NEW TEXTS

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Types and Predictors of Career Consciousness among Higher Education Students

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Abstract

In this study, we examine the higher education career consciousness of students and explore the factors affecting it. To this, we conducted empirical surveys in five Central and Eastern European countries (N = 2,199). As the literature contains no universal theory of career consciousness or an accepted measurement scale, we used self-developed indicators. Furthermore, instead of applying a psychological theoretical focus, we concentrated on sociological aspects. The first indicator of career consciousness measured the career-oriented motives of students entering higher education. The second reflected on career-related performance indicators during their studies, while the third and fourth indicated voluntary and paid employment undertaken alongside their studies for career-oriented purposes. Our principal component analysis resulted in two types of career consciousness. The first included career-conscious motives at the point of entry into higher education, and the second comprised career-oriented performance and actions during the course of study. The results of a cluster analysis support the existence of two distinct student groups based on the two types. Our regression analysis also shows that the strength of the two types of career consciousness depends on different background variables. Overall, our results imply that those who have career-conscious motives at entry into higher education do not act in a career-conscious way during their studies and that, conversely, those who act in a career-conscious manner during their studies do not have career-conscious motives concerning their entry into higher education. Furthermore, students' socio-demographic background and training field also variously influence the strength of the two types of career consciousness.

Keywords: career consciousness; higher education students; motivations for further studies; higher education performance; career-oriented paid and voluntary employment; quantitative analysis; Central and Eastern Europe.

Introduction

In the world of postmodern work, the attitude of workers towards their careers has changed [Dahrendorf 1988; Beck 1992]. Stances towards education have therefore also changed, as younger generations not only strive for the acquisition of abstract knowledge but also prefer utilitarian values regarding their future careers. At the same time, universities have also highlighted the importance of improving the employability of their students [Teichler 2011].

In Central and Eastern Europe, students' utilitarian goals in relation to higher education are especially important because of the social and economic disadvantages in the region. This is also supported by a cultural aspect, namely that these societies are dominated by a materialistic value system. Materialism has

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remained a central value even in the post-socialist era, presumably due to the lack of an extended period of welfare society and the fact that post-material values have little social acceptance. The higher education system is also different in this region: intellectual goals in education were more important until the beginning of the millennium, and only after the introduction of the Bologna system has the focus on employability become more pronounced. Overall, the utilitarian approach towards higher education studies among students in the examined region is reflected in the extraordinary importance they attach to building a career.

In this study, we ask three research questions. The first concerns how higher education students' career consciousness can be measured, the second asks what types of career consciousness can be differentiated, and the third regards the effect of our background variables on the different types of career consciousness. Our approach combines rational decision-making theory with sociological aspects. Our four indicators of career consciousness represent rational features, even though we know that non-rational elements exist with regard to career decisions and that they are not necessarily individual choices and may also be influenced by other actors. The sociological aspect of our research is that we also examine how socio-demographic background (the gender, age, and financial, cultural, and social resources of students), as well as certain characteristics of the training received (the country and field of study), affect the strength of this "rational" career consciousness. The other novelty of the study is that we measure not only career-conscious attitudes but also performance and actions undertaken for career-related purposes by the students during their studies.

In the literature, there is no universal theoretical framework on higher education students' career consciousness, and the existing approaches mostly have a psychological focus. Our goal is to develop a middle-range sociological theoretical background (see: [Merton 1968]), which is the guideline for our empirical research. Furthermore, there is no universal measurement scale for career consciousness even in the psychological literature, so we have developed our own measurements relying on the possibilities given in our questionnaire.

We examine career consciousness in general and are not limited by the choice of profession. We distinguish between four indicators of career consciousness. The first is related to the motivations for further studies after secondary education, the second measures higher education students' selected performance indicators, while the third and fourth show the characteristics of and motivations for paid and voluntary student employment, respectively. We consider students to be career conscious at entry if they were strongly motivated in their decision to enter higher education by the prospect of easily finding a well-paying job in a respected profession. Further measurements of career consciousness include certain higher education performance indicators (an intermediate or advanced language certificate obtained during their studies, the possession of a curriculum vitae (CV) in their native language or in a foreign language, participation in a study trip abroad, participation in an academic competition, presentation at a conference). We have selected those performance indicators that are not only necessary for a university career but also demonstrate the existence of skills that are highly valued in the labor market and can be presented in a CV.

We also considered students' voluntary and paid employment for career-oriented purposes as indicators of career consciousness. Career-oriented goals are identified if students have undertaken voluntary or paid work during their studies in a related field and if they were motivated to work by work experience, networking, and professional development opportunities and by being able to present the experience on their CVs.

In line with the four indicators mentioned above, the theoretical part of the article is divided into four sections. First, we briefly review the psychological and sociological models of the career decision-making process. In the second section, we address higher education students' career consciousness based on their motivations for higher education entry. We examine the factors that influence such motivations and the relationship between motivations and human capital theory. The following section explores higher education performance indicators and their determinants, with special regard to performance indicators that may be helpful in terms of future careers. Finally, we review students' motivations for undertaking voluntary and paid employment and the factors that affect such motivations according to the literature, and we also address the impact of student employment on higher education performance and labor market success.

In the empirical section of the study, we first perform principal component and cluster analyses using survey data from five Central and Eastern European countries (N = 2,199) to explore the types of career consciousness. In both analyses, the background variables are the four standardized indices of career consciousness. We then examine the effects on the two resulting principal components through linear regression. The explanatory variables are gender, age, cultural and financial background, the place of residence, the country and field of training, and social resources. In the concluding section of this study, we test our hypotheses, formulate our conclusions and policy proposals, and address the limitations of the analysis.

