

## Choosing studies in higher education: First results of an Italian pilot study

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*Abstract:* In recent years, the guidance activities for high school students have tried to answer the demand for information concerning study programs available in higher education, leading to the application to a university program. To give the necessary support for orientation in a more comprehensive, differentiated and targeted way to a wide range of students, it is of primary importance to know in depth the decision-making process of study choice, with the ultimate aim of improving the effectiveness of guidance activities. This paper presents the main results of the Pilot Project on Study Choice, carried out in 2009 on a non-probabilistic sample of final year high school students in the province of Como. The project is based on the Study Choice Task Inventory, whose Italian version has been tested on this occasion. Its application has shed light on some important aspects of study choice in higher education.

*Keywords:* higher education, decision-making process, Study Choice Task Inventory, Pilot Project on Study Choice, students

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### Introduction

In recent years, the activities of educational guidance for students in high schools have tried to answer the growing demand for information concerning the supply of university programs and the subsequent start of a

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university program. To make these activities more effective and a more adequate guidance to meet the needs of an increasingly broad and diverse population of students, it is important to deepen the knowledge about the process through which students attending the last year of high school decide what to do after graduation. Particularly, it is important to investigate such a process when it leads students to choose a university program.

The aim of this paper is to describe the main features, as well as some results, of the Pilot Project on Study Choice (PPSC), an exploratory study carried out in the province of Como in 2009. PPSC has been conducted to better understand the dynamics underlying the decision-making process of high school students to interrupt their training or to continue it at university level. Despite the limitations inherent in its exploratory nature, this study presents a feature of particular interest: it is the first time that such an accurate measurement tool has been applied in the Italian context. The instrument we adapted to the Italian context, the Study Choice Task Inventory, was recently developed by a team of Belgian psychologists in order to analyze, with a valid and reliable approach, the process of study choice of students in their last years of high school (Germeijs & Verschueren, 2006). As we shall see in the description that follows, this instrument has some very interesting features and, if properly applied, can be an effective device to better understand the processes of study choice and, consequently, to trace adequate orientation activities for a proper educational guidance.

The discussion is structured as follows: In the next section we will discuss the key features of the Study Choice Task Inventory, focusing on its conceptual design. In the third section, we will provide a brief description of the Pilot Project on Study Choice and explain the procedure followed to adapt the Study Choice Task Inventory to the Italian context, as well as to evaluate its reliability. The fourth section will be dedicated to the presentation of some of the results emerged from data analysis. Finally, in the last section we will conclude with some comments on the potential, as well as some limitations, of the Study Choice Task Inventory in its application to the Italian context.

### **A tool for analyzing the decision-making process of study choice: the Study Choice Task Inventory**

As we mentioned in the previous section, the Pilot Project on Study Choice is the first attempt to apply to the Italian context the Study Choice Task Inventory, a tool for analyzing the decision-making process of study choice developed and tested by Belgian psychologists Germeijs and Verschueren (2006).

The work of the Belgian researchers is based on a fundamental preliminary remark: the decision-making processes that lead teenagers to join a degree program in higher education are complex and, sometimes, turn up to be so difficult that they are likely to induce young people to make inappropriate choices or, at least, sub-optimal choices (e.g., the risk of dropout university programs before obtaining the title may increase); besides, they may lead students to miss deadlines; also, they may generate a sense of dissatisfaction and disaffection with respect to study curricula.

It follows that a good knowledge of the cognitive and affective processes underlying the choice of university programs is essential to improve the orientation activities for students attending secondary schools and, therefore, to increase their opportunities to undertake the most suitable course of study. These are some of the reasons why Germeijs and Verschueren considered important to carry out a careful study of the specific problems that students can encounter during the decision-making process of study choice, as well as to develop an effective and useful tool of analysis. First of all, this kind of analysis can be useful to identify the course of study most appropriate to student's vocations. Second, it may help students to choose in the most appropriate way what is the best professional training in a long-term perspective. Last, these kinds of instruments are useful to provide adequate support for students when they have to deal with this important and delicate stage of life.

