

# STUDENTS ENGAGEMENT IN SCHOOL, ACADEMIC ASPIRATIONS, AND CAREER EXPLORATION OF PORTUGUESE ADOLESCENTS

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## Abstract

This study examined career profiles derived from students' engagement in school, academic aspirations and sources of career exploration, as part of a larger research project on the differentiation and promotion of students' engagement in school (Pest-OE/CED/UI4107/2011). The sample included 685 students attending sixth, seventh, ninth and tenth grades ( $M_{age} = 13.82$ ,  $SD = 1.92$ ). The students completed measures of engagement in school, academic aspirations and career exploration. Based on a non-hierarchical cluster analysis (K-means clustering), three career profiles of students were identified. The profile *disengaged looking for other opportunities* included students ( $n = 135$ ;  $M_{age} = 14.6$ ,  $SD = 2.12$ ) with values lower than the group's mean score in the agency, affective, cognitive and behavioural dimensions of engagement in school, in academic aspirations, and higher values than the group's mean values in self- and environment exploration. The profile *confident students* ( $n = 281$ ;  $M_{age} = 13.45$ ,  $SD = 1.71$ ) presented values higher than the group's mean score in the four dimensions of engagement in school, in academic aspirations and in self- and environment exploration. The profile *slightly disengaged without other options* included students ( $n = 269$ ;  $M_{age} = 13.83$ ,  $SD = 1.90$ ) with values below the sample's mean score in the agency and cognitive dimensions of engagement in school, in academic aspirations and in self- and environment exploration, but with values higher than the group's mean score in the affective and behavioural dimensions of engagement in school. This study supports the idea of a comprehensive approach of career construction, including academic and career development dimensions and results. Students who are more engaged in school have higher intentions to continue educationally enrolled and are more involved in career exploration. Students who are globally or partially less engaged in school, have lower intentions to continue educationally enrolled but can differ in their involvement in career exploration. Career exploration can be a facilitative condition for different subgroups of students. Longitudinal studies may address the (dis)continuities in school involvement and academic aspirations according to career exploration profiles. Further research covering the students' assigned importance to engage in school and in career exploration may also enrich this research domain.

Keywords: Engagement in school, academic aspirations, career exploration.

## 1 INTRODUCTION

An increasing attention to the students' engagement in school is noticeable in the international literature. Such an attention considers the importance of the students' engagement in school for their academic achievement, educational enrolment and well-being [1]. The relevance of the students' engagement in school as a solution for problems such as indiscipline and school dropout has also supported the interest devoted to this process [2].

The students' engagement in school can be conceived as a multidimensional and integrative construct, including cognitive, affective, behavioural and agentic dimensions [3, 4]. The cognitive dimension focuses on the quality of the students' cognitive processes used in school tasks, also covering the self-regulated learning [5, 6]. The affective dimension includes the students' feelings of belonging within the school and their positive attitudes about learning [7, 8, 9]. The behavioural dimension relies on the students' persistence, effort, and participation in both school and extracurricular activities [10, 8]. The agentic dimension considers the students' active role in their school participation and learning [4].

The students' engagement in school can be facilitated by contextual influences at the school, family, peer, community and government level throughout the school years [7]. The students' engagement in school can therefore be seen as a developmental and contextual process, which is important in a person's life trajectory [11]. Students who are satisfied with their lives present high levels of engagement in school and recognize the importance of the school for their educational and

occupational future [12]. On the other hand, students presenting low levels of engagement in school seem to look for alternatives to it [13]. Following such a perspective, the importance of the students' engagement in school for career development is justified and is in need of attention.

Despite the relevance of school in career development is recognized, the research of the relationships between the school influences and experiences and the career development is scarce [14, 15]. Nonetheless, common individual, structural, educational and teaching influences (e.g., gender, social economic status, literacy and numeracy abilities, encouragement provided by teachers) to both academic and career development have been considered [16, 17].

