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Higher education students' sociocultural profiles and career resources: The role of grit

Perfiles socioculturales y recursos de carrera de los estudiantes de enseñanza superior: El papel del grit

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ABSTRACT

This study was grounded on a theoretical framework that integrates Bourdieu's concept of sociocultural capital with Blustein's Relational Theory of Working, which recognizes that social structures and interpersonal connections shape career trajectories. The main objective of this research was to investigate the relationship between students' sociocultural backgrounds and their career resources, as well as the role of grit in this relationship. To accomplish this, a cross-sectional study was conducted on 2353 Portuguese Higher Education students. Multiple Correspondence Analysis was applied to define students' sociocultural profiles and structural equation modeling was used to test the research hypothesis. The results evidenced that students' sociocultural profiles did not present a direct effect on the environment factor of career resources, however an indirect effect — via grit — was found. For the other three career resources (knowledge and skills, motivation, and career management behaviors) students' sociocultural profiles presented both direct and indirect effects (via grit). This interaction underscores that, while students' backgrounds shape career resources, grit can help bridge disparities. This study expands the existing literature by incorporating the impact of sociocultural factors and grit, advocating for higher education institutions to recognize diverse backgrounds and promote grit-enhancing initiatives. Such an approach could help mitigate socioeconomic disparities in higher education, offering insights into educational policies that foster equitable career development.

Keywords: career resources, profiles, grit, higher education, educational equity

RESUMEN

Este estudio se fundamenta en un marco teórico que integra el concepto de capital sociocultural de Bourdieu con la Teoría Relacional del Trabajo de Blustein, la cual postula que las estructuras sociales y las relaciones interpersonales juegan un papel clave en la configuración de las trayectorias profesionales. Así, el objetivo principal de esta investigación fue analizar la relación entre los antecedentes socioculturales de los estudiantes y sus recursos de carrera, así como, el papel que juega la grit en esta relación. Para ello, se realizó un estudio

transversal con 2353 estudiantes portugueses de enseñanza superior. Se aplicó el Análisis de Correspondencias Múltiples para definir los perfiles socioculturales de los estudiantes y se utilizó el modelo de ecuaciones estructurales para comprobar la hipótesis de la investigación. Los resultados indicaron que los perfiles socioculturales de los estudiantes no presentaban un efecto directo sobre el factor entorno de los recursos de carrera, aunque sí se halló un efecto indirecto, a través del grit. Para los otros tres recursos de carrera (conocimientos y habilidades, motivación y conductas de gestión profesional), los perfiles socioculturales de los estudiantes presentaron efectos directos e indirectos (a través del grit). Esta interacción, pone de relieve que, mientras que los orígenes de los estudiantes influyen en los recursos de carrera, el valor puede desempeñar un papel crucial en la reducción de las disparidades. En este sentido, este estudio amplía la literatura existente al incorporar el impacto de los factores socioculturales y la grit, abogando porque las instituciones de enseñanza superior reconozcan la diversidad de orígenes de los estudiantes y promuevan iniciativas para favorecer la grit. Este enfoque podría ayudar a mitigar las disparidades socioeconómicas en la educación superior, ofreciendo ideas sobre políticas educativas que fomenten un desarrollo profesional más equitativo.

Palabras clave: recursos de carrera, perfiles, grit, educación superior, equidad en la educación

INTRODUCTION

Like many countries worldwide, Portugal has experienced a rapid expansion of Higher Education (HE). This growth has allowed a more diverse and larger population to access education that was once limited to the elite. However, indicators show that this expansion has not necessarily reduced inequalities within the population, implying that Higher Education Institutions (HEIs) need to shift their focus from merely admissions processes to rethinking how they can add value to students, especially those from disadvantaged backgrounds, during their academic journeys and future careers (Donald & Ford, 2023). This is crucial not only for graduates but also for HEIs, which are increasingly held accountable to society (Burke et al., 2020), particularly regarding their role in preparing new graduates for the labor market.

In today's era of globalization and rapid technological advancements, career pathways for HE graduates are becoming more unpredictable and turbulent. This

changing scenery highlights the need for new graduates to develop resources that help them navigate their careers in such dynamic environments, which often require quick readjustments (Savickas, 2013). Although there is extensive knowledge about the resources that contribute to career development and success, a significant gap remains in understanding how these resources are shaped by the social and cultural conditions of individuals' backgrounds.

In this context, several calls have been made for a clearer connection between social origins and career trajectories (Flores et al., 2017), highlighting the importance of integrating individual characteristics and traits with the circumstances and opportunities that influence the development of career resources. With the increasing diversity of the HE student population, it is crucial to consider individuals' various educational and career trajectories. This study addresses this concern by responding to the need for new research that integrates structural and individual career development factors (Delva et al., 2021). The main objective of this study will be to explore the relationship between sociocultural factors and grit with the career resources available to HE students. Grit, originally defined as "perseverance and passion for long-term goals" (Duckworth et al., 2007**,** p. 1087), is considered a construct that could be an equally good or even better predictor of success compared to cognitive ability.

CAREER RESOURCES FRAMEWORK

Current knowledge about career development makes it possible to identify a set of career resources, defined as "anything that helps an individual attain his or her career goals" (Hirschi et al., 2018, p. 4), in an integrative framework of key predictors of career success. This set of resources encompasses knowledge and skills, which include occupational expertise, job market knowledge and soft skills; environmental resources, comprising organizational career support, study challenge and social career support; motivational resources, composed of career involvement, career confidence and career clarity; and career management behaviors, represented by networking, career exploration and continuous learning. These resources are considered essential for successful career development and are interconnected, as a strong presence in one area often fosters growth in others. Thus, individuals with higher levels of one resource are likely to develop others, as resource utilization and growth in one area support the enhancement of resources across other domains (Hirschi et al., 2018) .

