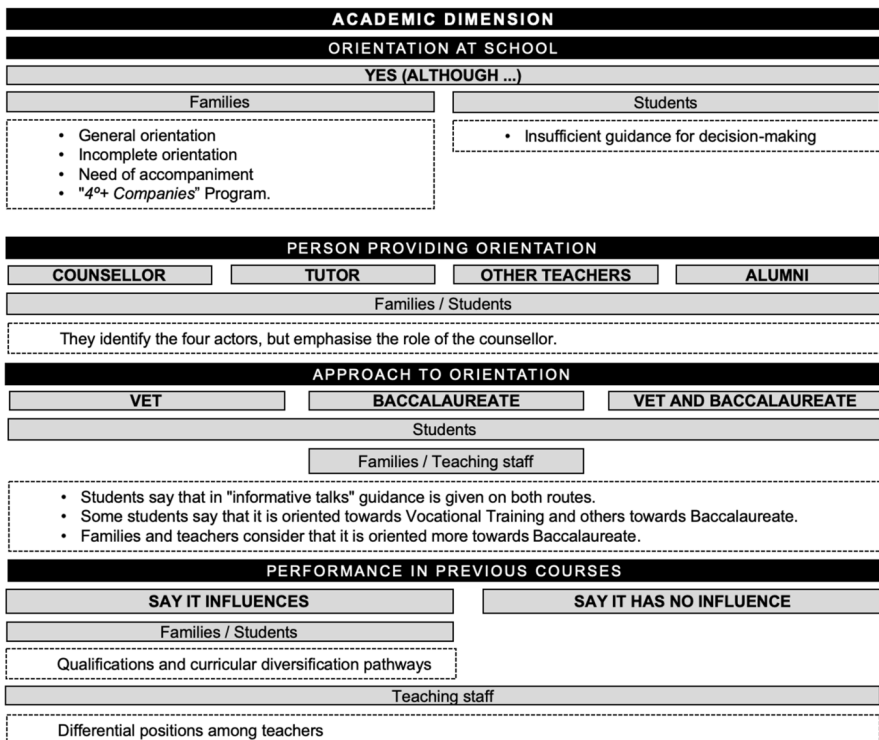


Fig. 10 Synthesis of categories associated with the academic dimension

4.3 Family dimension

The family dimension includes results associated with the categories: *family expectations*, *socioeconomic profile of families* and *family orientation*.

The family dimension is considered one of the most important factors influencing the decisions of students. As mentioned above, family represents a microcosm in which relationships and the process of decision-making can be considered (Fernández-García et al. 2016; Ezeani et al. 2023).

Given this context, 92.67% of teachers recognise that families have a great deal of influence on the choices of students on their academic itinerary (Fig. 11).

The category *family expectations* include references associated with academic, personal or professional issues. In this case, no significant results were extracted from the data from the teacher questionnaires.

Family discourse largely refers to the desire for the happiness and wellbeing of their children with particular emphasis on both personal and professional aspects. Some notable affirmations from the Family Discussion Group 6 (FDG6) are presented below:

Get a job → that gives them a good standard of living.

Find something they like (...)→and be happy.

Have a good job → and live comfortably.

Not to be forced (...) to work in something → just to survive.

Do what they enjoy → but keeping in mind they need to earn a living.

Families show a great deal of interest in supporting their children in deciding their academic future, wanting them to achieve the greatest possible happiness and professional success, a desire fully in line with the findings of Hodge et al. (2022).