Academic aspirations have been related to the students' engagement in school. Academic aspirations can be defined as the level of education one would like to attain [18]. The differentiation between idealistic and realistic aspirations has also been presented in the literature. While the former focuses on one's ideal and desired goals, the latter conciliates the academic aspirations with the awareness of the opportunities and obstacles that might facilitate or condition their fulfilment [19].

Academic aspirations have been recognized as a central factor for educational enrolment and attainment as well for career decision-making, income and social status in later ages [20, 21]. Evidence has suggested a mutual relationship among students' engagement in school and academic aspirations. On the one hand, a high academic achievement has proved to be related to a favourable investment in school and to high academic aspirations [22]. On the other hand, the research has indicated that the students' academic aspirations influence their academic achievement, academic self-concept, school motivation, perceived school ability and learning goal orientation [23, 24, 25, 26].

The research has also claimed that as students get older, they increase their realism in aspirations [27]. A possible explanation for such an increase considers that realistic aspirations might be a reflection of the progresses in self- and environment exploration, in which learned-oriented students are expected to be involved [23]. This argument is consistent with the understanding of career exploration as a set of action behaviours that enable the achievement of aspirations [28].

Career exploration is a complex psychological process underlying individuals' learning and development [29]. Career exploration is influenced by the life contexts and presents adaptive functions that sustain the individuals' coping with expected and non-expected life transitions [30]. This process includes both physical and mental activities, intentionally or unconsciously performed to be stimulated, to search for information, and to test hypothesis about the self and the environment. Following a procedural and constructivist perspective of this construct, the attitudes, cognitions, behaviours and affections of career exploration can be considered in the understanding of this process [29].

Career exploration can be described according to three main dimensions – the beliefs of, the process of, and the reactions to career exploration [31, 32]. The beliefs of career exploration include positive attitudes towards the world of work, outcome expectations, perceived instrumentality of self- and environment exploration, and the importance assigned to career goals when compared to other life goals. The career exploratory process includes self- (self-assessment, retrospection) and environment exploration (regarding occupations, labour organizations), its intended or systematic manner, its frequency and amount of obtained information, and its directedness. The reactions to career exploration consider the satisfaction retrieved from the acquired information and the stress related to the career exploratory process and the career decision-making.

As the promotion of the students' engagement in school is aimed by international educational policies [1], also the promotion of career exploration, to effectively and systematically articulate the school to the world of work and to help students to develop life skills, is [33]. The research has indicated that career exploration is related to academic achievement and work-related engagement [28, 34].

## **1.1 Purpose of this study**

Considering the scarcity of studies devoted to the relationships between educational and career variables [14, 15], this study presents a comprehensive focus on students' engagement in school, academic aspirations and career exploration. This study is a part of a larger Portuguese research project entitled "Students' engagement in schools: Differentiation and promotion" (Pest-OE/CED/UI4107/2011). Among other objectives, this project aimed to examine the relationships between the students' engagement in school and other variables [2].

Taking previous research into account, this study assumes that the students' engagement in school, academic aspirations and career exploration are inter-related constructs. Such an assumption affords the possibility to identify career profiles of students. Specifically, this study aims to identify career profiles derived from the students' engagement in school, academic aspirations and self- and environment career exploration. It is expected that a profile includes students with similar characteristics, but with dissimilar ones when compared to other profiles.

## 2 METHOD

### 2.1 Sample

A convenience, non-random sample was used. The sampling criteria led to the inclusion of students attending years previous to and of school transition according to the Portuguese educational system. The sampling criteria also favoured the inclusion of students attending both rural and urban schools in northern, central and southern Portugal and in the Azores archipelago of the country.

The sample included 685 Portuguese youths, 389 (56.8%) girls and 296 (43.2%) boys, aged 11 to 21 years old ( $M = 13.82$ ,  $SD = 1.92$ ). The participants were attending sixth- (20.1%), seventh- (24.8%), ninth- (28.8%) and tenth- (26.3%) grades in Portuguese schools, at the time of this study. The majority of the students (82.5%) presented no previous retentions in their school history, against 17.5% of the students to which one, two or three retentions were registered.

### 2.2 Measures

The students' engagement in school, the academic aspirations and the self- and the environment sources of career exploration were assessed using a standard data collection protocol developed for and used in the aforementioned research project.