While this theoretical framework is grounded in valuable meta-analytic findings and key theories developed over recent decades, a gap remains in

empirical research concerning the unique characteristics involved in developing these resources among diverse groups with different social and cultural backgrounds and experiences. This study aims to fill that gap by exploring the role of individual and sociocultural variables in the four main domains of the career resources framework.

SOCIOCULTURAL ORIGINS AND CAREER DEVELOPMENT

While education is generally recognized as a driving force in reducing social inequalities, substantial evidence suggests that individuals' sociocultural origins strongly influence career pathways and success. Considering Bourdieu's point of view (Bourdieu, 1986), individuals' possession and position about the various types of capital (economic, cultural, and social) in the form of resources, networks, and cultural knowledge result in greater opportunities for success. According to this perspective, students from more privileged backgrounds often possess an advantage due to greater access to career resources and professional networks. Likewise, Blustein's Relational Theory of Working (Blustein, 2011) suggests that work is a social experience shaped by relationships that significantly impact career engagement and success. Blustein argues that career development is influenced by family, community, and societal connections, emphasizing the importance of these relationships in meeting human needs for connection and belonging. These perspectives highlight that social support systems are essential to career development and satisfaction rather than merely supplementary. Also, evidence suggests that these resources tendentiously "act in concert." One strong resource is generally associated with other strong resources, and viceversa (Burke, 2015; Monteiro et al., 2023a). Different perspectives have explored this cumulative advantage. The idea of "resource caravans" presented in the Conservation of Resources Theory (Hobfoll et al., 2018, p. 117), explains how resources tend to accumulate among individuals and organizations, with those who begin with a substantial base of resources being more likely to acquire even more resources over time, creating a cycle of resource gains, leading to favorable outcomes, including success in one's career. In this respect, Duta et al. (2021) recently demonstrated these cumulative and compensatory advantages, developed before and after HE graduation, with particular influence on labor market integration through smooth and auspicious career trajectories for graduates from socially advantaged backgrounds. A critical domain where this cumulative advantage may operate is graduates' participation in extracurricular activities, with several studies showing a higher likelihood of participation in extracurricular experiences among middle- and high-class students (Jackson &

Dean, 2023). Such reduced participation from more disadvantaged groups might be due to lower levels of confidence and sense of belonging (Rubin, 2012), financial constraints (Walpole, 2003), or lower perceptions of the relevance of this type of experience for successful navigation in the labor market (Burke et al., 2020). Taking current extensive evidence of the relationship between extracurricular participation and career resources, such as self-efficacy (Griffiths et al., 2021), self-awareness and career clarity (Jackson & Bridgstock, 2020) or social capital (Brereton & Mistry, 2019), graduates who have more limited opportunities to engage in enriched experiences beyond formal education are also expected to be penalized in the transition to the labor market, where these type of resources could serve as differentiating and decisive factors for job access.

Building upon this background, the present study investigates the relationship between social class and the experiences of first-generation and non-first-generation students and their career resources. The concept of cultural capital and its influence on students' perception of career resources is taken into account, acknowledging "the domestic transmission of cultural capital" (Bourdieu, 1986, p. 244), but knowing that this process "cannot be accumulated beyond the appropriating capacities of an individual agent" (p. 245). This present study will emphasize students' involvement in leisure and free-time activities.

CAREER DEVELOPMENT AND GRIT

Grit represents a personality trait that has garnered widespread attention, largely due to its predictive power for success in various contexts (Credé et al., 2017). It is generally agreed that grit measures the perseverance of effort and the consistency of interests, indicating an individual's propensity to sustain effort and interest over time, despite failure, difficulties and challenging conditions.

The relationship between grit and success has been studied and identified across educational, professional, and personal domains. Higher grit scores seem to correlate with higher academic achievement across various educational levels (Danner et al., 2020), higher self-regulation strategies (Jiang et al., 2023), and academic self-efficacy (Muenks et al., 2018). In the career context, higher grit levels relate to higher income and job satisfaction (Danner et al., 2020). However, the findings have not been consistent across different career success indicators, suggesting that grit may contribute more substantially to explaining subjective career success indicators, such as job satisfaction, than objective attainment, such as income (Ion et al., 2017). In a mixed-method study, Clark and Plano Clark,

(2019) did not confirm the predictive value of grit to career success, arguing that participants with grit perceive it as necessary but insufficient to explain career success. Contradictory results might be linked to an apparent discrepancy in the relationship between grit and career success across different countries and cultures (Kwon, 2021), which suggests that the returns to grit are not universal (Danner et al., 2020). Moreover, some research has also suggested that grit can be a domain-specific construct (Teimouri et al., 2021), which might hinder the comparison of results between different areas of achievement.

Despite the growing body of research on the potential of grit in various areas, the sociocultural effects of grit have received little attention. There is a tendency to assume that the effects of grit are independent of social origins, thereby fostering the implicit idea that anyone can cultivate it and achieve success solely based on effort (Kwon, 2021). A few studies suggest that grit and career success might depend on individual and socioeconomic characteristics, even proposing that high levels of grit might compensate for low levels of education, thereby mitigating social inequalities or disadvantages (Danner et al., 2020). Also, according to Kwon (2021), structural conditions are vital in defining opportunities, experiences and constraints, impacting how individuals explore different interests and pursue their goals. This means that while, on the one hand, it is to be expected that confronting successive barriers can incite higher determination and personal effort (Lo et al., 2019), on the other hand, people with limited resources do not have the same opportunity to explore interests and to participate in diversified activities that depend on material, cultural and social resources, appealing to a greater focus and persistence in pursuing goals (Williams, 2012). Given this, it could be hypothesized that career development, particularly among individuals from lower socioeconomic backgrounds dealing with greater constraints to succeed, depends on grit, especially considering that access to other social, cultural, and material catalysts might be limited.