Families also often admit to having very high expectations for their children, wishing them to achieve what they themselves were unable to do with the accompanying sense of frustration when this is not the case:

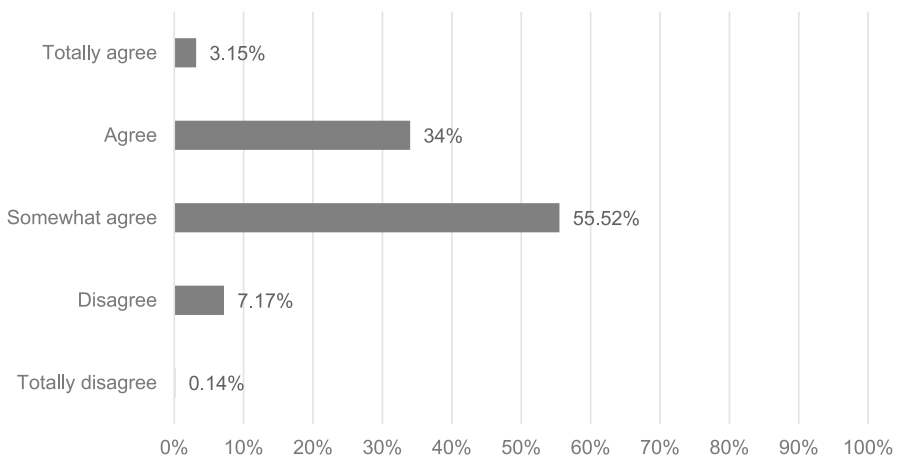


Fig. 11 Level of agreement of teachers with the statement “In your experience, do you think families influence their children in the choice of their academic itinerary?”

You always want your children to go further than you perhaps did and sometimes expectations are very high (...). Parents often try for their child to achieve what we were unable to achieve... It's difficult, because sometimes [you have] to know when to say: well, it's up to them to decide. (FDG6)

The results show that, in this area, families seek social mobility through education, desiring their children to have more education than they do (García-Gómez et al. 2018). Several students remark on this situation and criticise these high expectations:

[Our families] think it's best to choose the most difficult thing, to get a good job (...), [even] if it's something you don't particularly like. I, also [think] that it's the frustration that your kid does what you couldn't do. But it's a bit more complicated. (SDG5)

Additionally, synergies have been identified between academic and professional expectations of families in discourses referring to orienting their children towards university, believing that university will offer them more and better professional opportunities in the future:

You want, let's say, to open as many possibilities as you can for them, you aim higher, thinking that from there they can have more choices. (FDG6)

Similarly, other families suggest that their children take the Baccalaureate and later go into VET if they wish. The idea being *not to close any doors*. Nevertheless, there are those who value VET due to its academic-professional character:

We, for example, at home we have talked, and we preferred they do Vocational Education and Training because, well, later you can access university if you want. And it's a way to begin in Vocational Education and Training. Later this type of education offers more practical learning than university and students from Vocational Educational and Training cycles stand out more than those from the Baccalaureate. (FDG2)

Regarding the category *socioeconomic profile of families*, no significant discourse fragments from students were identified. In the case of families, they recognise the influence of this aspect and express their willingness to make sacrifices given the value they assign to education:

We don't have a lot of money, but we always thought that our inheritance is our education. You know, if he wants to start a degree, and then another and then another. If later he wants to do an intermediate cycle or whatever, whatever training he wants, we'll try to make that possible. (FDG3)

For teachers, 42.75% consider VET to be a good educational opportunity for students who are socioeconomically disadvantaged. Nevertheless, as shown in Fig. 12, this is not an important aspect when providing orientation to students on the part of tutors and guidance councillors ($F=6,301$; $p=0.001$; $g1=8$) as 92.25% claim to be against providing advice to students based on this issue.

Furthermore, the contrasts carried out show that there are significant differences in relation to the socio-economic level of the students in the educational centre ($F=4.462$; $g1=2$; $p=0.012$). In this case, it is the schools with a medium and high socio-economic level that indicate that they consider VET to be a good educational modality for socioeconomically disadvantaged students to a greater extent.

