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Student and Teacher perceptions and experiences:
How do they align?

ARTICLES

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Exploring the impact of generational differences on university study decisions in Slovakia

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Abstract: Students whose parents did not study at a university (first-generation students) exhibit differences in how they decide whether and what to study, compared to students whose parents attended university. In our study, we looked for possible similarities and differences between these two groups of students. The participants were Slovak students aged from 18 to 22 ($N = 357$). The data were collected using an online questionnaire. The results showed that it was significantly more important for second-generation students, whose parents had university degree experience, to continue the family tradition when deciding to study than for first-generation students. The results also revealed that the internet is the most important source of information for students when choosing the subject of their studies. At present, higher education institutions strongly compete for students and, consequently, we recommend that universities pay attention to different target groups of students and develop intervention programs aimed at retaining them. It is equally important that

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universities keep up with the times and provide relevant information on their websites in today's digital world.

Keywords: First-generation students; second-generation students; decision-making; university study choice; sources of information.

I. Introduction

Career choices used to be traditionally linked to social learning, social-economic status, family, interests and personality.¹ In the past decades, we have however seen many substantial changes in the area of academic education. Also, the labour markets are faced with major changes and people tend to change jobs and/or employers several times in the course of their life,² which was not very typical not only in Slovakia. Family tradition ceases to be a factor when brand-new cohorts enter the field. Many “new” students are the first in their families to study at a college - yet a disproportionately low number of first-generation students are successful in university.³

The reason to focus on first-generation and second-generation students in our work is a continuing interest in higher education, even among students whose parents do not have a university degree. Higher education is currently, and in many countries (including Slovakia), much more open and accessible than ever before: we have a sufficient number of higher education institutions, a wide range of study programmes, accessible commuting, and distance learning options. It is important to note in this context that full-time university study is currently free for students in Slovakia. Students only need to pay for education if they exceed the standard duration of their study programme.⁴ Higher education institutions (universities) in Slovakia follow the ECTS – European Credit Transfer System, which was introduced in 2002. Slovak universities provide three levels of higher education: Bachelor's (the common length is three years), Master's (the common length is two years) and the third level is a doctoral or PhD study programme (with a common

¹ Rebecca McPherson, ‘Low-Qualified Labors’ Job Mobility, Boundary Crossing, and Career Success: A Cross-Industry HRM Perspective’, *Journal of Organizational Psychology* 18, no. 1 (2018): 116–29.

² McPherson.

³ Gary R. Pike and George D. Kuh, ‘First- and Second-Generation College Students: A Comparison of Their Engagement and Intellectual Development’, *The Journal of Higher Education* 76, no. 3 (2005): 276–300, <https://doi.org/10.1353/jhe.2005.0021>.

⁴ Ministry of Education, Science, Research and Sport of the Slovak Republic, ‘Školné Na Vysokých Školách v SR’ (Ministry of Education, Science, Research and Sport of Slovak Republic, 2022), <https://www.minedu.sk/skolne-na-vysokych-skolach-v-sr/#VVSDf>.

length of three or four years). Research on decision-making about university studies among Slovak students is relatively scarce. We do not know what the main factors influencing their choices are and whether family tradition plays a role in their decision-making. These findings may help to design university practices and policies.

1.1. The “First-generation Student” phenomenon

The decision-making of students about their university studies can be significantly affected by the phenomenon of first-generation students.⁵ The definition of “first-generation university students” is not consistent in the literature.⁶ Various studies have been focused on understanding the relationship between parental education and study plans and the performance of their children; however, it is difficult for researchers to agree on the definition of a first-generation student and the impact of this definition on the research conclusions.⁷

Some researchers use the term “first-generation student” to refer to a student whose parents or ancestors never attended a university.⁸ They are the first in their families to go to university. Tate et al.⁹ admit that there are advantages and disadvantages of choosing any particular definition, and they define first-generation university students as students whose parents have not obtained a bachelor’s degree. Second-generation students, on the other hand, are those who have at least one parent who attended university and obtained a university degree.