Psychological and Sociological Aspects of the Career Choice

In a narrower sense, career refers to advancement within a workplace, and more broadly, to movement between jobs [Arthur, Khapova, Wilderom 2005]. Individual, so-called protean careers also depend on personal values and the subjective interpretation of success [Hall 1996]. The career choice process is mostly discussed by psychologists. Its defining elements include career maturity and readiness as well as career awareness or consciousness. R. W. Lent, S. D. Brown, G. Hackett [1994] constructed a model of career planning and career choice based on the psychological aspects of such decisions. They established the social cognitive theory of career and academic interest, choice, and performance, and later, Lent and Brown [2013] constructed the social cognitive model of career self-management across the life span. Lent et al. [2016] discussed the application of this model to career exploration and decision-making. They measured the effects of individual psychological factors, such as decisional self-efficacy, coping efficacy, and decisional anxiety on career choice, as well as the effects of social support and outcome expectations. In the psychological literature (see, for example: [Krieshok, Black, McKay 2009]), both rational and intuitive aspects of career choice and career-related decision-making are discussed; furthermore, career maturity and career readiness are also examined [Crites, Savickas 1996]. S. M. Toman and M. L. Savickas [1997] differentiate between two factors of career readiness: attitudes towards career planning and attitudes towards career exploration.

Lent et al. [2017] examined the level of career decidedness among college students and the effects of psychological factors on it. Problems concerning career decisions and career choices among university students are also discussed by T. Adachi [2006]. He focuses on internal psychological constraints, such as career indecision, passivity, underdeveloped self-understanding, or an inadequate understanding of the professional world. Reflecting current economic and social circumstances, students need be able to understand themselves, understand the professional world, and make their own career decisions. According to his conclusion, the goal is to change students' self-efficacy and outcome expectations, which can positively influence their consciousness, attitudes, and decidedness.

Overall, these models address students' career choices and consciousness of career choice but not students' career consciousness in general, which is how we have conceptualized and operationalized the term. Furthermore, they do not examine the effects of gender or social background on these attitudes and focus mostly on attitudes as opposed to career-conscious actions or performance.

In the literature, P. Hodkinson and A. C. Sparkes [1997] discuss the sociological aspects of career decision-making. According to them, policymakers emphasize individual rational choice and individual freedom in decisions, whereas sociologists highlight socially structured or determined career paths. The authors develop a new model of "careership" based on Bourdieu's theories and combine these two approaches. The main point of the model is that career choice is located in people's habitus and is also influenced by other actors (the youth field). Based on their qualitative interview results, career choice is pragmatically and partly rational, and neither technically rational nor irrational, while it also depends on family background. Within the culturally-derived horizons for action, people make pragmatically rational choices at turning points on their career paths. In our paper, we also combine the rational choice model with sociological aspects, as we examine the effect of students' social background on some rational elements of career decision-making process.

Career Consciousness and Motivations for Higher Education Entry

In B. Tuckman's [1974] interpretation, career consciousness means that young people take into account the income and career opportunities available based on a given qualification or degree when deciding about their post-secondary education. In addition, it must be mentioned that young people's career plans after secondary education can also be influenced by their family environment, their financial situation, their peer group, and their secondary school teachers [Kazi, Akhlaq 2017; Nimra, Nawaz, Samiullah 2019].

Based on Tuckman [1974], we connect young people's motivations for higher education entry with the concept of career consciousness. A. L. Pires [2009] distinguishes three types of motivations for further studies. Internal motivations include the belief in knowledge, the joy of learning, new social relationships, and professional motivations, such as career building and skill development. External motivations may include economic considerations (e. g., using social connections obtained at university to get a good job) and external pressure or coercion from family, parents, friends, and the workplace. Finally, derivative motivations aim to avoid boredom and delay the entry into the labor market through higher education. As we have seen, career-building motivations are internal motivations based on Pires [2009], and according to Tuckman [1974], they are also linked to the human capital model (see: [Mincer 1958; Becker 1964; Schultz 1971]) because the wage advantage and the social prestige of the later job are considered when making the decision about higher education. In this study, students who are "career conscious at entry" primarily take into account the prediction of the human capital model (obtaining a well-paying job with a degree, easier job searches, and working in a respected profession) when deciding about higher education entry.

Regarding the background factors that influence career consciousness, M. N. Thompson and L. M. Subich [2006] found that students from favorable social backgrounds are more career conscious in the sense explained above, but H. Conno and G. Britain [2004] showed that career consciousness is also influenced by students' gender and ethnicity. Our previous regression results [Fényes, Mohácsi, Pallay 2021] reveal that graduation commitment during one's studies and career consciousness observed at higher education entry is more common among women, children of highly educated fathers, those from a favorable financial background, those of a rural origin, and students of economics and business, and is less common among students of pedagogy or humanities.

Performance Indicators in Higher Education

As a result of the functional rearrangement of higher education [Moura Castro, Levy 2001], its system of objectives has also diversified, multiplying the previously clear goals. Consequently, the concept of student

performance is not particularly clear in the world of mass higher education. The failure-minimizing approach captures the concept as contrary to students' dropout, failure, lack of success, and disillusionment with academic goals or with the institution. According to the positive approach, the taxonomy of student performance can start within higher education [Pusztai 2015] or rely on external systems of reference. According to the so-called internal indicators of higher education careers, student performance includes successful entry into each level of higher education in accordance with personal career plans, resilience, aspirations for and success in terms of entering the next level, examination results, skill development between entry and graduation, commitment to their studies, and students' learning methods, which meet academic standards [Klein et al. 2005; Tinto 2006; Banta, Pike 2007]. External indicators of student performance include getting employed in the public or private sector, achieving satisfactorily in the workplace, and having work attitudes that are valued by employers [Pusztai 2014]. It is difficult to predict external performance based on student performance during their university years, as it is not possible to know in advance whether students will be employed in the fields of their qualifications, do their jobs well, or meet their employers' expectations.