#### 2.2.1 *Students' engagement in school*

The *Students' Engagement in School: A Four-Dimensional Scale* (SES-4DS; [4]) was used and included in the data collection protocol. The SES-4DS assessed the four dimensions of students' engagement in school: cognitive (e.g., "When I write my assignments, I start by elaborating a plan of the text to write";  $\alpha = .77$ ); affective (e.g., "My school is a place where I make friends easily";  $\alpha = .82$ ); behavioural (e.g., "I am distracted in classes";  $\alpha = .71$ ); and agentic (e.g., "I present suggestions to the teachers to improve the classes";  $\alpha = .86$ ). Each dimension was assessed by five items, which were answered in a six-point Likert-type scale, ranging from 1 "Completely disagree" to 6 "Completely agree". The items included in the behavioural dimension presented a reversed formulation and were therefore recoded for data analysis. The possible scores in each dimension ranged from five to 30. Higher scores in each of these dimensions were interpreted as students' higher cognitive, affective, behavioural and agentic engagement in school.

#### 2.2.2 *Academic aspirations Self- and environment sources of career exploration*

The academic aspirations were assessed by the open-ended question "Until what school year do you intend to study". The answers to this question favoured the identification of the number of years of schooling that the students intended to pursue. For data analysis purposes, the variable of the number of years of schooling that the students intended to pursue was recoded in a dummy variable (0 for high-school and 1 for university).

#### 2.2.3 *Self- and environment exploration*

The subscales Self-Exploration and Environment Exploration of the Portuguese version of the Career Exploration Survey (CES; [31]; adapt. [32]) were adapted to be integrated in the data collection protocol. Each of the subscales included five items, which were answered in a six-point Likert-type scale, ranging from 1 "Completely disagree" to 6 "Completely agree". The Self-Exploration considered the extent of personal exploration and retrospection within the last three months (e.g., "In the last three months, I thought about my life and I understood the importance of my personal history for my academic and occupational future";  $\alpha = .81$ ). The Environment Exploration focused on the extent of environment exploration related to occupations, jobs and organizations within the last three months (e.g., "In the last three months, I obtained information about the type of jobs or labour places related to what I intend to prosecute";  $\alpha = .83$ ). The possible scores in each dimension ranged from five to 30.

Higher scores in the subscales were interpreted as the students' higher extent of self- and environment exploration.

### 2.3 Procedures and data analysis

The consent from the Portuguese General Direction of School Education to perform the research project in the school setting was obtained. The written consents from the students' caregivers were also obtained.

The data was collectively collected by school psychologists and teachers in the classroom during approximately 20 minutes, from January to April 2012. The anonymity and the confidentiality were guaranteed throughout the research project.

The data was analysed with the *Statistical Package for the Social Sciences* (IBM SPSS), version 22 for Windows. The number of missing values was residual ( $n < 10$ ) and with a random kind pattern. For this reason, we used a data imputation procedure and have replaced each missing value by the item mean value in the group.

A cluster analysis was performed to examine career profiles based on the students' engagement in school, academic aspirations and self- and the environment career exploration. The cluster analysis was used to identify homogeneous groups of cases, in which the cases within a group, or cluster, shared similarity, but were dissimilar to the cases included in other clusters [35].

The scores obtained in the considered variables were firstly standardized in Z-scores ( $M = 0$ ,  $SD = 1$ ). The standardized scores were then included in cluster analyses performed on the entire sample. A hierarchical cluster analysis using the single linkage method (Nearest Neighbour) based on Euclidean distance as a measure of dissimilarity of the individuals were firstly computed to determine a suitable number of clusters. Such a number was then considered in the non-hierarchical iterative *k*-means cluster analysis. The decision of the number of cluster to retain relied on the hierarchical cluster analysis and considered the parsimony of the solution and the *r*-squared criterion [35, 36]. Taking these guidelines into account, a solution of three clusters was preferred and included in the non-hierarchical iterative *k*-means cluster analysis. To identify the variables that most contributed for the differentiation of the clusters, the One-Way Analysis of Variance (ANOVA) and the chi-squared test were conducted for continuous and categorical variables, respectively [36].