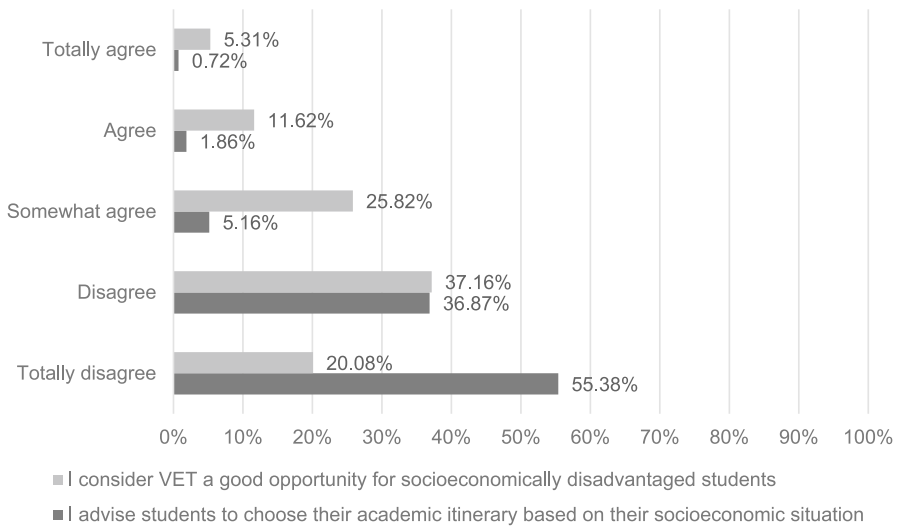


Fig. 12 Level of agreement of teachers with the statement in orienting students according to their socioeconomic circumstances

For the category *family orientation*, no significant data was extracted from the results of the teacher questionnaire. Families, however, affirm they do provide orientation to their children. In doing so, some families report having to do their own research to find information to help orient their children:

For me it's been months of important research and helping him to get some orientation and not make the wrong choice, because I know him, and I know that for him (...) it would be really difficult for him to admit he made mistake. (FDG5)

Thus, family is a key aspect in the choice of academic itinerary which, according to several authors (Cortés and Conchado 2012; Dietrich et al. 2011; Keller and Whiston 2008; Turner and Lapan 2002) is similarly the case in the most of cultures.

Students mention that they have considered the question with their families and that the advice of their families facilitate their choices. They also note that families support their decisions. Only two students report that they decided to follow their family's advice even when this is against their inclinations:

For me, of course, they have a lot of influence. They force me to study something I don't like but they say it offers lots of opportunities. (SDG2)

I am going to study the social sciences Baccalaureate. Mostly because of my parents, not for me. I don't know, lately parents are really convinced it's better to study the Baccalaureate than do Vocational Education and Training (...) I'll do the Baccalaureate to keep my parent happy and then maybe do Vocational Education and Training. (SDG5)

Figure 13 below offers a graphic representation of a synthesis of the categories associated with the family dimension.