One-dimensional and multiplex measurements of higher education performance exist. Among one-dimensional approaches, the most frequently used is the classical GPA (grade point average). Its limitation, however, is that its comparability across institutions and disciplines is debatable [McAbee, Oswald 2013]. Some higher education performance measures are based on key competencies formulated as the principles of Programme for International Student Assessment (PISA) measurements. There have been attempts to measure similar competencies in higher education as in secondary schools and to assess the increase in knowledge by comparing the specialized or general competencies of entrants and graduates [Rodgers 2007]. Among the initiatives to assess general skill development, the best known is the CLA (the Collegiate Learning Assessment), which measures critical thinking, analytical reasoning, problem-solving skills, and written communication competencies [Zahner et al. 2016]. There are also field-specific measurements, such as the AHELO (the Assessment of Higher Education Learning Outcomes) for economics and engineering students. However, on closer inspection, the tasks of the CLA, which are used in the general part of the AHELO, also primarily aim to measure business planning ability [Shavelson 2012]. There are many reservations about the content of such assessments because the skills to be measured are always skewed towards one or another field of training. Furthermore, training programs may have divergent goals across regions and countries, and different social groups are likely to produce different test results. Another problem is that performance measurement tools involve a lengthy data acquisition procedure, and data analysis at the individual level is hindered by the fact that different parts of the survey are completed by different students in order to reduce the workload per student [Klein et al. 2007].

Multidimensional student development theories show that performance can be examined from several perspectives and that student development can vary in terms of its degree and pace in each vector [Chickering, Kytle 1999]. These include identity formation, goal orientation, and aspirations for studies and employment, which may also be related to our concept of career consciousness. Astin [1993], who also considers these indicators, views them within an affective category rather than a cognitive one, in a similar way to E. T. Pascarella and P. T. Terenzini [2005].

Instead of a one-dimensional measurement (e. g., GPA), the empirical section of this article employs the concept of multidimensional student performance in the examined region. In our previous research [Fényes 2010, Pusztai 2015], our indicators were organized into three factors: academic performance (publications during university years, participation in conferences, participation in academic competitions, extracurricular activities, study scholarships), international openness (language certificates, study trips), and plans for further studies (another degree or a Ph. D.). In this study, we also include among the performance indicators the possession of a CV in the native language or a foreign one.

As regards students' international openness, spatial mobility has been a key research focus of the literature

since the start of the Bologna process [Pusztai, Szabó 2008]. Everybody understands the value of international study experiences, which broaden prospective graduates' horizons, enrich their academic experience, and increase their innovation and networking skills, because degrees gained abroad and exchange semesters predict better labor market outcomes. Mobility capital [Murphy-Lejeune 2002; Soloviova 2017; Dabney-Fekete, Dusa 2020] includes accumulated resources that promote student mobility. Among these, foreign language skills play a prominent role. In some education systems, language proficiency is measured and certified through language exams organized by institutions or the state, but many international or internationally accredited language certificates are also popular and may even be a prerequisite for entering and completing higher education. In recent decades, foreign language proficiency has also been included in the literature as an independent indicator of academic success [Vinke, Jochems 1993; Dooey, Oliver 2002; Sadeghi et al. 2013].

In addition to obtaining a language certificate during one's university years, the possession of a CV in the native language or in a foreign one is also an important indicator of student performance. In the literature, the preparation of a CV is considered to be a positive experience, as it suggests professional self-knowledge, identity formation, and career consciousness [Skok, Dolinšek 2013]. Because a degree alone does not provide a competitive advantage in terms of mass training, students must fill their CVs with specific evidence of individual competencies, such as participation in study competitions and conferences, which employers are likely to value in a job interview. Overall, language skills, study trips abroad, participation in academic competitions, presentations at conferences, and the preparation of a CV are considered characteristics of consciously developed careers and arguably help future career outcomes, so they are included in the analysis as indicators of career consciousness.

Background factors that influence student performance were also examined in our previous research [Fényes 2010; Pusztai 2015]. Students' complex performance during their university years was increased by a favorable socioeconomic status, and most of all by the mothers' high educational attainment and students' urban origin. As for the effect of demographic variables, women and older students performed better. In our previous study, we compared performance to what was usual in the given discipline, as measured by the average at the faculty, because evaluations may sometimes be incomparable across disciplines, especially in STEM (science, technology, engineering, mathematics) fields but also in medicine and health sciences. We also showed that student performance was encouraged the most by social capital, especially close tutoring and mentoring relationships with faculty, which could override the influence of gender, age, and socioeconomic background. Of the performance indicators, language certificates were more common among women and those in a better financial position, whereas better academic and scientific performance indicators were more common among men [Fényes 2010; Pusztai 2015].