THE PRESENT STUDY

This study seeks to explore the relationship between students' sociocultural background and career resources, as well as the linking role of grit in this relationship. For this purpose, a profile analysis of the participants will be carried out to identify differentiated sociocultural groups. Subsequently, the measurement and structural models, as presented in Figure 1, will be tested. Based on the theoretical and empirical research previously presented, the following hypotheses will guide this study:

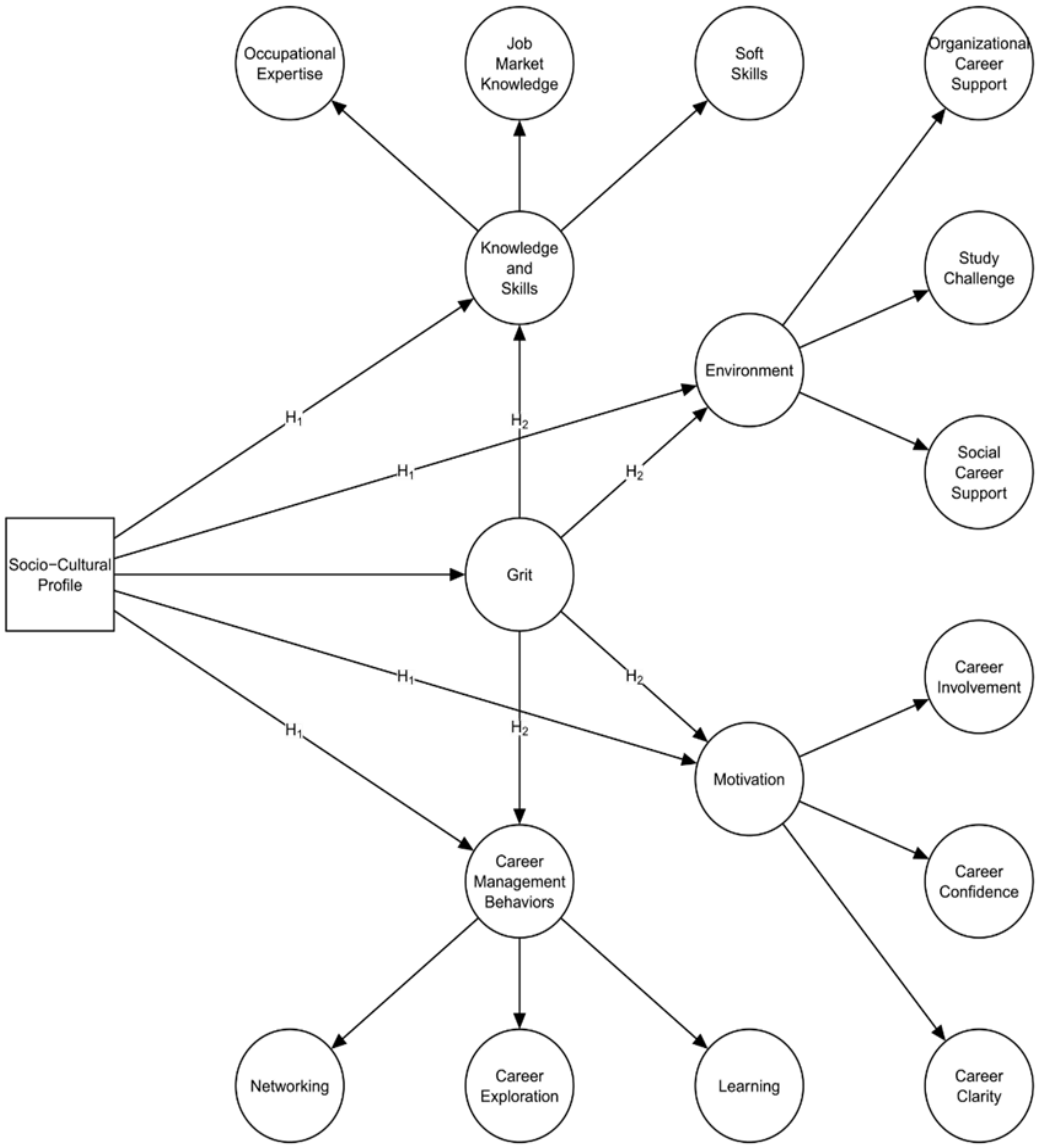
H_1: Students' sociocultural profiles relate to career resources;

H_2: Grit relates positively to career resources;

H_3: The relationship between students' sociocultural profiles has an indirect effect on career resources via grit.

Figure 1

Hypothesized Model



METHOD

Sampling and procedures

A non-probability sampling method — convenience sample — was implemented. This cross-sectional observational study analyzed a total of 2,353 students from two Portuguese public universities, one functioning on a distance learning basis, participated in this study. The majority of participants (66.7%) identified themselves as women. The mean age of the sample was 23.65 years (*SD* = 8.67, ranging from 17 to 74 years). Most participants were enrolled between the first and third years of their graduation course (75.5%), while the remaining students were distributed across the fourth to sixth years of their bachelor's and master's courses. Several study fields are represented in this sample, namely Social Sciences and Humanities (33.3%), Economics, Management and Juridical Sciences (20.3%), Health Sciences (17.7%), Architecture and Arts (6.8%), and Engineering and Technologies (14.7%). In terms of social class origins, using the ACM matrix of social classes (Mauritti et al., 2016), the participants were classified as follows: Entrepreneurs and Executives (30.1%), Professionals and Managers (27.2%), Self-employed (7.8%), Routine Employees (Clerical support workers, Services and sales workers and other elementary occupations) (21.2%) and Industrial Workers (13.7%). Twenty-six percent of the participants reported engaging in a professional activity (either paid or unpaid). The survey was conducted both in the classroom and online via a link to the software LimeSurvey. Students were first presented with an informed consent form, which they needed to accept to proceed to the questionnaire. They were also informed of their option to withdraw from the study at any stage. The study received approval from the Ethics Committee of the project coordinating institution (CEICSH 076/2021).