The aim of the research work of Germeijs and Verschueren was to develop an instrument to provide an accurate and reliable description of the decision-making process of study choice tackled by young people in their last years of high school. This tool, called the Study Choice Task Inventory

(SCTI), is inspired by studies of the decision-making process<sup>2</sup> concerning job careers. As pointed out by Germeijs and Verschueren, these studies have stressed the importance of developing instruments that have three characteristics: a) “process oriented”, which means to bring out the attention to the entire procedure of choice rather than the decision itself; b) “theory driven”, namely adopting a well defined conceptual framework<sup>3</sup>; c) “analytically sharp”, that is able to break down the process of choice in a certain number of basic elements.

Specifically, following these guidelines, the SCTI is based on a conceptual pattern according to which the process of choosing a particular career path (job or school) involves performing a series of tasks that fall into three main dimensions (Tinsley, 1992):

- 1) Orientation to choice
- 2) Exploration
- 3) Commitment

The conceptual model developed by Germeijs and Verschueren starts from these three main dimensions and consists of several sub-dimensions, useful to specify and define the most important steps that underlie the decision-making process. Each sub-dimension, called task from now on, is then operationalized and analyzed. As the two authors point out, in their article they focus on the decision process itself and pay less attention to its implementation: «Important indicators for the quality of implementation are choice satisfaction, adjustment and performance in the chosen option, and choice stability» (Germeijs & Verschueren, 2006, p. 450).

Two major components that drive the preliminary stage of the decision process are the acquisition of awareness of the need to make a choice, and the development of the motivation necessary to undertake a process of

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<sup>2</sup> The tradition of studies concerning the decision-making has its roots mainly in the economic theoretical framework, sometimes transforming study choices in items to be analyzed through theories based on the concept of synoptic rationality (Vaira, 2009). For a review of the main theories of decision-making, going through their evolution and their shift away from theories of instrumental rationality, see – among others – Vaira (2009).

<sup>3</sup> For further and detailed information on the theoretical references of SCTI, see Germeijs and Verschueren (2006, pp. 449-454).

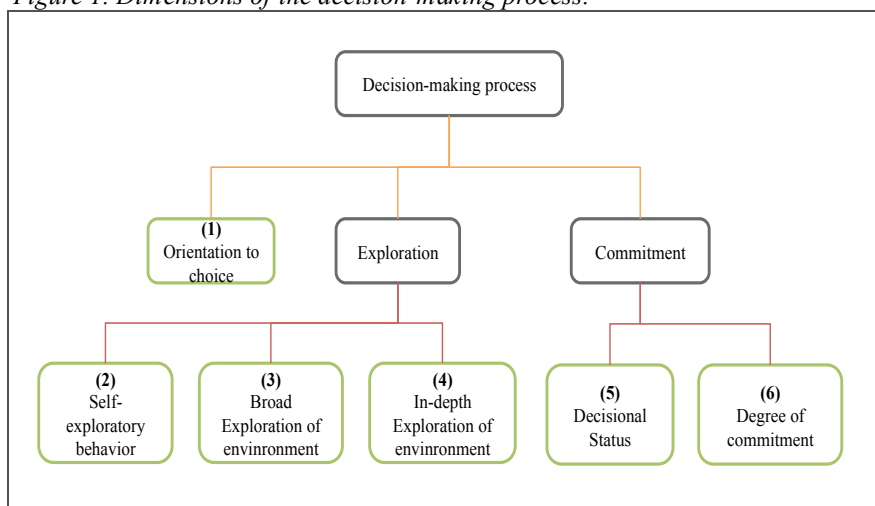
choice. These two components characterize the first task, that of orientation to choice.

The exploratory behavior is equally important and is generally understood as a set of internal and external search activities aimed at gathering information for the chosen program of study. This is the second dimension that has been translated into three tasks: self-exploratory behavior; broad exploratory behavior of the environment; in-depth exploratory behavior of the environment. The main distinction is between self-exploratory behavior, defined as an activity by which students reflect on their own individual characteristics, skills and vocations, and exploratory behavior of the external environment. The latter includes broad exploratory behavior, interpreted as the exploration of the general set of alternatives, and in-depth exploratory behavior, relating to a narrower set of alternatives.

Finally, the engagement to the final choice is composed of two elements that are the last two tasks under analysis: decisional status and degree of commitment. The first is the extent to which the student feels confident in his/her final choice, the second denotes the extent to which he/she is determined to support that particular goal.

Figure 1 summarizes in one diagram the conceptual model of the decision-making process described above.