The Career-Building Role of Paid and Voluntary Work in Higher Education

Paid and voluntary work in higher education constitutes an investment in human capital by increasing subsequent productivity and allowing graduates to achieve higher earnings according to human capital theory [Mincer 1958]. In addition, paid and voluntary student employment may be characterized by capital conversion, as explained by P. Bourdieu [1986]. This is because students accumulate knowledge capital (labor market skills, professional knowledge) and social capital during employment, which can later be converted into financial benefits during employment after graduation. In this study, we link higher education students' motivations for employment and the fit between their work and studies to career consciousness during their university years. We consider those who have undertaken paid or voluntary work in a field related to their studies, or who are motivated to work by work experience, networking, and professional development opportunities and the expansion of their CV as career-conscious (in addition to those with the performance indicators discussed in the previous section). In the following, we review the impact of paid and voluntary work on higher education performance and labor market success based on the literature.

Paid work can have a positive effect on higher education performance, but mostly if it is related to the field of study. However, as some researchers point out, employment takes time away from one's studies and may reduce students' integration into campus life (they get to meet fewer peers and instructors), so it could decrease students' academic performance and increase their risk of dropping out [Tinto 1993]. However, according to A. W. Astin [1993], this is rather true for off-campus but not on-campus work. Overall, the impact of work on academic performance and on providing protection against dropping out is inconclusive [Blackwell et al. 2001].

Another theoretical framework of student employment highlights the importance of higher education for increasing students' future employability [Teichler 2011]. As a result of student employment, students' skills improve, and they establish new relationships, which later make it easier for them to get a job and earn more. However, according to P. Róbert and E. Saar [2012], it is employment in a field related to their studies that has a positive effect on their future success in the labor market. A. Baert et al. [2016] show that the positive and negative effects of related and unrelated work cancel each other out, and that student employment has no demonstrable effect on labor market position in the long run. Further empirical results from J. Allen and R. van der Velden [2011] suggest that the work after graduation is likely to fit their studies in terms of specialization and the level of training for graduates who have undertaken related work alongside their studies.

As for students' voluntary work, G. D. Kuh [2009] shows that if volunteering is related to their studies, it increases students' higher education performance and graduation commitment; in other words, such activities protect students from dropping out. We have found similar results in our previous work [Pusztai, Fényes, Markos 2021] using the data from the region that is also examined in this study. Research in the United Kingdom suggests that the positive impact of volunteering on labor market careers is especially pronounced if volunteering is not mandatory (that is, not integrated into the curriculum) or if it is related to the field of study [Hoskins, Leonard, Wilde 2020].

Overall, if paid and voluntary work is related to the students' field of study, it has a positive impact on their studies and future labor market success, so we decided to consider it as a career-consciousness indicator. The other indicators of career consciousness are related to the motives for paid and voluntary work. Research carried out in the region being studied found that a significant proportion of students were motivated to do paid work by the possibility of gaining work experience and not by the chance to earn money in the short term. Work experience-focused motivations were reinforced by a close relationship with parents and friends outside the institution, older age, and participation in self-funded training. Another important result is that if the work is not related to the nature of the studies, motivation can still result from the opportunity to gain work experience. In 2014, 50% of those who were motivated by work experience were employed in their field of study, compared to 40% in 2019 [Fényes 2021; Fényes et al. 2021].

As for voluntary work, the possibility of gaining work experience and establishing relationships was also an important motivation in addition to the chance to acquire knowledge, achieve professional development, and present the experience on one's CV. Besides these, various students were also motivated by the intention to help, which is a traditional motive for volunteering. Career-oriented goals regarding volunteering were stronger among women, those with close relationships with external friends, students in countries outside Hungary, and students in non-STEM[1] programs (e.g., helping professions). Volunteering was more closely related to the field of study among those from unfavorable social backgrounds, those who had intensive contact with faculty, students in Romania, and teacher education students [Fényes, Markos, Mohácsi 2021]. Overall, in relation to students' paid and voluntary work, if the work was related to the field of study and the motives were career-oriented, we considered these indicators as a measurement of students' career consciousness.

[1] In the study, STEM programs refer to the fields of engineering, computer science, and other sciences.

Hypotheses

H 1: Based on our four indicators of career consciousness, we suppose that there are two types of career consciousness and, similarly, two corresponding student groups based on these types. The first incorporates career-conscious motives for entering higher education, which means that the students' main motive is easily finding a high-prestige, well-paying job using their degrees [Tuckman 1974]. The second type features career-conscious actions and performance during higher education studies, which are measured by career-oriented performance indicators and career-oriented paid and voluntary work undertaken during their studies.

We suppose that those who are career conscious when entering higher education do not necessarily display career-conscious performance or actions during their studies. Those who have career-conscious motives to study further do not necessarily make efforts to build their careers later on during their studies. In other words, motives do not turn into actions or performance. On the other hand, we suppose that those who display career-conscious performance or actions during their studies might not have career-conscious motives concerning entering higher education.

H 2: We also suppose, based on our previous research findings in the examined region [Fényes 2010; Pusztai 2015; Fényes, Mohácsi, Pallay 2021; Fényes et al. 2021; Fényes, Markos, Mohácsi 2021], that our examined background variables affect the two types of career consciousness in different ways.

Importantly, these assumptions are only applicable to our indicators of career consciousness.

Database

The database consists of a large-sample student survey[2] (N = 2,199) conducted in the academic year 2018/19[3]. The survey was carried out at higher education institutions in Eastern Hungary[4] and in four other countries[5] (Slovakia, Romania, Ukraine, Serbia). The Hungarian subsample (N = 1,034) was collected using quota sampling and is representative with respect to the faculty, the field of study, and the type of funding. At institutions outside Hungary, groups of students on university or college courses were selected randomly and surveyed exhaustively (N = 1,165). The sample consists of full-time bachelor's students in their second year and of second- or third-year students from undivided programs that offer a master's degree.