Instruments

Sociodemographic questionnaire

A sociodemographic questionnaire was designed to gather data on educational and family backgrounds. Then it was adopted the ACM matrix of social classes, a typology that has been widely tested in Portuguese society since the 1980s and more recently adapted to the International Standard Classification of Occupations (ISCO-08). According to Mauritti et al. (2016, p. 80), "the

operationalization of this typology uses occupation (ISCO-08) and employment status as primary variables, combining them in a matrix of class locations". These two variables were included in our sociodemographic questionnaire, which allowed the determination of the family social class indicator in the subsequent step; i.e. this indicator is the result of cross-referencing the father's and mother's class positions (Costa & Mauritti, 2018; Mauritti et al., 2016). Regarding participation in leisure activities, Rowland's classification (2017) was adopted, as follows: (i) cultivated activities carried out in the domestic space concerning reading books, playing a musical instrument, and writing, among others; (ii) cultivated activities outside home, which include, for example, going to the theatre, museums, exhibitions, etc.; (iii) cultural and leisure activities outside home, such as going to the cinema, a musical show, a music festival, etc.; lastly, (iv) multimedia activities include leisure practices such as playing consoles or computers or participating in online social networks.

Career Resources Questionnaire

The Career Resources Questionnaire (CRQ) consists of 38 items to be answered using an ordinal scale ranging from 1 — "Completely False" to 5 — "Completely True" (Hirschi et al., 2018). These items are grouped into twelve first-order dimensions: (i) occupational expertise; (ii) job market knowledge; (iii) soft skills; (iv) organizational career support; (v) study challenge; (vi) social career support; (vii) career involvement; (viii) career confidence; (ix) career clarity; (x) networking; (xi) career exploration; (xii) learning. These factors converge into four second-order factors: (i) knowledge and skills (i.e., occupational expertise, job market knowledge, and social support), (ii) environment (i.e., organizational career support, study challenge, and social career support), (iii) motivation (i.e., career involvement, career confidence, and career clarity), and (iv) career management behaviors (i.e., networking, career exploration, and learning). The Portuguese version for HE students presented good validity evidence in terms of internal structure (Monteiro & Almeida, 2021) .

Oviedo Grit Scale

The Oviedo Grit Scale (OGS) comprises 10 items organized on an ordinal scale ranging from 1 — "completely disagree" to 5 — "completely agree," representing a unique dimension of the construct of Grit, with good validity evidence for the Portuguese version (Monteiro et al., 2023b).

DATA ANALYSIS

Multiple Correspondence Analysis (MCA) — the Optimal Scaling procedure provided by *IBM SPSS Statistics* (v. 29) — was used to obtain a factor plan of sociocultural attributes, school choices and cultural consumption. The object scores for the two dimensions obtained in the MCA procedure were transposed into the database. Following this, a cluster analysis using the K-Means Cluster method was conducted to define students' profiles, which would be considered in subsequent data analysis.

The remaning statistical analysis was conducted using the program *R* (v. 4.3.1), through the integrated development environment, *RStudio* (v. 2023.3.0.386). Confirmatory factor analysis (CFA) was utilized to gather evidence regarding the dimensionality of the measurement model. The following goodness-of-fit indices *NFI*, *TLI*, *CFI*, *RMSEA* and *SRMR* were used together with χ^2 statistic. The estimates of *CFI*, *TLI*, *NFI*, *RMSEA* and χ^2 were used in its scaled version. Estimates above .95 are considered acceptable for *NFI*, *TLI*, and *CFI* (Hu & Bentler, 1999). Values below .08 are expected for *SRMR* and *RMSEA* (Byrne, 2010). The *lavaan* package (v. 0.6-19) was used to run the CFA using the Weighted Least Squares Means and Variances (WLSMV) estimator. When the model fit was not satisfactory, modification indices (MI) above 11 (i.e., $p < .001$) were inspected in the light of the theory.

The Average Variance Extracted (*AVE*) was used as an estimator of convergent evidence (in terms of internal structure). The reliability of the first-order latent factors was evaluated using ω McDonald as an estimator. Values of $AVE \geq .5$ and $\omega \geq .7$ are considered indicative of acceptable evidence. The estimates of internal consistency $\omega_{partial\ L1}$ (the proportion of variance explained by the second-order factor after partialling the uniqueness of the first-order factor), ω_{L1} (the proportion of the second-order factor explaining the total score), and the ω_{L2} (the variance of the first-order factors explained by the second-order factor) were calculated for the second-order latent factors. All internal consistency estimates were calculated using the *semTools* package (v. 0.5-6.922).

The structural model was analyzed using the *lavaan* package. An $\alpha = .05$ was applied for significance in all statistical analyses.