Figure 1. Dimensions of the decision-making process.



As shown in Figure 1, these decisional tasks are not considered as being necessarily consecutive stages in a sequential decision-making process. The two authors, in accordance with Gati and Asher (2001), consider career decision-making as a dynamic and flexible process.

Starting from this conceptual framework, Germeijs and Verschueren (2006) have created the SCTI, a structured questionnaire designed to analyze the six tasks described above – orientation to choice, self-exploratory behavior, broad exploratory behavior, in-depth exploratory behavior, decisional status, degree of commitment – and to summarize them in six scales. In their study, Germeijs and Verschueren have followed a procedure of validation for each of these scales and carried out appropriate reliability tests, achieving fully satisfactory results.

SCTI is a very promising tool for the empirical analysis of the study choice; although it was built and tested in a specific socio-cultural context, that of Flanders (Belgium), it has some characteristics that are general enough to be applicable in other countries. As we mentioned in the introductory section, its applicability to the Italian context has been explored for the first time during the pilot project on study choice (PPSC). In the next section, we will briefly describe the main characteristics of this study, as well as the procedure we followed to adapt it to the Italian national context and to check its reliability.

### **The application of the Study Choice Task Inventory to the Italian context: The Pilot Project on Study Choice**

The Pilot Project on Study Choice (PPSC) is a project sponsored by Univercomo<sup>4</sup> and carried out to better understand the decision-making process of study choice in higher education by students in high schools in the province of Como. PPSC was carried out between late April and early May 2009 on a non-probabilistic sample of students attending the final year

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<sup>4</sup> Univercomo is an association founded in 1987, formerly known as AS.SC.UN. Univercomo has the fundamental goal of promoting and supporting divisions of universities dislocated in the province of Como. They carried out their project since the decentralization of some programs of the Faculty of Engineering of Politecnico di Milano and of the Faculty of Science of University of Milan took place. The activity of Univercomo culminated with the birth of University of Insubria and the increasing participation of the Politecnico di Milano in the project “University-Network”.

of high school (in 2008/2009)<sup>5</sup>. The final sample includes 109 students belonging to five schools selected among the twelve making up the network of high schools of the province of Como; the selected schools are the following: scientific lyceum (liceo scientifico) "G. Fermi", Cantù; public institute for technical education (Itis) "Magistri Cumacini", Como; classical lyceum (liceo classico) "A. Volta", Como; institute of commerce (ITC) "J. Monnet", Mariano Comense; institute for tourism and social services (Ipssects) "G. Pessina", Como.

As mentioned in the previous section, the PPSC was based on the SCTI, and suitably adapted to the context under study. In the Italian version we decided to maintain the same basic conceptualization, preserving the division in six decisional tasks illustrated by Germeijs and Verschueren. Since all the questions in the questionnaire were designed to detect different aspects of the phenomenon, in the Italian version of the questionnaire we kept the original organization. Each set of questions has been translated from English into Italian not just with a simple literal translation, but as a proper adaptation to the Italian context and to the Italian educational system, as well as to the existing supply of guidance activities carried out in the Lombardy region<sup>6</sup>. The list that follows shows the questions - numbered as in the questionnaire used in the PPSC - grouped by task:

(1) Orientation to choice

Question No. 2 in the questionnaire regarding the first task, orientation to choice, is aimed to determine the extent to which students are disposed towards the choice of a study in higher education. Compared to the original version, in the Italian version another question (No. 1) was included in the first part of the questionnaire: "Cosa farai dopo il diploma?" ("What will you do after graduation?"); the purpose of this question is to determine students' confidence in pursuing their study career after high school, and also to consider those students who are not willing to continue their studies in higher education. A qualitative question was also added (No. 1a): "Perché pensi di non continuare a studiare?" ("Why don't you want to

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<sup>5</sup> The original SCTI was a longitudinal study articulated into three waves. PPSC, on the other hand, is a cross-sectional study because its main purpose was to test the tool in the Italian context.

<sup>6</sup> It is clear that when the context of application changes some more operations of adaptation to specific local context are needed.

continue to study?"); this question was added to give the interviewees the opportunity of a qualitative response to express why they have the intention of stopping their studies.