Examined Variables

First, we present the elements of the dependent variables (the four indices for career consciousness; see the descriptive statistics in Table 1). In all cases, standardized indices were generated later. The index for career-conscious motives at entry is the sum of three binary (0 or 1) variables: I applied to higher education to find a well-paying job (the proportion of those who marked this as important or very important is 71.7%), to have a respected profession (76.6%), or because it is easier to get a job with a tertiary degree (80.5%). The Cronbach's alpha value is 0.622.

2 The title of the research project was "The Role of Social and Organizational Factors in Student Attrition" in the following PERSIST 2019 database.

3 The data collection was carried out by the CHERD-Hungary research group, and the authors are the members of this group.

4 The University of Debrecen, the University of Nyíregyháza, Debrecen Reformed Theological University, Saint Athanasius Greek Catholic Theological College.

5 Babeş-Bolyai University (BBTE), Emanuel University of Oradea, Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education, Constantine the Philosopher University in Nitra, Mukachevo State University, the University of Oradea, Partium Christian University (PKE), Sapientia Hungarian University of Transylvania, J. Selye University, the University of Novi Sad, Uzhhorod National University.

The career-related performance index is made up of the following items: I have taken part in an academic competition (8.9% of the sample has done so), I have made a presentation at a conference (8.7%), I possess an intermediate (46.6%) or advanced (13.1%) language certificate, I possess a CV in my native language (39.2%) or a foreign language (20%), and I went on a study trip abroad during my university years (7.5%). The index is the sum of the seven binary variables. The Cronbach's alpha value is 0.502, which is quite low, implying that the seven performance indicators comprising the index did not act together. Nevertheless, we still combine them into one indicator because not everyone is good at everything, so individual differences can be taken into account by using an index.

The two other indices of career consciousness are related to students' paid and voluntary work undertaken during their studies. The elements of the career-oriented paid employment index are as follows: whether the paid work was related to the field of study (15.7% of the full sample undertook paid work in a related field), whether the possibility of gaining work experience was an important or very important motivation for the paid employment (for 30% of the sample), and whether the chance to establish relationships was an important motivation (for 17% of the sample). The index is the sum of the three dummy variables, and the Cronbach's alpha value is 0.685.

Among those engaged in voluntary work, we distinguished those whose work was related to their fields of study (26.3% of the full sample) as well as those who were motivated by gaining work experience (34.9%), establishing new relationships (33.4%), acquiring knowledge and professional development (35.5%), and presenting the experience on their CVs (19.5%). The career-related voluntary work index is the sum of the five dummy variables, and the Cronbach's alpha value is 0.891.

Table 1

Descriptive Statistics of the Dependent Variables

Index	Mean	Standard Deviation
Career-conscious motives to study further, index (1–3)	2.29	0.96
Career-related performance, index (1–7)	1.44	1.32
Career-oriented paid work, index (1–3)	0.63	0.94
Career-oriented volunteering, index (1–5)	1.5	1.89

In our regression models, the explanatory variables (see the descriptive statistics in Table 2) include gender and age, and we proxy social background using the father's and mother's years of education and four indicators of financial status. A family's financial situation was measured by the possession of durable consumer goods[6] (objective financial situation index 0–9) and by a relative financial situation indicator, which compares the family's financial situation to those of the student's peers (on a 1–5 scale where 3 is the average situation). To capture a students' individual financial situation objectively, we created a composite index indicating the possession of durable goods[7] (0–6) and a subjective indicator of an individual's financial situation[8] that explores whether the student can afford a significant purchase or is unable to cover even basic expenses (1–4). Finally, a variable for the place of residence at the age of 14 (1: urban, 0: rural) is also included. We also in-

6 Components of the index: Does the family possess an apartment or house, a five-year-old or younger car, a flat-screen television, a personal computer or laptop with broadband internet access at home, a tablet or e-book reader, mobile internet (on a phone or computer), a dishwasher, an air conditioner, and a smartphone?

7 Components of the index: Does the student possess an apartment or house, a car, an above-average smartphone (e. g., an iPhone), an above-average computer or laptop, a tablet or e-book reader, and savings to purchase a house?

8 1: Often I do not have enough money for basic everyday necessities. 2: Sometimes I do not have enough money for everyday expenditures. 3: I have everything I need but cannot afford larger expenditures. 4: I have everything I need and can also afford larger expenditures.

vestigate the effect exerted by the country variable and the field of study. Finally, students' social resources are represented by four indices, measuring the frequency of social activities with parents[9] (6–30), faculty[10] (0–18), fellow students from the same program or institution[11] (0–11), and friends outside the institution[12] (0–11).

Table 2

Descriptive Statistics of the Explanatory Variables

Variable	Statistics
Gender (1: male)	30.1% males and 69.9% females
Age	Mean 21.6, standard deviation 1.62
Mother's years of education	Mean 12.7, standard deviation 2.54
Father's years of education	Mean 12.9, standard deviation 2.6
The family's objective financial situation based on the possession of durable consumer goods (index, 0–9)	Mean 6.9, standard deviation 1.63
The family's relative financial situation compared to those of the student's peers (1–5)	Mean 3.3, standard deviation 0.77
The student's objective financial situation based on the possession of durable consumer goods (index, 0–6)	Mean 1.8, standard deviation 1.5
The student's subjective financial situation (1–4)	Mean 3.2, standard deviation 0.62
Place of residence at the age of 14 (1: urban)	62.2% urban, 37.8% rural
Country (dummy variables, ref. Serbia)	Hungary 47.5%, Romania 32%, Ukraine 9.3%, Slovakia 6.4%, Serbia 4.8%
Field of study (dummy variables, ref. other)	Arts and social sciences 21.5%, economics and business 12.7%, computer science, engineering, and sciences 15.9%, previously unclassified teacher education 25.7%, other 24.2%
Index for the relationship with parents	Mean 19.6, standard deviation 3.44
Index for the relationship with faculty	Mean 4.2, standard deviation 4.19
Index for the relationship with university peers	Mean 8.3, standard deviation 2.84
Index for the relationship with external friends	Mean 7.7, standard deviation 3.16