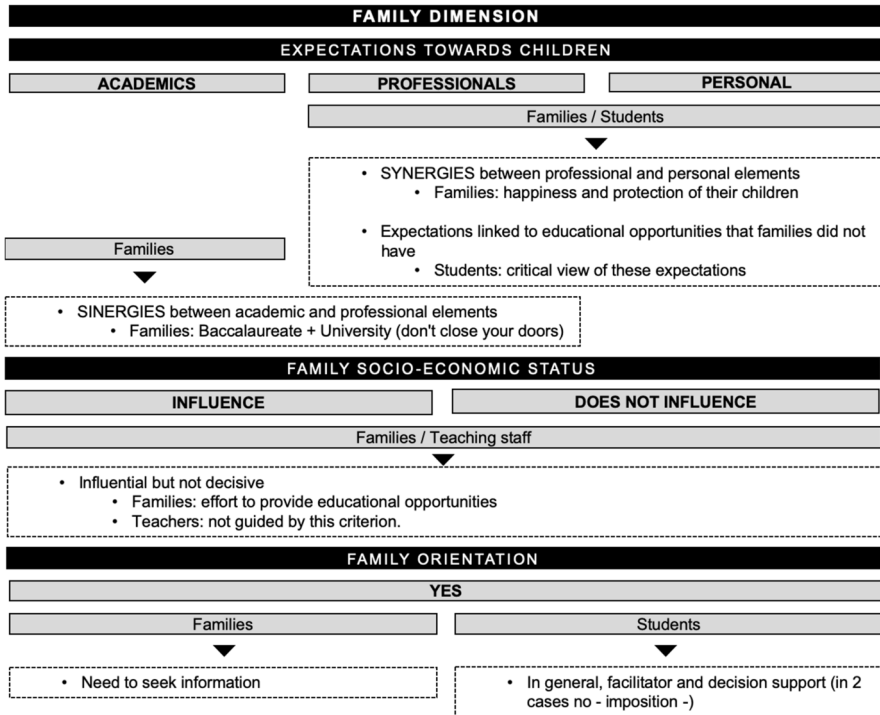


Fig. 13 Synthesis of categories associated with the family dimension

Analysing the discourses of families and students, as well as the results of the teacher surveys, we can conclude that the personal, academic and family dimensions all play a part in the choice of academic itineraries with socioeconomic factors also having an important influence.

5 Discussion and conclusions

The present study has used a multidimensional 360-degree approach to analyse both qualitative and quantitative data in four dimensions: personal, academic, family, and socioeconomic. The research explores these four dimensions in terms of their influence on the choice of academic itinerary by students in the final year of Compulsory Secondary Education within the Spanish education system.

Notably, in the personal dimension, families, students, and teachers all regard the Baccaureate as a more difficult, academic, and theoretical itinerary while VET is considered easier, more practical and employment oriented. From a socioeconomic perspective, the results suggest that the perceived focus of VET is associated with employment and skills development rather than academic or learning (Gairín 2009). Families, as well as teachers, especially those acting the role of tutors, view the Baccaureate as offering fewer employment opportunities than VET; the latter perceived as more employment oriented. However, students believe the contrary, considering the Baccaureate as an itinerary offering more

employment opportunities and greater possibilities of professional success. These findings make it necessary, in line with Tranter (2012), to reconsider our “remedial” view of VET compared to the more “development oriented” Baccalaureate (García and Lorente 2015).

Regarding the academic dimension, the findings confirm the view of both families and students that better and more complete orientation, and information is necessary and that the information and support currently being offered is limited, incomplete, generic and, according to Elías and Daza (2019), biased towards promoting academic itineraries (Baccalaureate) rather than employment-oriented, skills-related itineraries (VET). This view is predominantly held by families and half of interviewed teachers rather than other teachers and students. In this regard, Hodge et al. (2022) suggest that employment-oriented itineraries are one, but not the leading, option, particularly in cases of greater uncertainty or where information is limited. Additionally, orientation in schools, largely provided by guidance councillors and tutors, is conditioned by the academic performance of students whereby better performing students are steered towards the Baccalaureate and those with difficulties are motivated to study VET. These observations are borne out by the affirmation of students, families, and the most of teachers, and are in line with the findings of previous research such as that by Castejón et al. (2020 and 2022). Families emphasise, in line with the findings of Greiten et al. (2019), the importance of an inclusive and integrated orientation service which offers and encourages work placements for students in Compulsory Secondary Education as an initial experience of the working world. Currently, the Community of Madrid has implemented the program “*Fourth + Companies*”, currently offered as a voluntary, complementary activity in a growing number of schools, aiming to build bridges between the educational system and the world of work, offering short work placements in companies and institutions to provide students with an experience which will help them make decisions about their academic and professional future, while motivating them and cultivating the necessary skills.

The study also shows that family is a key aspect in the choice of academic itinerary, an aspect fully supported by the results of teacher interviews (Luque 2015; Schultheiss et al. 2001), consisting of a microsystem in which family relationships and educational choices can be interpreted in whole (Fernández-García et al. 2016; Ezeani et al. 2023). However, in certain instances, this influence is perceived by students as an imposition, pushing them to pursue higher levels of education than their parents, occasionally resulting in a disconnection between family expectations and reality. A result of this is an emphasis on choosing the Baccalaureate, widely considered the itinerary “offering more possibilities for advancement”, although some families are convinced that VET is the optimum choice for success in the job market. The socioeconomic situation of families is also an influential factor for some (families and teachers) and less so for others (students) in the choice of academic itinerary, as noted by Merino and Llosada (2007) and Okubo, et al. (2007). Specifically, the lower the social or economic status of families, the greater the orientation towards VET.