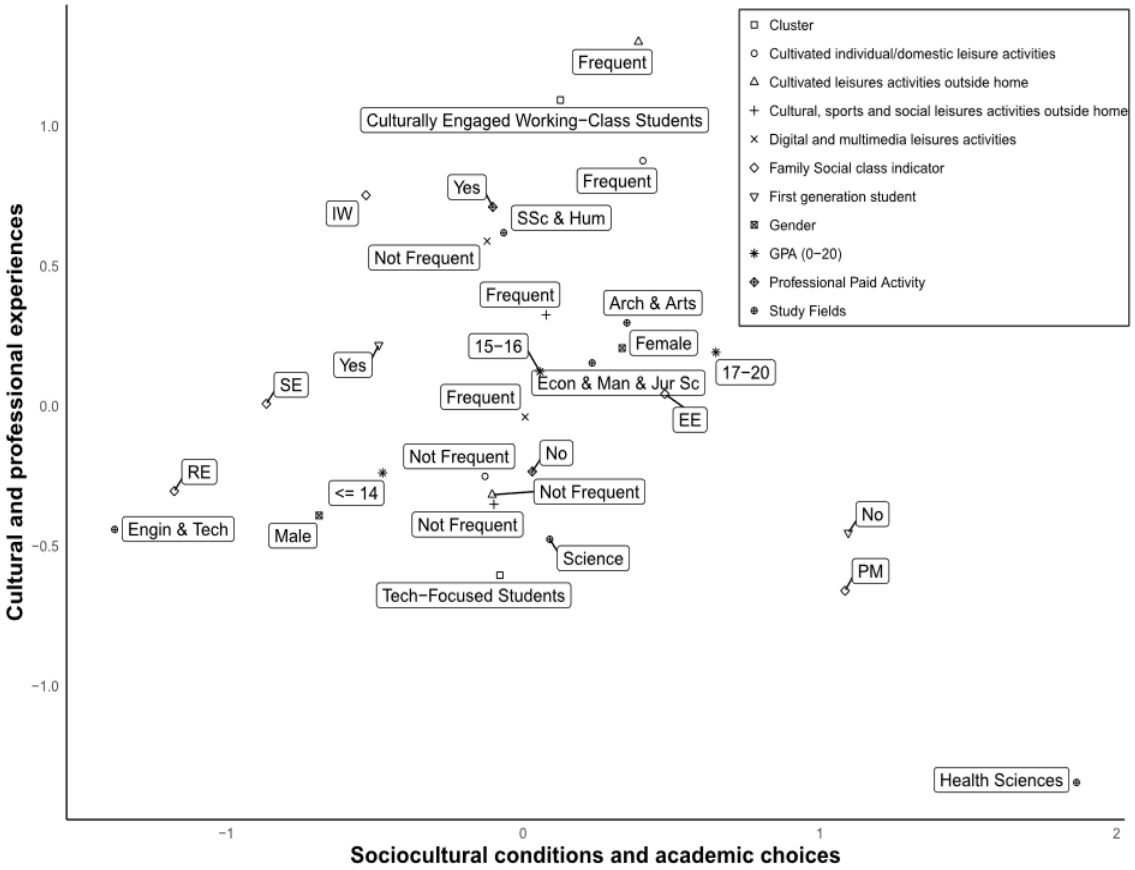
RESULTS

Profile analysis

Figure 2 presents how the sociocultural attributes of the subjects surveyed were associated and/or contrasted with a set of indicators relating to school choices and cultural consumption.

Figure 2

Sociocultural Profile of Higher Education Students Surveyed



Note. EE — Entrepreneurs and executives; PM — Professionals and Managers; SE — Self-employed; RE — Routine Employees; IW — Industrial workers; SSc & Hum — Social Sciences and Humanities; Arch & Arts — Architecture and Arts; Econ & Man & Jur Sc — Economy, Management and Juridical Sciences; Engin & Tech — Engineering and Technology.

An MCA solution comprising 22 dimensions (total inertia = 1.878) was tested. However, only the first two dimensions, exhibiting an inertia of .216 and .167, respectively, were retained for being the most discriminatory (Table 1).

Table 1
Discrimination measures and contributions

Variables	Dimension 1		Dimension 2	
	Discrimination	Contribution %	Discrimination	Contribution %
Do you have any professional activity (paid or unpaid)?	.003	0.1	.172	10.3
Gender	.230	10.7	.079	4.7
Cultivated individual/domestic leisure activities	.051	2.4	.227	13.6
Cultivated leisure activities outside home	.039	1.8	.424	25.4
Cultural, sports and social leisure activities outside home	.008	0.4	.114	6.8
Digital and multimedia leisure activities	.001	0.0	.030	1.8
Study Fields	.551	25.5	.337	20.2
Family Social class indicator	.569	26.4	.158	9.5
Average course grade (0-20)	.179	8.3	.035	2.1
First generation student	.525	24.3	.095	5.7
Number case cluster[a]	.010	0.5	.666	39.9
Active Total	2.157		1.670	
Inertia	.216		.167	

[a] *Supplementary variable.*

Dimension 1, "Sociocultural conditions and academic choices", is fundamentally structured around the family social class indicator, study field, and first-generation students in HE. Gender also shows some discrimination capacity in this dimension, slightly above the inertia value. Even though the Grade Point Average scores well below this value, it was decided to leave it as an active

variable for interpretative reasons. The variables converging on the vertical axis (dimension 2) substantiate the designation "Cultural and professional experiences", as they pertain to a variety of cultural and leisure practices, along with some work experience.

Two profiles were projected onto the 1×2 factor plane (Figure 2). The interpretation of this new plot was enhanced with the results from the cross-checks and association tests that involved the 10 variables included in the MCA procedure. These two clusters (see appendix 1) are described below: Cluster 1 (854 students, 36.3%) — predominantly consists of students from Social Sciences and Humanities, although students from the fields of Economics, Management and Juridical Sciences, as well as Architecture and the Arts, share some of the characteristics of this cluster. They are primarily from the working classes (Industrial Workers) and are already in the labor market, engaging in paid work. They frequently partake in cultivated leisure activities, such as visiting museums, exhibitions, theatres, concerts, among others, and regularly engage in cultivated activities at home, ranging from writing and music to reading. In this cluster, students spent the least amount of time on digital and multimedia leisure activities compared to the other cluster, although 86.5% of them reported engaging in these activities. Almost 80% of them are first-generation students. Female students comprise approximately 82% of the members of this cluster.