(2) Self-exploratory behavior

The questions relating to self-examination of the individual characteristics, talents and vocations of students are divided into different sets. Question set No. 3 is designed to determine the extent to which students reflect on their skills; No. 4 is designed to determine the extent to which students reflect on their interests and with whom they do so; No. 5 is designed to determine the extent to which students reflect on their values and with whom they do so; and No. 6 is designed to determine the extent to which students reflect on their own way of studying and with whom they do so.

(3) Broad exploratory behavior

The sets of questions dedicated to the third task, broad exploratory behavior of all alternatives students have to choose from in higher education, are: No. 7, which includes questions related to research of information about faculties or university programs on the internet and students' guides; No. 8, designed to determine how many programs or faculties students have searched for; No. 9, whose purpose is to determine what programs or faculties students have searched for.

(4) In-depth exploratory behavior

Question set No. 10 is aimed at determining what and how students ask for information about programs and faculties listed in the previous sets of questions.

(5) Decisional Status

The questions relating to this task are No. 11, aimed at determining what programs or faculties are taken into account by students as their final top list of choices; and No. 12, a question designed to determine which programs are reported by students as their first choice on top of all the others.



(6) Degree of commitment

This task was measured by question set No. 13. The purpose of this set of questions is to measure the degree of commitment and devotion to the final choice (reported as the response to the previous question).

In the Italian version of the questionnaire, further changes have been made to adapt SCTI to the Italian context by adding questions No. 14, No. 15a, and No. 15b. These context-specific questions can give a more detailed picture of guidance activities in which students were involved. They can also be helpful to identify which of these activities are considered useful or useless by students and why, so to give the interviewees the chance to express a qualitative assessment of those activities. Finally, we made one more change by adding one last question (No. 16): “Cosa vorresti fare da grande?”, (“What would you like to be when you grow up?”). This question allows greater attention to job aspirations of students and gives the opportunity to compare the self-reported aspirations with the chosen faculty or program.

In the original version of SCTI, validity and reliability tests were carried out to assess the goodness of the instrument. In the Italian version of the SCTI was not possible to perform validity tests for the absence of satisfactory external criteria; on the other hand, we could assess reliability using the same tests Germeijs and Verschueren used. Particularly, in PPSC (like in SCTI) five of the six tasks described above were measured through numerical indices – called scales – built by combining in an appropriate manner answers to questions relating to each task<sup>7</sup>. For four of these five scales we computed Cronbach's alpha, a reliability measure for the assessment of homogeneity, or internal consistency, of all the items that compose a scale. Internal consistency, or homogeneity, of the items (questions) of a scale refers to the correlation between the responses within the same scale (Carmines & Zeller, 1979). In other words, the Cronbach's alpha is a coefficient of reliability designed to test the ability of the scales to measure accurately the corresponding tasks. It should be noted that the scale relating to the third task has been excluded from reliability tests because it was “unreliable by design”, due to an error in the PPSC in the phase of data collection.

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<sup>7</sup> The fifth task, *decisional status*, has been omitted from this procedure because it has been measured in qualitative terms only, in the form of names of faculties or university programs.

In Table 1 we report the computed values of Cronbach's alpha for PPSC compared to those calculated in the original study. As we can clearly see, the two sets of coefficients not only demonstrate the reliability of the single scales<sup>8</sup>, but also appear very similar. This result suggests that the Italian version of SCTI used in PPSC is an appropriate tool for the analysis of decision-making processes of Italian students attending the last year of high school.

*Table 1. Values of the Cronbach's alpha for each task for which reliability tests have been carried out*

Scales	N. Items	Cronbach's alpha	
		G.&V.	PPSC
(1) <i>Orientation to choice</i>	12	0,90	0,87
(2) <i>Self-exploratory behavior</i>	20	0,87	0,84
(4) <i>In-depth exploratory behavior</i>	10	0,71	0,70
(6) <i>Degree of commitment</i>	8	0,83	0,86

## Key results

In this section we present some of the key results achieved through the data analysis of the PPSC. These results are not exhaustive and do not answer all the open questions regarding the decision-making process of study choice in higher education. However, the results of our analyses can be considered as a starting point for further investigation of this kind of study, which is rich of facets and different dimensions that need to be taken into account. Since the results shown in the following pages are based on an exploratory pilot study, and because of the limited number of observations ( $n = 109$ ), estimates of the quantities of interests are to be considered only indicative. Therefore, it is important to stress that the