9 During the years spent in higher education, have your parents done any of the following activities with you? Have a conversation; ask about your studies and exams; provide financial support; plan activities together; or plan sports activities together (the frequency of the activities is specified on a 1–5 scale, with a Cronbach's alpha of 0.793).

10 Do you have a professor or lecturer with whom you do any of the following activities? Talk about the curriculum outside lectures; talk about topics not specified in the curriculum; talk about literature or art; talk about questions regarding politics; talk about private matters; talk about plans for the future; maintain regular e-mail conversations; pay special attention to your career; or talk about sport and a healthy lifestyle (1: there is one such professor, 2: there is more than one professor, 0: there is no such professor; with a Cronbach's alpha of 0.879).

11 Do you have a fellow student on the program or at the institution with whom you do the following activities? Talk about academic problems; talk about private matters; spend leisure time together frequently; discuss future plans; visit in the case of illness; borrow textbooks or study materials; talk about scientific questions; talk about culture or questions regarding politics; talk about art; study together; or do sports together (1: there is such a student, 0: there is no such student; with a Cronbach's alpha of 0.842).

12 Do you have a friend outside the institution with whom you do the following activities? See the list for fellow students (1: there is such a friend, 0: there is no such friend; with a Cronbach's alpha of 0.873).

Methods

We first performed principal component analysis to investigate the types of career consciousness with respect to the four indices mentioned above. We standardized the indices before conducting the analysis. Two types of career consciousness emerged, and we performed cluster analysis to explore whether these two career consciousness types are also characteristic of certain student groups. In addition, we carried out linear regression on both the principal components to examine their determinants.

Results

First, we conducted principal component analysis based on the four dependent variables (standardized indices). Our findings (Table 3) suggest the emergence of two principal components. One reflects career-conscious motives at entry based on the three career-oriented motives for studying further in higher education. The other incorporates career-conscious performance and actions during one's studies, which demonstrated high factor scores (above 0.6) with respect to career-oriented volunteering and paid work as well as career-oriented performance indicators in higher education. The factor weights imply that career consciousness at entry is loosely linked to career-oriented motives for paid employment and that the opposite is true for voluntary employment.

Table 3

Results of the Principal Component Analysis with Respect to the Four Career Consciousness Indices

Index	Career-Conscious Motives at Entry	Career-Conscious Performance and Actions
Career-oriented volunteering (standardized index)	– 0.205	***0.690***
Career-oriented paid work (standardized index)	0.291	***0.629***
Career-related performance (standardized index)	0.039	***0.642***
Career-conscious motives to study further (standardized index)	***0.946***	– 0.071

Source: Authors' calculations based on the PERSIST 2019 database.

* Total variance explained: 57.78%, missing pairwise, communalities are above 0.4.
** Factor weights, marked in bold and italics if the factor weight is above 0.5.

Second, we also performed cluster analysis based on the four indices, and two groups of students were distinguished. One of the groups, made up of 1,329 students, has above-average career consciousness at entry, which means that they were motivated to enter higher education by high earnings, an easy job search, and a high-prestige profession. The other group, which is a slightly smaller group with 870 students, is characterized by above-average values for the performance index and career-orientated paid and voluntary work. So, the resulting two student groups also differ with respect to the two career consciousness types obtained in the principal component analysis.

The explanatory factors affecting the two principal components were then examined through linear regression (Tables 4 and 5).

Table 4

Linear Regression Results for Career-Conscious Motives at Entry (Principal Component) as a Dependent Variable

Variable	B	Se	Beta	T	Sig.
Gender (1: male)	0.045	0.055	0.022	0.820	0.412
Age	0.016	0.015	0.027	1.023	0.307
Mother's years of education	– 0.004	0.011	– 0.011	– 0.373	0.709
Father's years of education	0.007	0.011	0.018	0.608	0.543
The family's objective financial situation based on the possession of durable consumer goods (index, 0–9)	0.054	0.017	***0.090***	3.114	***0.002***
The family's relative financial situation compared to those of the student's peers (1–5)	– 0.041	0.036	– 0.032	– 1.128	0.260
The student's objective financial situation based on the possession of durable consumer goods (index, 0–6)	0.026	0.018	0.040	1.416	0.157
The student's subjective financial situation (1–4)	0.003	0.042	0.002	0.071	0.943
Place of residence at the age of 14 (1: urban)	– 0.130	0.051	– ***0.066***	– 2.560	***0.011***
Hungary	0.171	0.079	***0.090***	2.155	***0.031***
Romania	– 0.022	0.079	– 0.010	– 0.278	0.781
Ukraine	0.294	0.123	***0.072***	2.396	***0.017***
Slovakia	0.297	0.129	***0.065***	2.293	***0.022***
Arts and social sciences	– 0.043	0.073	– 0.018	– 0.587	0.558
Business and economics	0.516	0.080	***0.183***	6.474	***0.000***
Sciences, computer science, engineering	0.214	0.074	***0.083***	2.887	***0.004***
Teacher education	– 0.228	0.075	– ***0.105***	– 3.043	***0.002***
Index for the relationship with parents	0.023	0.007	***0.080***	3.144	***0.002***
Index for the relationship with faculty	– 0.019	0.006	– ***0.080***	– 3.081	***0.002***
Index for the relationship with university peers	0.009	0.010	0.023	0.876	0.381
Index for the relationship with external friends	0.002	0.008	0.005	0.181	0.857

Source: Authors' calculations based on the PERSIST 2019 database.