## 3 RESULTS

The *k*-means cluster analysis, with  $k = 3$ , favoured the classification of the 685 participants across the clusters (see Table 1). While 269 (39.27%) students were classified in the Cluster 1, 281 (41.02%) participants were included in the Cluster 2 and 135 (19.71%) were classified in the Cluster 3.

The results from the One-Way ANOVA and from the chi-squared test indicated that the variables that most contributed for the differentiation of the clusters were the self- ( $F = 242.11$ ) and the environment exploration ( $F = 247.14$ ). On the other hand, the variables that contributed the least for the differentiation of the clusters were the affective ( $F = 189.43$ ), behavioural ( $F = 119.21$ ) and cognitive ( $F = 116.52$ ) dimensions of students' engagement in school, followed by the academic aspirations ( $\chi^2 = 111.44$ ) and the agentic ( $F = 75.95$ ) dimension of students' engagement in school.

The sociodemographic conditions for each cluster were analysed. Specifically, the students' sex, age, grade and number of retentions were considered (see Table 2).

Based on the *k*-means clustering results and on the sociodemographic conditions of each cluster, the three profiles of students were described.

Table 1. Career profiles of Portuguese students: K-means clustering results

| Academic and career variables        | Sample<br>(N = 685) | Cluster 1<br>(n = 269) | Cluster 2<br>(n = 281) | Cluster 3<br>(n = 135) |
|--------------------------------------|---------------------|------------------------|------------------------|------------------------|
| SES Cognitive<br>Mean (SD)           | 18.67 (4.93)        | 16.59 (4.35)           | 21.65 (3.40)           | 16.63 (4.59)           |
| SES Affective<br>Mean (SD)           | 24.78 (4.69)        | 25.34 (3.87)           | 26.87 (3.16)           | 19.30 (4.62)           |
| SES Behavioural<br>Mean (SD)         | 26.84 (3.35)        | 27.38 (2.33)           | 27.96 (2.06)           | 23.44 (4.76)           |
| SES Agentic<br>Mean (SD)             | 18.66 (5.77)        | 16.20 (5.25)           | 21.55 (4.87)           | 17.52 (5.87)           |
| Academic aspirations                 |                     |                        |                        |                        |
| High-school n (%)                    | 395 (57.7)          | 167 (62.1)             | 105 (37.4)             | 123 (91.1)             |
| University n (%)                     | 290 (42.3)          | 102 (37.9)             | 176 (62.6)             | 12 (8.9)               |
| Self-Exploration<br>Mean (SD)        | 19.66 (6.29)        | 14.82 (5.44)           | 23.79 (4.11)           | 20.68 (4.88)           |
| Environment Exploration<br>Mean (SD) | 10.52 (4.46)        | 6.97 (3.47)            | 13.21 (3.29)           | 12.00 (3.49)           |

Note. SES = Students' engagement in school

Table 2. Career profiles of Portuguese students: Sociodemographic conditions by cluster

| Sociodemographic conditions | Cluster 1    | Cluster 2    | Cluster 3    |
|-----------------------------|--------------|--------------|--------------|
| Sex                         |              |              |              |
| Girls n (%)                 | 156 (58)     | 161 (57.3)   | 72 (53.3)    |
| Boys n (%)                  | 113 (42)     | 120 (42.7)   | 63 (46.7)    |
| Age                         |              |              |              |
| Range                       | 11 – 20      | 11 – 18      | 11 – 21      |
| Mean (SD)                   | 13.83 (1.90) | 13.45 (1.71) | 14.59 (2.12) |
| Grade                       |              |              |              |
| 6 <sup>th</sup> n (%)       | 49 (18.2)    | 71 (25.3)    | 18 (13.3)    |
| 7 <sup>th</sup> n (%)       | 77 (28.6)    | 64 (22.8)    | 29 (21.5)    |
| 9 <sup>th</sup> n (%)       | 65 (24.2)    | 85 (30.2)    | 47 (34.8)    |
| 10 <sup>th</sup> n (%)      | 78 (29)      | 61 (21.7)    | 41 (30.4)    |
| Retentions                  |              |              |              |
| None n (%)                  | 220 (81.8)   | 261 (92.9)   | 84 (62.2)    |
| One n (%)                   | 38 (14.1)    | 14 (5)       | 33 (24.4)    |
| Two n (%)                   | 8 (3)        | 5 (1.8)      | 14 (10.4)    |
| Three n (%)                 | 3 (1.1)      | 1 (.4)       | 4 (3)        |