Studies that looked at the effects of being first-generation vs. second-generation students arrived at various findings partially due to different

⁵ Richard James, ‘Non-Traditional Students and Their University Participation: An Australian Perspective on Persistent Inequities and the New Ideology of Student Choice.’ (21st European Association of Institutional Research, 1999).

⁶ James.

⁷ Robert K. Toutkoushian, Robert A. Stollberg, and Kelly A. Slaton, ‘Talking ‘Bout My Generation: Defining “First-Generation College Students” in Higher Education Research’, *Teachers College Record: The Voice of Scholarship in Education* 120, no. 4 (April 2018): 1–38, <https://doi.org/10.1177/016146811812000407>.

⁸ George M. Froggé and Kathryn H. Woods, ‘Characteristics and Tendencies of First and Second-Generation University Students’, *College Quarterly* 21, no. 2 (2018), <http://collegequarterly.ca/2018-vol21-num02-spring/characteristics-and-tendencies-of-first-and-second-generation-university-students.html>.

⁹ Kevin A. Tate et al., ‘An Exploration of First-Generation College Students’ Career Development Beliefs and Experiences’, *Journal of Career Development* 42, no. 4 (August 2015): 294–310, <https://doi.org/10.1177/0894845314565025>.

definitions used. For example, James,¹⁰ as well as Collier and Morgan,¹¹ pointed out the differences between the “traditional” university students (i.e., second-generation and multi-generation students) and first-generation students in how they master the role of a university student. Second-generation students identified themselves with the university student role faster and easier than first-generation students. According to Glass,¹² first-generation students may lack access to information and knowledge about university processes. That is why they may adopt different identity trajectories when transiting to university.¹³ Collier and Morgan¹⁴ looked particularly at the differences and similarities between the expectations of faculty and the expectations of students. They found differences between faculty and student perceptions of traditional and first-generation university students. The questions were focused on time management and specific aspects of teaching. The authors discovered that the expectations of the faculty and the students differed. They also identified differences between second-generation and first-generation university students, as mentioned above. The authors¹⁵ concluded that differences in cultural capital, related to parents’ educational experiences, corresponded to differences in each group’s ability to meet the faculty expectations.

Terenzini et al.¹⁶ similarly found that first-generation students differ from second- and multi-generation students both in their characteristics and their experiences when entering a higher education institution. Their study aimed to answer three questions: whether the first-generation students differ in

¹⁰ James, ‘Non-Traditional Students and Their University Participation: An Australian Perspective on Persistent Inequities and the New Ideology of Student Choice.’

¹¹ Peter J. Collier and David L. Morgan, “‘Is That Paper Really Due Today?’: Differences in First-Generation and Traditional College Students’ Understandings of Faculty Expectations’, *Higher Education* 55, no. 4 (April 2008): 425–46, <https://doi.org/10.1007/s10734-007-9065-5>.

¹² Leah E. Glass, ‘Social Capital and First-Generation College Students: Examining the Relationship Between Mentoring and College Enrollment’, *Education and Urban Society* 55, no. 2 (February 2023): 143–74, <https://doi.org/10.1177/00131245221076097>.

¹³ Kateřina Machovcová, Taťána Škanderová, and Barbora Zumrová, ‘Studující První Generace v Procesu Tranzice Do Vysokoškolského Studia [First-Generation Students in the Process of Transition into University Studies]’, in *Punk v Kvalitativním Výzkumu Anež „Kvalita Is Not Dead“*, ed. Alena Hricová (XXII. ročník česko-slovenské konference Kvalitativní přístup a metody ve vědách o člověku, České Budějovice: Jihočeská univerzita v Českých Budějovicích, 2023), 31.

¹⁴ Collier and Morgan, “‘Is That Paper Really Due Today?’”

¹⁵ Collier and Morgan.