[*] Adj. R-squared 0.097.
[**] Marked in bold and italics if $p \leq 0.05$

According to our findings, career-conscious motives at entry are stronger if a student's family is in a favorable objective financial situation; if students are of rural origin; if they study in Hungary, Ukraine, or Slovakia; if they study economics, business, or a STEM discipline (which in this case includes engineering, computer science, and other sciences); if they are not in teacher training; and finally, if they have a close relationship with parents and a distant one with faculty. The second regression model shows the effects on career-conscious performance and actions during one's studies.

Table 5

Linear Regression Results for Career-Conscious Performance and Actions (Principal Component) as a Dependent Variable

Variable	B	SE	Beta	T	Sig.
Gender (1: male)	– 0.128	0.056	– ***0.061***	– 2.289	***0.022***
Age	0.048	0.016	***0.081***	3.081	***0.002***
Mother's years of education	0.015	0.011	0.041	1.376	0.169
Father's years of education	0.000	0.011	0.000	0.006	0.996
The family's objective financial situation based on the possession of durable consumer goods (index, 0–9)	0.001	0.018	0.002	0.070	0.945
The family's relative financial situation compared to those of the student's peers (1–5)	0.021	0.037	0.016	0.568	0.570
The student's objective financial situation based on the possession of durable consumer goods (index, 0–6)	0.021	0.019	0.032	1.146	0.252
The student's subjective financial situation (1–4)	– 0.010	0.043	– 0.006	– 0.236	0.813
Place of residence at the age of 14 (1: urban)	0.146	0.052	***0.073***	2.806	***0.005***
Hungary	– 0.091	0.081	– 0.047	– 1.115	0.265
Romania	0.009	0.081	0.004	0.114	0.910
Ukraine	– 0.290	0.126	– ***0.070***	– 2.310	***0.021***
Slovakia	0.190	0.133	0.041	1.430	0.153
Arts and social sciences	0.167	0.074	***0.069***	2.236	***0.025***
Business and economics	0.045	0.082	0.016	0.554	0.580
Sciences, computer science, engineering	– 0.085	0.076	– 0.032	– 1.119	0.264
Teacher education	– 0.064	0.077	– 0.029	– 0.827	0.409
Index for the relationship with parents	– 0.004	0.007	– 0.012	– 0.485	0.628
Index for the relationship with faculty	0.040	0.006	***0.165***	6.330	***0.000***
Index for the relationship with university peers	0.018	0.010	0.046	1.750	0.080
Index for the relationship with external friends	0.041	0.009	***0.123***	4.667	***0.000***

Source: Authors' calculations based on the PERSIST 2019 database.

*Adj. R-squared 0.091.
** Marked in bold and italics if $p \leq 0.05$

According to our results, career-conscious performance and actions during one's studies are more pronounced among women, older students, urban students, those who study outside Ukraine, students of humanities and social sciences, and those who have a close connection with faculty and friends outside the university.

Discussion and Conclusion

In the theoretical section of this article (including the introduction), we conceptualized and operationalized students' career consciousness. According to our assumption, it is a rational aspect of the career decision-making process. Our study addresses students' career-conscious actions and performance as well as their attitudes or motives. We conceptualize career consciousness in general, and not limited by career choice. We combined rational decision-making theory with sociological aspects during the development of our middle-range theory on career consciousness, which was the guideline for our empirical research. The sociological aspect is that we examine the effect of students' social background (and further explanatory variables) on career consciousness. We supposed, based on P. Bourdieu and J.-C. Passeron [1977], a kind of reproduction of social inequalities in students' career consciousness, as well.

As we have seen in the literature, it is mostly psychologists who analyze students' career choices, but P. Hodkinson and A. Sparkes [1997] developed a sociological model of career decision-making process. They combine the rational decision-making model with the theories on socially determined career paths. However, these works focus on career choices including consciousness of career choice, and not on career consciousness in general, and therefore differ from how we have conceptualized and operationalized the term. In the empirical section, we used four self-developed indicators of career consciousness, relying on the possibilities given in our questionnaire. The first measured the career-oriented motives of students at entry into higher education, the second reflected career-related performance indicators during their studies, while the third and fourth indicated voluntary and paid employment undertaken alongside their studies for career-oriented purposes.

Our first goal was to distinguish between the types of career consciousness using principal component and cluster analyses. According to the most interesting result of this study, students who have career-conscious motives for entry into higher education do not behave in a career-conscious way during their studies, at least according to the indicators we examined. Conversely, those who act in a career-conscious manner during their studies did not have career-conscious motives before entering higher education. This is confirmed by the results from both the cluster analysis and the principal component analysis, in accordance with our first hypothesis.