### 3.1 Profile 1

The profile 1 was labelled *slightly disengaged without other options*. This profile included 269 (39.27%) students ( $M_{age} = 13.83$ ,  $SD = 1.90$ ), the majority of which was attending the tenth- ( $n = 78$ ) and the seventh- ( $n = 77$ ) grades. In addition, this cluster registered the highest number of seventh-graders (28.6%). Most of the students included in this profile were girls (58%). The majority (81.8%) of the students presented no retentions, against 18.22% who had one, two or three retentions recorded in their school history.

The students included in this profile presented mean values lower than the sample's mean scores in the cognitive and agentic dimensions of engagement in school as well as in the self- and environment exploration. This profile was also characterized by low academic aspirations, as most of the students (62.1%) intended to study until the high-school and presented lower prospects of going into the

university. Still, the students classified in this profile presented mean values higher than the sample's mean scores in the affective and behavioural dimensions of engagement in school.

Thus, the slightly disengaged students without other options presented low levels of application of cognitive processes in the school tasks, of self-regulated learning and of an active role in the school participation and learning. Nonetheless, these students seemed to participate in both school and extracurricular activities and felt to belong within the school. Despite these students' favourable affective and behavioural engagement in school, they intended to study until the high-school and they did also present low levels of self-assessment and retrospection as well as of exploration of occupations, jobs and labour organizations.

### 3.2 Profile 2

Two-hundred and eighty-one students (41.02%;  $M_{age} = 13.45$ ,  $SD = 1.71$ ) were classified in the profile 2. This profile was labelled *confident students*. Most of these participants were attending ninth-grade (30.2%) and were girls (57.3%). The highest number of sixth-graders (25.3%) was registered in this cluster. The majority of these students (92.9%) presented no retentions throughout their school history. This profile also includes the lowest number of students (7.2%) to which one, two or three retentions were recorded.

The students classified in the Profile 2 presented higher mean values in the four dimensions of engagement in school and in both self- and environment exploration than the mean scores of the total sample. The majority of the participants (62.6%) included in this profile aspired to continue their studies in the university. This cluster presented the highest number of students who intended to go to the university when compared to the remaining clusters.

Taking these results into account, the confident students presented favourable levels of application of cognitive processes in school tasks, of self-regulated learning, of participation in school and extracurricular activities, of agency in their school participation and learning, as well as of positive attitudes about learning. These students also presented high academic aspirations and engaged in both self- and environment exploration.

### 3.3 Profile 3

The profile 3 was labelled *disengaged students looking for other opportunities*. This profile included 135 students (19.71%;  $M_{age} = 14.59$ ,  $SD = 2.12$ ). The majority of the students included in this profile were girls (53.3%) and were attending ninth- (34.8%) and tenth-grade (30.4%). Most of these students (62.2%) presented no retention in their school history. Still, the highest number of students (37.8%) with one, two or three previous retentions was registered in this cluster.

The participants included in this profile presented lower mean values in the four dimensions of engagement in school than the mean scores of the total sample in these variables. Still, the students classified in this profile presented higher mean scores in both self- and environment exploration than the sample's mean values. These students aspired to study until the high-school and presented lower prospects of continue their studies in the university.

Despite the disengaged students looking for other opportunities aspired to study until the high-school and presented low levels of use of cognitive processes in school tasks, of participation in school and extracurricular activities, of agency in school and learning, and of feelings of belonging within the school, they were engaged in both self- and environment exploration.