<sup>8</sup> Cronbach's alpha is a measure ranging from 0 to 1, where values close to 0 indicate a low reliability, while values close to 1 indicate high reliability. Conventionally, it is assumed that values equal to or greater than 0.8 indicate satisfactory levels of reliability; values between 0.7 and 0.8 indicate a less satisfactory – but still acceptable – level of reliability; and, finally, values below 0.7 generally correspond to unacceptable levels of reliability (Carmines & Zeller, 1979).

following results have to be interpreted with caution. The research questions to which we sought to answer are:

- (1) Do students intend to continue their studies in higher education?
- (2) To what extent are students oriented to the choice of study in higher education?
- (3) To what extent do students reflect on their personal characteristics?
- (4) How many programs or faculties do students search information on?
- (5) Which programs or faculties have students sought information on?
- (6) How much and how do students search for information on faculties or programs?
- (7) What programs or faculties are regarded as the final list for students' choice?
- (8) What programs or faculties are listed as the first choice?
- (9) How confident are students about their final choice?
- (10) Were guidance activities organized by the school and the universities appreciated?

Each one of these questions refers to the tasks of the decision-making process described in the second section of this article. Specifically, questions 1 and 2 relate to the first task, orientation to choice; the third question concerns the second task, self-exploratory behavior; questions 4 and 5 concern the third task, broad exploratory behavior of the environment; question 6 relates to the fourth task, in-depth exploratory behavior of the environment; questions 7 and 8 concern the fifth task, decisional status; finally, question 9 is related to the degree of commitment towards the final choice.

The data represented in Table 2 show that the absolute majority of respondents (53%) are willing to continue their studies in higher education; on the other hand, one student out of three doesn't have clear ideas about his/her future, declaring himself/herself: unsure (11%), more inclined to study than to work (17%), more oriented to work than to study (7%), or willing to take a year off (2%). Lastly, one student out of ten (10%) is sure to stop his/her studies and will seek to enter the labor market immediately after graduation; for this reason, those students will not be considered in the analyses that follow relating to the choice of a course of study in higher education.

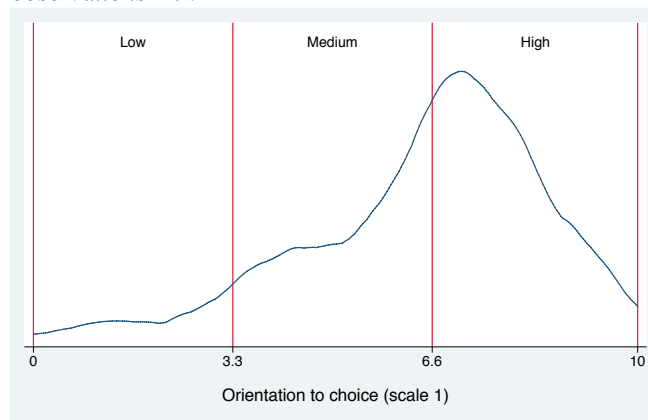
(1) Do students intend to continue their studies in higher education?

Table 2. Distribution of answers to the question: "What will you do after graduation?" (percentages)

What will you do after graduation?	Students
Definitely stop studying	10%
Probably stop studying	7%
Undecided	11%
Probably keep studying	16%
Definitely keep studying	53%
Take a gap year	2%
Number of observations	109

(2) To what extent are students oriented to the choice of study in higher education?

Figure 2. Distribution of respondents on task 1: Orientation to choice (scale 1). Number of observations = 97

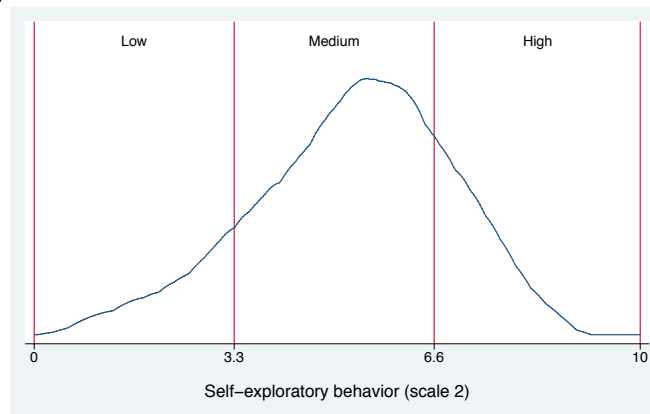


The data represented in Figure 2 tell us that the majority of students have a high degree of orientation to choice (values between 6.6 and 10 on the scale), meaning that they have a strong inclination to choose a course of study in higher education. The portion of students who have a medium

degree of orientation to choice (values between 3.3 and 6.6 on the scale) is smaller, while those who have a low level of orientation to choice (between 0 and 3.3 on the scale) are a minority.