The two resulting separate types of career consciousness may be driven by students' special way of living (the so-called campus lifestyle; see: [Bocsi et al. 2019]), whereby students reinterpret their own previous goals, so their career-conscious motives at entry do not turn into career-conscious actions and performance during their studies. This result may also be explained by the reasoning that the central driving force of career consciousness at entry is the desire for social mobility, regarding which higher education provides an instrument, so an instrumental approach to higher education is dominant. However, this extrinsic approach is not enough to support career-conscious actions and performance during the difficult and obstacle-ridden process of higher education studies. Due to their interactions with various institutional partners, students identify with the norms and values of their immediate institutional environment, but intragenerational interaction among students does not become a stimulating force [Pusztai 2014].

Another reason for this result could be that our explanatory variables affect these two types of career consciousness differently, in accordance with our second hypothesis. Utilitarian goals concerning higher education entry are influenced by socio-demographic background factors that are different from those concerning career-conscious actions and performance during one's studies. Moreover, the field of study and the country of training have a different impact on the two types of career consciousness.

As for the demographic variables, the strength of career-conscious motives at entry is similar among men and women, but career-conscious actions and performance are more pronounced among women and older students. Due to gender inequalities in the labor market, women need to do more to get a good job, which is recognized by university students, and that is why women are more likely to engage in career-conscious actions and performance during their studies. The reason for older students doing more regarding their future careers could be simply that they have spent more time in higher education and are closer to graduating and beginning their job search.

Regarding social background, career-conscious motives at entry into higher education are more pronounced if a student's family is in a favorable objective financial situation and if they are of rural origin. Contrary to this, career-conscious actions and performance are more pronounced among urban students. However, considering other indicators, the effect of social background on career consciousness during one's studies was not significant. Overall, a better financial background and an urban origin increase career consciousness, so it is socially determined in a sense (in accordance with Bourdieu). At the same time, students of rural origin also have utilitarian goals when entering higher education, which may be due to their desire for social mobility.

As for the country of training, career-conscious motives at entry are stronger for students in Hungary, Ukraine, and Slovakia than in the other two countries examined (Serbia and Romania). This might be explained by the strength of higher education selection and the varyingly competitive nature of secondary schools; however, due to the small subsamples, no general conclusions can be drawn. In contrast, career-conscious actions and performance during one's studies are increased if the training takes place outside Ukraine. This might be due to the fact that in Ukraine there are fewer career-oriented paid and voluntary work opportunities than in the other four countries, that international mobility and conference opportunities are also less available within the higher education system there, and that students are less likely to have a language certificate or a foreign-language CV.

Regarding the field of training, career-conscious motives at entry are stronger among students of economics, business, or STEM disciplines (which in this case includes engineering, computer science, and other sciences) and less strong among teacher education students. At the same time, career-conscious actions and performance during one's studies are more likely among students of humanities or social sciences. The reason for this could be that students who decide to study economics, engineering, or computer science in higher education may choose these disciplines based on the associated economic and social advantages and on their desire to easily find a well-paying and prestigious job later. Therefore, their motives regarding entry into higher education are career conscious. However, later, during their studies, they do not feel the need to engage in career-building performance and actions, as their job prospects are relatively good. In contrast, students studying pedagogy, humanities, or social sciences might have different motives concerning their entry into higher education. They do not enter higher education to get a well-paying job in the future or to make their job search easier, but later, during their studies, they realize that they need to behave in a more career-conscious way because their degrees alone do not provide sufficient prestige and wage advantages. Overall, they need to engage in career-oriented performance and actions if they want to find a good job after graduation. The other explanation could be that career-oriented voluntary work is more frequent among students of helping professions than in STEM or business-related fields.

In terms of social resources, career-conscious motives at entry are stronger if students have close relationships with their parents and distant ones with their instructors, while career-conscious actions and performance during their studies are strengthened by close contact with faculty and friends outside the institution. The reason for this could be that for students with close relationships with their parents, the parents' influence on their career choices after secondary school was also more effective, which is why purposeful goals are more pronounced when entering higher education. However, career-conscious performance and actions are more significant later if students have close relationships with faculty, as instructors might assist them in their career-conscious actions and performance. Another reason could be that parents can help their children enter higher education, but when difficulties and overwhelming tasks arise during their studies, parents who are inexperienced in higher education cannot sustain their children's career consciousness. In this case, it is instructors who are able to guide students and maintain their commitment. Finally, the positive impact of external friends outside the institution on career-conscious actions and performance during their studies is observed presumably because students make external friends through career-oriented paid and voluntary work, or because external friends help students find employment. However, our results suggest that strong involvement in the student community does not affect career consciousness.

The policy conclusion of our study is that career-conscious actions and performance should be supported by the institution, primarily by recognizing that instructors have a responsibility in terms of offering career counseling to students and maintaining career consciousness among them. It is also the task of education policy to develop a system of student talent management with grants, awards, recognitions, and scholarships that support students' career consciousness. Although there are similar awards in the examined countries, they are only received by a small selection of students, so they are not suited to functioning as a forward-looking incentive

system. Collaboration between employers and universities is also necessary so that students are always aware of the labor market outcomes of their study programs even when facing difficulties and challenges during their studies.

The limitation of our research is that we have been constrained by the existing data during our measurement of career consciousness, and we have not been able to develop a complex measurement (scale) yet. We note that we have not found an example in the literature of the operationalization of the concept. We are aware that engaging in career-oriented paid and voluntary work depends not only on students' career consciousness but also on the availability of such opportunities in certain disciplines and countries. A further limitation is that our measurements of career consciousness represent the rational aspect of the career decision-making process, and non-rational motives and the effect of other actors on career choice are not discussed. The novelty of our study, however, is that, instead of applying a psychological focus, we have conceptualized and operationalized career consciousness based on a sociological approach and have examined its determinants accordingly.

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