## 4 DISCUSSION AND CONCLUSIONS

This study aimed to identify career profiles of students based on their engagement in school, academic aspirations and career exploration. Using cluster analyses, the participants in this study were classified across the career profiles of slightly disengaged students without other options, of confident students, and of disengaged students looking for other opportunities.

The differentiation of the students across the three clusters relied on their self- and environment exploration. The contribution of self- and environment exploration for the differentiation of the clusters seemed highlighted when the profiles of slightly disengaged students without other options and of disengaged students looking for other opportunities were described. While the former profile presented lower results in self- and environment exploration than the total sample, the latter profile

presented higher mean values in these variables than the sample's mean scores. In addition, these profiles were also differentiated by the affective and behavioural dimensions of engagement in school. While the slightly disengaged students without other options presented a favourable affective and behavioural engagement in school, the disengaged students looking for other opportunities presented low results in these dimensions. In addition, the students included in these profiles aspired to study until the high-school. These results seem to suggest that the students who have developed no or a slightly engagement in school may be differentiated in their involvement in career exploration, but not in their academic aspirations. The students who present a slightly disengagement in school through its cognitive and agentic dimensions seem to be no directed to engage in career exploration. On the other hand, as the disengaged students present high levels of career exploration, it is possible that they could be searching for other opportunities rather than or at the end of school [13].

On the other hand, the profile of confident students suggested that students who are engaged in school present high academic aspirations and a positive involvement in career exploration. Such a suggestion is consistent with the literature pointing to a positive relationship between students' academic aspirations and academic development [23, 24, 25, 26]. It is also consistent with the literature indicating that the students' involvement in the career exploratory process is positively related to their work-related engagement [34]. In addition, this profile corroborates the evidence indicating that as students are engaged in school, they assign meaning to their educational and occupational future and intend to continue educationally enrolled [12].

The career profiles identified in this study illustrated the relevance of comprehensively understand the students' academic and career development as inter-related processes. This study might stimulate further research in an attempt to overcome the scarcity of studies devoted to the inter-relations among school and career development [14, 15]. Five main implications of this study for further research can be identified.

Firstly, future studies may expand the examination of the youths' academic aspirations and of its relationships to the students' engagement in school and career exploration. The idealistic and realistic academic aspirations [19] as well as the content of occupational aspirations (e.g., aspired jobs, professional domains, and prestige) might be considered in further studies.

Secondly, as evidence has suggested that the students' engagement in school, academic aspirations and career exploration are related to academic achievement [1, 22, 28], future research might address the role of this variable in career profiles.

Thirdly, given the centrality of self- and environment exploration in the differentiation of the career profiles found in this study, it would be relevant to address the role of other dimensions of the career exploratory process (e.g., intended-systematic manner, frequency, amount of information, number of occupations considered and exploratory focus) in the career profiles. As this study suggests that career exploration can be a facilitative condition for different subgroups of students, the examination of the students' career profiles could also be expanded by considering the beliefs of and the reactions to career exploration. Such an examination would also favor the operationalization of a procedural and constructivist perspective of this process [29].

Fourthly, the profiles of slightly disengaged students without other options and of disengaged students looking for other opportunities suggest the need to perform further qualitative and/or mixed-designed studies to better understand the motives underlying the students' involvement in career exploration and the meaning they assign to the school and to the future. Those studies would provide a more deepen understanding of the career profiles identified in this study and support the planning and conduction of comprehensive psychological practices, regarding the inter-relations between academic and career development.

Fifthly, as both the students' engagement in school and career development are developmental processes that are influenced by the school, family, peer, community and government contexts [7, 30], further longitudinal studies might investigate the (dis)continuities in academic and career development and the contextual influences in career profiles. In addition, the longitudinal studies might focus on whether the classification of the students across career profiles is stable or mutable over time.

Given that the international educational policies aim to promote students' engagement in school and career development [1, 33], this study calls into attention that as one supports students' academic development, career development is also being promoted. The theory and research of the reciprocity of students' academic and career development might be further expanded to support the planning of

comprehensive educational practices aimed at promoting the students' global development and at preventing students' educational and career problems/difficulties throughout the school years.

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