(3) To what extent do students reflect on their personal characteristics?

Figure 3. Distribution of respondents on task 2: Self-exploratory behavior (scale 2). Number of observations = 98



The data represented in Figure 3 show that the overall propensity of respondents to reflect on their characteristics is distributed fairly symmetrically, with the majority of cases concentrated on average levels, and the remaining observations evenly distributed – more or less – on the lower levels and higher levels of the scale. The analysis of the different sets of items underlying this scale (see Section 3; data not shown here) indicates that the reflection of students on their own characteristics is mainly with themselves. Conversely, dialogue with teachers is less frequent than dialogue with all other categories of persons listed, including friends and parents. With an intermediate role, in descending order, we have dialogue with friends, parents and with other people.

(4) How many programs or faculties do students search information on?

Table 3. Distribution of answers to the question: "How many different faculties and programs have you searched for specific information during this school year 2008/2009?" (percentages)

How many different faculties and programs have you searched for specific information during this school year 2008/2009?	Students
None	12%
One	20%
2 to 5	63%
6 to 10	4%
<i>Number of observations</i>	<i>98</i>

The data represented in Table 3 show that the absolute majority of students (63%) searched information on a number of faculties or programs between 2 and 5; conversely, only a small group of students (4%) have extended their search to a wider spectrum of faculties or programs. One out of five students (20%), however, has limited his/her search to collecting information on a single option. Finally, it is interesting to note that more than one student out of ten (12%) had not yet started his/her research of information at the time of the interview.

The data represented in Table 4 show that students focused their search of information mostly on faculties or programs belonging mainly to five different fields: political-social studies (36%), engineering (30%), medical studies (27%), economics and statistics (23%), and classical studies (21%). On the other hand, under the 5% threshold, we find the following fields: science, education, defense and safety, physical education and agriculture. The data summarized in Figures 5 and 6 provide detailed information on broad exploration of the external environment.

## (5) Which programs or faculties have students sought information on?

*Table 4. Relative frequencies with which students have searched information on faculties or programs belonging to the different fields*

Which faculties and programs have you searched for specific information during this school year 2008/2009?	Students
Political and Social Science	36%
Engineering	30%
Medical Studies	27%
Economics and Statistics	23%
Classical Studies	21%
Language Studies	14%
Psychology	13%
Architecture	11%
Geology and Biology	10%
Law	8%
Pharmaceutics and Chemistry	7%
Natural Sciences	5%
Educational Studies	4%
Defence and Security	1%
Physical Education	1%
Agricultural Sciences	1%
<i>Number of observations</i>	<i>84</i>

As shown in Figure 4, the data tell us that the tendency of respondents to seek in-depth information on faculties or programs is distributed fairly symmetrically, with most cases concentrated on the average levels and the remaining observations more or less evenly distributed on the lower and higher levels of the scale. Table 5, in turn, shows the relative frequencies (percentages) with which students have used the different sources of information.

(6) How much and how do students search for information on faculties or programs?

Figure 4. Distribution of respondents on task 4: In-depth exploratory behavior (scale 4). Number of observations = 84

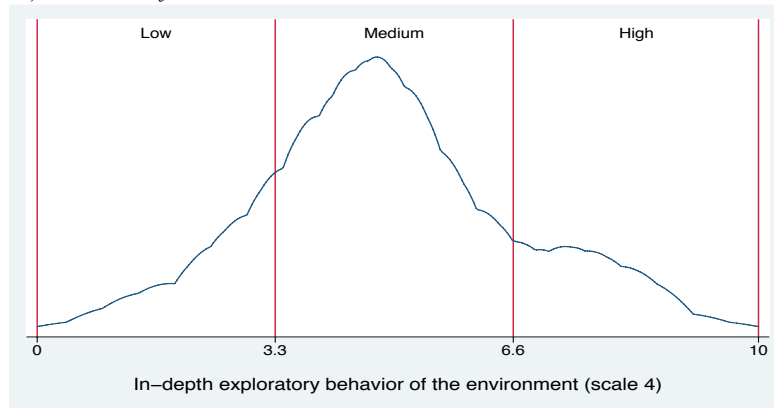


Table 5. Relative frequencies with which students have used the different sources of information