Cluster 2 (1,499 students, 62.7%) — consists mainly of Health Sciences, Science, Engineering and Technology students. This cluster represents diverse socio-cultural conditions, as well as different academic career options: on the one hand, there are students from more favoured backgrounds, especially those with higher levels of cultural capital (Professionals and Managers), for whom HE is no longer the first experience of this level of education in their family; on the other hand, there is the popular classes, with particular emphasis of the class made up of Routine Employees (Clerical support workers, Services and sales workers). Students from this socio-professional class (as well as, to a large extent, students from the Self-employed group) tend to choose Engineering and Technology degrees and are predominantly male. Students in this cluster tend to prefer exclusively academic activities, along with leisure activities related to multimedia and the digital world, but engage less frequently in more cultural activities, both at home and outside.

In the subsequent structural equation modelling analyses, the "Tech-Focused Students" (Cluster 2) was utilized as the reference class. A dichotomous (dummy) variable system was implemented to facilitate the interpretation of the

coefficients in the structural model. Students from Cluster 1 were denoted as "1", and those from the "Tech-Focused Students" (Cluster 2) were assigned "0".

Measurement model

In terms of the CRQ, the original dimensionality revealed a satisfactory fit to the data ($\chi^2_{(647)}$ = 9,852.648; p < .001; *CFI* = .959; *NFI* = .956; *TLI* = .955; *SRMR* = .064; *RMSEA* = .078; CI 90% (.076; .079); $p_{[RMSEA \leq .05]}$ < .001). The CFA, which was conducted to test the dimensionality of the Grit Scale, also showed almost satisfactory fit of the model to the data ($\chi^2_{(35)}$ = 1,117.947; p < .001; *CFI* = .977; *NFI* = .976; *TLI* = .970; *SRMR* = .040; *RMSEA* = .115; CI 90% (.109; .121); $p_{[RMSEA \leq .05]}$ < .001). The modification indices were analyzed, and two constraints were added: a correlation path between items 3 and 4's residuals (r = .312; p < .001) and a correlation path between items 6 and 8's residuals (r = .298; p < .001). Upon incorporating these modifications, the fit of the modified grit scale model to data was deemed satisfactory ($\chi^2_{(33)}$ = 722.850; p < .001; *CFI* = .985; *NFI* = .985; *TLI* = .980; *SRMR* = .032; *RMSEA* = .094; CI 90% (.088; .100); $p_{[RMSEA \leq .05]}$ < .001).

The reliability of the scores in terms of internal consistency and the convergent evidence in terms of internal structure were analyzed, with the twelve first-order dimensions of the CRQ demonstrating satisfactory evidence: occupational expertise (ω = .81; *AVE* = .68); job market knowledge (ω = .91; *AVE* = .83); soft skills (ω = .92; *AVE* = .87); organizational career support (ω = .92; *AVE* = .86); study challenge (ω = .88; *AVE* = .79); social career support (ω = .85; *AVE* = .64); career involvement (ω = .89; *AVE* = .80); career confidence (ω = .92; *AVE* = .82); career clarity (ω = .93; *AVE* = .89); networking (ω = .82; *AVE* = .68); career exploration (ω = .94; *AVE* = .89); and learning (ω = .88; *AVE* = .79). Similarly, the four second-order factors presented satisfactory estimates: knowledge and skills (ω_{L2} = .78; $\omega_{partial\ L1}$ = .95; ω_{L1} = .75; *AVE* = .55), environment (ω_{L2} = .75; $\omega_{partial\ L1}$ = .94; ω_{L1} = .71; *AVE* = .51), motivation (ω_{L2} = .78; $\omega_{partial\ L1}$ = .97; ω_{L1} = .77; *AVE* = .55), and career management behaviors (ω_{L2} = .87; $\omega_{partial\ L1}$ = .96; ω_{L1} = .83; *AVE* = .69). The grit scale exhibited adequate evidence (ω = .92; *AVE* = .64).

Structural model

The hypothesized structural model, relating the obtained students' profiles with grit and career resources, was tested. Initially, this structural model

presented three observed variables with negative variances (CRQ's items 9, 28, and 34). A common strategy to handle negative variances is to constraint items' residual' variances to a small value (e.g., 0.01). However, due to the parameterization used (theta) the observed variables' residuals cannot be constrained, as so the loadings of these items were constrained to be equal to items' 9, 29 and 35 loadings, respectively. This option was selected since the loadings of these items were similar within each of the respective factors. This revised model, demonstrated a satisfactory fit to the data (Figure 3; $\chi^2_{(1102)}$ = 12,518.245; $p < .001$; *CFI* = .980; *NFI* = .979; *TLI* = .980; *SRMR* = .058; *RMSEA* = .066; CI 90% (.065; .067); $p_{[RMSEA \leq .05]} < .001$). The model presented satisfactory values of explained variance of the CRQ dimensions ($r^2_{KS} = .296; r^2_{Env} = .175; r^2_{Mot} = .500; r^2_{CMB} = .355$), although the amount of the variance explained for the grit variable was low ($r^2_{Grit} = .022$).