With further reference to the socioeconomic dimension, analysed using national and international institutional sources, we found that this is a transversal factor, found across the other three dimensions. Firstly, the study found that the enhanced prestige of VET, both nationally and internationally, is not clearly perceived by families, teachers, or students, revealed by comments that consider VET as a “Plan B” for students, an alternative for those less interested in study and with poorer academic performance. Thus, VET is poorly regarded as an option for further education or as a bridge to university studies. Secondly, although there is a perception on the part of students that VET is a second category, given that learning is more applied, specific, and practical, oriented towards immediate employment. It is precisely these aspects that the Government of Spain and

EU Member States highlight as being most characteristic and noteworthy. Thirdly, we find that VET is identified as an employment alternative, parallel to formal education, rather than as another avenue within the education system leading to university study. All these factors highlight the need for further study into these themes, and to consider VET as one of the subsystems of a broader and extensive “life-long learning” system that can offer individuals the skills and competences necessary to succeed professionally (Planas 2012) and combining, as noted by Greinert (2004), tradition (professional principle), rationalism (academic principle) and liberalism (market principle). This can be associated to a greater commitment to the knowledge society and a contribution to a balanced and sustainable economic development model requiring the collaboration of all the agents involved (Echeverría-Samanes and Martínez-Clares 2021).

Among the limitations of the present study is the possible representativeness of the sample. As indicated when describing the methodology of the study, the study was carried out in 4 of 17 autonomous communities in Spain, where the participation, especially in the questionnaire, was not equitable, hindering more complex statistical analysis of the results. Furthermore, it is important to note limitations in accessing certain important agents, particularly families. Although the participating schools offered the opportunity to contact families of students, voluntary participation was limited, conditioning the sample. Additionally, on some occasions schools selected students by convenience, inserting a degree of bias into the information, especially regarding the choice of post-compulsory educational itineraries. Nevertheless, despite the limitations imposed by the difficulties in accessing a broader sample, it is important to note that the study gave a voice to different agents involved in the decision-making of students, reinforcing the data obtained and offering a vision from different vantage points of the reality of the issue.

Finally, a further limitation of the study may be the issue of social desirability manifested in some responses to the questionnaire by 4th year teachers and guidance councillors in Compulsory Secondary Education, as similarly revealed in previous studies (Martín et al. 2020; Yurrebaso and Martínez-Rueda 2019). On several occasions, it can be perceived that teachers offer responses that are considered socially acceptable which, in some cases, may differ from the realities in schools.

It is recommended that future research incorporate representative samples at a national level, involving schools in the other 13 Autonomous Communities that have been left out of this work, to obtain a broader view and deeper understanding of the influence of personal, academic (teachers and institutions), family dimensions on the decision-making of 4th year students of Compulsory Secondary Education in their future studies. Furthermore, it would be instructive to study the reasons for the limited interest of families in participating in these types of studies despite their notable interest in the decisions of their children.

Further research should also be conducted into the perspectives of tutors/guidance councillors by means of in-depth interviews (including aspects such as the type of guidance provided, the influence of the competences observed in students and if they consider one-off guidance or guidance throughout the academic year to be better, among others). This will permit the design of more complete and comprehensive orientation programs which better address the needs of students, provide information about their prospects and the realities of job market beyond the immediate context. Thus, considering the importance of these decisions for the professional and personal future of young people, it is proposed to continue researching their perceptions of their personal and academic abilities, their expectations for the future, and the connection of these to the varied influences on which they are exposed.

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Declarations

Conflict of interest The authors have not disclosed any conflict of interest.

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