Which sources of information on faculties and programs have you used during this school year 2008/2009?	Students
Information review	96%
Thoroughly reading brochures	95%
Informations from friends	85%
Going to Open Days	81%
Informations from college students	77%
Consulting student's guides	74%
Informations from workers with degree	68%
Informations from parents	67%
Informations from teachers	52%
Buying brochures	44%
<i>Number of observations</i>	84



The main sources of information appear to be, in descending order: information review (96%), the careful reading of brochures (95%), friends (85%), the open days organized by the universities (81%), college students (77%), and students' guides (74%). On the other hand, parents (67%) and teachers (52%) represent a secondary source of information.

(7) What programs or faculties are regarded as the final list for students' choice?

*Table 6. Relative frequencies with which the faculties or programs belonging to different fields have been considered as a possible choice to make the final list*

Which faculties and programs have you considered as a possible choice to make your final list?	Students
Political and Social Science	29%
Engineering	25%
Medical Studies	19%
Classical Studies	18%
Economics and Statistics	13%
Architecture	12%
Language Studies	8%
Geology and Biology	8%
Psychology	7%
Law	7%
Pharmaceutics and Chemistry	6%
Educational Studies	4%
Physical Education	2%
Natural Sciences	2%
Defence and Security	1%
<i>Number of observations</i>	84

In Table 6 the data show that the faculties or programs considered by the students as possible choices belong mainly to two fields: political-social studies (29%) and engineering (25%). On the other side, under the 5% threshold, there are, once again, the following fields: education, physical education, science, defense and security.

## (8) What programs or faculties are listed as the first choice?

*Table 7. Percentages indicating which faculties or programs belonging to different fields have been considered as final choice by students*

Which faculty or program do you consider as your final choice?	Students
Engineering	22%
Political and Social Science	20%
Medical Studies	16%
Classical Studies	10%
Law	6%
Architecture	6%
Language Studies	4%
Economics and Statistics	4%
Geology and Biology	4%
Psychology	3%
Educational Studies	1%
Pharmaceutics and Chemistry	1%
Natural Sciences	1%
<i>Number of observation</i>	<i>69</i>

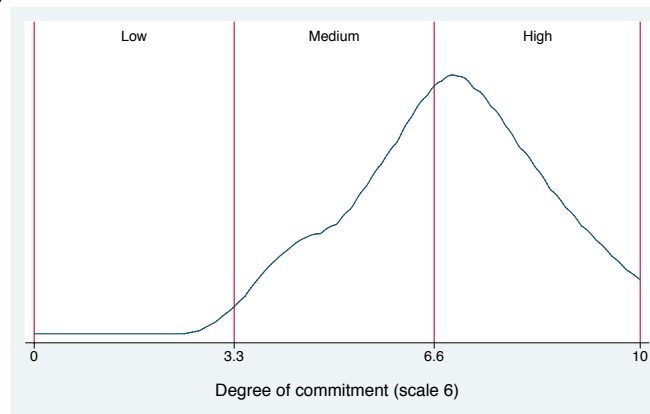
Table 7 shows that the faculties or programs pointed out as the final choice by students belong, once again, to the following fields: engineering (22%) and political-social studies (20%). Just below those fields we find medical studies (16%) and classical studies (10%). With little or no consideration as final choice by students are programs or faculties that belong to the following fields: education, chemistry and pharmaceutical science, and natural sciences. It should be taken into account the fact that only 69 students answered this question, approximately 70% of those who have expressed a desire to possibly continue their studies in higher education after graduation.

The data represented in Figure 5 show that the majority of students have a high degree of commitment to their final choice, thus demonstrating that they are strongly determined to pursue the chosen faculty or course. The portion of students who have a medium degree of commitment is slightly

smaller than average, while very few students have expressed a low level of commitment with respect to their final choice.

(9) How confident are students about their final choice?