Figure 3

Structural Model's Diagram

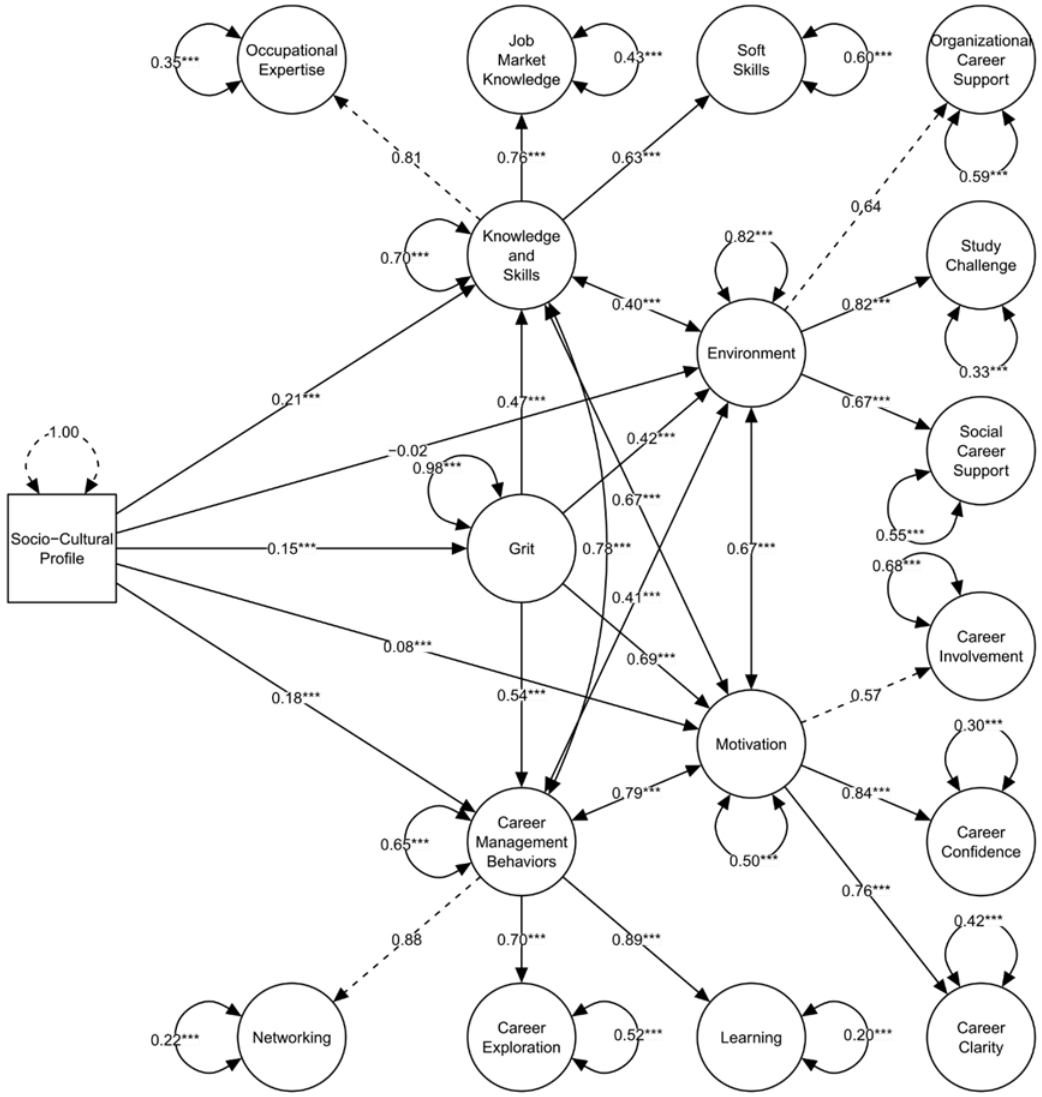


Table 2 presents the direct, indirect, and total effects. Notably, belonging to the "Culturally Engaged Working-Class Students" cluster was positively associated with three career resources. Specifically, the strongest standardized effect was observed for knowledge and skills resources ($\widehat{\beta}_{KS \leftarrow P} = 0.214; p < .001$) supporting Hypothesis 1 (H_1). Also, positive significant direct effects of grit on four dimensions of career resources were observed (H_2).

Table 2

Latent Regressions: Direct, Indirect, and Total Effects

Path	$\hat{b}$	*se*	*Z*	*p*	95% *CI*	$\hat{\beta}$
Direct Effects						
KS ← G	0.344	0.017	19.804	< .001	(0.310; 0.378)	0.470
KS ← P	0.268	0.028	9.602	< .001	(0.213; 0.322)	0.214
Env ← G	0.306	0.019	16.288	< .001	(0.269; 0.343)	0.421
Env ← P	-0.024	0.028	-0.840	.401	(-0.079; 0.032)	-0.019
Mot ← G	0.418	0.016	26.245	< .001	(0.386; 0.449)	0.691
Mot ← P	0.082	0.020	4.159	< .001	(0.043; 0.121)	0.080
CMB ← G	0.535	0.017	30.716	< .001	(0.501; 0.569)	0.544
CMB ← P	0.296	0.033	8.910	< .001	(0.231; 0.361)	0.176
G ← P	0.254	0.037	6.853	< .001	(0.182; 0.327)	0.149
Indirect Effects						
KS ← G ← P	0.087	0.013	6.490	< .001	(0.061; 0.114)	0.070
Env ← G ← P	0.078	0.012	6.357	< .001	(0.054; 0.102)	0.063
Mot ← G ← P	0.106	0.016	6.739	< .001	(0.075; 0.137)	0.103
CMB ← G ← P	0.136	0.020	6.730	< .001	(0.096; 0.176)	0.081
Total Effects						
KS ← P + (KS ← G ← P)	0.355	0.030	11.740	< .001	(0.296; 0.415)	0.284
Env ← P + (Env ← G ← P)	0.054	0.030	1.832	.067	(-0.004; 0.112)	0.044
Mot ← P + (Mot ← G ← P)	0.188	0.024	7.824	< .001	(0.141; 0.236)	0.182
CMB ← P + (CMB ← G ← P)	0.432	0.037	11.690	< .001	(0.360; 0.504)	0.257

Note. KS — Knowledge and Skills; Env — Environment; Mot — Motivation; CMB — Career Management Behaviors; G — Grit; P — Sociocultural Profile.