Figure 5. Distribution of respondents on task 6: degree of commitment (scale 6). Number of observations = 84



(10) Were guidance activities organized by the school and the universities appreciated?

To monitor the effective participation of students in open days and guidance activities organized by schools and universities, and to determine whether the interventions implemented in this direction have been able to respond to the needs of the students, in the Italian version of SCTI we included some questions regarding specifically guidance activities. Although their experimental nature, this group of questions allowed us to highlight some results worthy of consideration. What emerges is that all students reported at least one event in which they took part, and the majority of them have reported more than one. These results show that high school students have largely followed the proposed guidance activities. For example, among the events mentioned are the open day organized by the University of Insubria in its offices in Como and Varese, the open day of the Politecnico di Milano, and the guidance activities of University of Milano-Bicocca. In the questionnaire students have been asked to report

what had been the most and least useful events to them, and why. Although some critical elements were found in the wording of some of these questions, the limited data collected in the pilot study seem to indicate a degree of dissatisfaction with some open days. The improvable aspects of that kind of activities reported by students were the following: the presence of too many faculties presenting their programs at the same time; the scarcity of informational material; and organizational problems. On the other hand, some other activities of the same kind have been appreciated for clarity and completeness of the information provided, in particular those organized by Insubria University and the Polytechnic of Milan.

### **Concluding remarks**

Given the results of PPSC presented in the previous section, we can summarize the possible developments associated with the study in its full version (i.e. a longitudinal study with three waves conducted in the same school year) and the potential for such type of research. In the analyses carried out in the pilot study some results that don't corroborate the hypotheses derived from the original study emerged. In particular, it is interesting to point out that, of all people with whom the students reflect on their characteristics through dialogue, parents are mentioned more often than teachers, the latter being placed in the last position. In addition, teachers are also a source of information not being consulted during students' orientation to choice. If we look at the results as a whole, we can derive the importance of reflecting, on the one hand, on how currently guidance activities are carried out; and, on the other hand, on the possibility of involving parents in the design and implementation of this kind of activities (usually organized and designed by teachers).

The qualitative responses to open questions included in the Italian version of the questionnaire are not included in this article because deeper analyses are needed to treat that kind of questions and, for the exploratory nature of this first study, we could not pay them a proper attention. However, it is possible to summarize some findings from a first gazing to the answers given by students in two of these questions: "What would you like to be when you grow up?" and "Why don't you want to continue to study?". First of all, there appears to be a difference between lyceum students and students attending other types of high schools; in particular,

the aspirations of the former appear professionally less defined but socially more ambitious than those of the latter. Second, not always the wishes expressed by respondents seem to fit with the faculty or programs indicated as their first choice. Thirdly, many students expressed a wish to undertake programs or professional careers that lead to dynamic jobs, as well as to jobs with individual and social responsibility. Finally, among the reasons for interrupting their studies, the most common among students attending technical high schools, as expected, is the desire of economic independence and transition to adult status as soon as possible.

As we mentioned above, in its original version SCTI is a longitudinal study requiring that students in the sample be interviewed several times during the same school year, so as to be able to analyze the decision-making process in dynamic terms. Specifically, the study requires that the students be interviewed in three separate occasions: at the beginning of the school year, after the end of the first semester, and just before the final examination for graduation. The availability of information relating to these three points in time can help establish patterns of development of the decision-making process of study choice in higher education and its relation with guidance activities. Achieving this goal requires the application of longitudinal analysis techniques such as Markov chains, growth curves, latent trajectory analysis, and analysis of variance for repeated measures (Taris, 2000).

Overall, our analysis of PPSC data suggests that the longitudinal study may have several beneficial effects. First, high schools can obtain valuable information to respond actively and appropriately to the real demand for support on study choice. On the other hand, universities can use the same information to have a deeper understanding of how students make their study choice, and this information may be used profitably by the different universities to design and implement guidance activities to better focus on the target. Secondly, students can benefit from this kind of study, in that it may represent an important occasion to reflect on their own opportunities and responsibilities, to dedicate some time to make a conscious choice, and to reflect on the job market they will have to face in the future. Finally, a proper analysis of decision-making processes can help to identify *ex ante* those students who will get the best results during their study career in higher education. It is plausible, in fact, that those who pass through the decision-making process with strong commitment and determination will

be even more resolute in facing and completing their studies in higher education.

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