All indirect effects and total effects were statistically significant, with exception of the total effect of students' sociocultural profile on the environment factor ($\hat{\beta}_{Env \leftarrow P + (Env \leftarrow G \leftarrow P)} = 0.044; p = .067$). As proposed in H_3, students' sociocultural

profile presented an indirect effect - via grit - on four dimensions of career resources.

DISCUSSION AND CONCLUSIONS

This study examined the relationship between different profiles of HE students, considering their social and cultural backgrounds and the development of career resources. By doing this, important contextual circumstances proposed as influencing career development are taken together with individual characteristics, allowing a deeper understanding of critical contextual circumstances that might shape how career resources are developed. First, our findings support the existence of two different student profiles in our sample. Many students (nearly 63%) are integrated into a cluster predominantly composed of Health Sciences, Science and Engineering, and Technology scientific areas, not first-generation students in HE, with some diversity of sociocultural conditions. Male students mostly form this group, and students centred on academic life and leisure activities mainly related to multimedia and the digital world. Another group, accounting for nearly 36% of the sample, predominantly comprises Social Sciences and Humanities, Architecture and Arts disciplines. In this group, many students come from working-class backgrounds, and a high proportion have professional experience. Also, in this group, there is many female students who often go out for cultivated leisure activities and carry out cultivated activities in the domestic sphere.

Second, our findings indicate that grit can link students' profiles and the four dimensions of career resources. The indirect effect between students' profiles and the "Environment" dimension — via grit — suggests that the relationship between students' sociocultural profiles and this dimension of career resources can be primarily associated with their attitudes of perseverance and consistency in pursuing their defined projects. This absence of a direct effect also suggests that, based on students' perceptions, the university environment — encompassing the institution, the courses they attend, and their peers and friends — does not categorize students based on their social and cultural backgrounds. For all the other dimensions, direct and indirect effects were detected, suggesting that both the students' sociocultural origins and levels of grit appear to significantly contribute to the explanation of the "knowledge and skills", "motivation", and "career management behaviors" dimensions of career resources. Such results confirm the expectation that the social origin of individuals influences career resources, but also evidence that grit might have an

important role in how students' careers develop. Moreover, the positive relation between students' sociocultural profiles and grit, favoring the Culturally Engaged Working-Class Students, suggests that facing barriers, common among individuals from lower sociocultural backgrounds, might foster higher determination and effort, leading to enhanced focus and persistence in achieving their goals. This aligns with Liu's study (2019), which identified that non-cognitive skills moderate family socioeconomic effects on achievement. It also reinforces the qualitative findings of O'Neal and colleagues (2016), who suggested that citizens and non-citizens displayed grit when facing obstacles, arguing that it plays an important role in sustaining academic outcomes.

THEORETICAL AND PRACTICAL IMPLICATIONS

This study contributes to the literature in different ways. Identifying different profiles offers a more profound understanding of the unique aspects of career development of HE students. As expected, the findings suggest that individuals' sociocultural backgrounds significantly influence how these resources are developed. By adding the variable grit into this equation, this study, grounded on Bourdieu's (1986) and Blustein's (2011) perspectives of background influences in career resources, clarifies how sociocultural variables may interact with individual traits in understanding career resources. Previous studies have considered grit a "class-free" construct, often overlooking social structural positions or merely including it as a control variable (Kwon, 2021). The findings of this study show that the role of grit varies depending on sociocultural antecedents, emphasizing the need to consider individuals' contexts for a more comprehensive understanding of the relationship between grit and career development. Psychological traits like grit, which entails perseverance and resilience in facing challenges, can play a pivotal role in this dynamic. For students from less advantaged backgrounds, grit can act as a "buffer" that helps them persist despite obstacles, potentially compensating for some of the disparities in structural resources. This could inclusively explain the higher engagement of the group of students coming predominantly from working classes in cultivated leisure activities. However, grit might not operate in a vacuum. Students' environment can influence the ability to develop and sustain grit. The idea of the cumulative nature of advantage and disadvantage (Duta et al., 2021; Hobfoll et al., 2018) helps to understand how students with more robust support systems (e.g., mentors, financial aid, or family encouragement) may find it easier to cultivate resilience. In contrast, those facing ongoing financial or social challenges may erode their grit by stress or lack of opportunity.

In terms of practical implications, these findings underscore the necessity of acknowledging the sociocultural diversity present in HEIs and promoting opportunities to mitigate inequalities. While it is essential to recognize the impact of structural factors on academic and professional development, the results suggest that cultivating psychological capital, particularly grit, could be a valuable asset for HE students from lower social milieus in building career resources, particularly given their limited social, cultural, and material opportunities (Kwon, 2021). Recent literature suggests that grit enhances educational and career achievements and that investing in education may produce more gritty individuals (Duckworth et al., 2007). Therefore, these results highlight the potential importance of nurturing this psychological resource to reduce structural inequalities. Understanding the interaction between individual and structural factors suggests that grit-building initiatives could be most beneficial when combined with measures that address structural inequalities. For instance, offering financial support, inclusive career services, and access to extracurricular opportunities can help level the playing field, allowing grit to function as a meaningful asset rather than an isolated trait.

LIMITATIONS AND FUTURE RESEARCH PROSPECTS

This study has some limitations. The two profiles identified in this study may not apply to other contexts. However, the findings suggest that future research should consider the unique characteristics that might emerge among HE populations. Further research should be conducted using different samples and incorporate other potentially relevant factors to understand career development, such as social status perceptions or labor market demand factors. This cross-sectional study provides a "snapshot" of a specific moment in students' careers, which inherently limits the understanding of career development over time. As career pathways represent a dynamic process influenced by individuals' continuous development in interests and skills and by cumulative (dis)advantage conditions, longitudinal studies would significantly enhance the understanding of the role of grit in career resources development over time among different sociocultural groups.

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