¹⁶ Patrick T. Terenzini et al., ‘First-Generation College Students: Characteristics, Experiences, and Cognitive Development’, *Research in Higher Education* 37, no. 1 (February 1996): 1–22, <https://doi.org/10.1007/BF01680039>.

some pre-university variables from the traditional, whether the study experiences of both groups differ, and what are the academic consequences of these differences. The participants were 2,685 students (825 first-generation and 1,860 traditional students) from 23 institutions. The authors found differences between first-generation and traditional students in both preuniversity variables and academic experiences. Although traditional students' achievements in reading were higher, the two groups' achievements in math and critical thinking were similar. First-generation students were expected to take longer to complete their studies and to have less motivation and support from their families than second-generation students. First-generation students, therefore, differed from second-generation students in their personal and educational qualities when entering their selected university. These comparisons show that first-generation students were disadvantaged.¹⁷ However, Capannola and Johnson¹⁸ highlighted that despite the challenges in the transition to university and during university studies, first-generation students were able to use their strengths and strategies for success in this process. For some first-generation students, the strong motivation to succeed in the university setting could be becoming a role model for their community or family.¹⁹ These findings contribute to the new perception of the university as a more diverse and inclusive setting. First-generation students may adopt new learning strategies and pathways to self-growth and academic or community achievement compared the their "traditional" peers.²⁰ Based on the previous research, we can conclude that there are several important differences between first- and second-generation students, whether in motivation, skills, family background or overall education, which we discuss below.

¹⁷ Terenzini et al.

¹⁸ Amanda L. Capannola and Elizabeth I. Johnson, 'On Being the First: The Role of Family in the Experiences of First-Generation College Students', *Journal of Adolescent Research* 37, no. 1 (January 2022): 29–58, <https://doi.org/10.1177/0743558420979144>.

¹⁹ Gil Keppens et al., 'First-Generation College Students' Motives to Start University Education: An Investment in Self- Development, One's Economic Prospects or to Become a Role Model?', *YOUNG*, 30 January 2023, 110330882211393, <https://doi.org/10.1177/11033088221139393>.

²⁰ Chia-chen Yang, 'Similar Patterns, Different Implications: First-Generation and Continuing College Students' Social Media Use and Its Association With College Social Adjustment', *Journal of College Student Retention: Research, Theory & Practice* 24, no. 1 (May 2022): 79–98, <https://doi.org/10.1177/1521025120902755>; Jillian Ives and Milagros Castillo-Montoya, 'First-Generation College Students as Academic Learners: A Systematic Review', *Review of Educational Research* 90, no. 2 (April 2020): 139–78, <https://doi.org/10.3102/0034654319899707>.

Other studies found that university-educated parents can use their own experience to advise their children, second-generation students, in choosing a university as well as support and motivate them towards university study.²¹ In most cases, they can also provide better financial support.²² On the contrary, first-generation students often lack such advice, motivation and financial support or can sometimes support their children “too much” or somehow inappropriately – e. g. by pressing too hard on their kids to finish up their university studies or giving them too much money what may demotivate them from studying (*Note: Author A. N. experienced this several times in psychotherapy sessions with his clients.*)

According to Toutkoushian et al., the student’s initial interest in studying at the university differed depending on whether at least one of the parents studied at the university.²³ If students had university-educated parents, they tended to study at university rather than first-generation students whose parents did not attend university. The authors summarized several reasons: higher income, as well as the educational attainment of parents, were related to the fact that such families had more financial resources and could thus afford to finance the education of their children. Another reason might be the experience of parents with university studies, which they presented at home to their children in the light of positive stories and events from the university environment. As the parents themselves completed their university education, they knew how to bring their lives closer to university, to understand university habits, and they were more likely to help children to consider studying at university. In addition, the reason may also be the contact of parents with their acquaintances, who also went to university with them. This was another possible way for students to obtain information about university studies, as well as to obtain suitable role models in this area.

Other authors explain the motivation to study at university by following the parents’ example in a slightly different way – the theory of self-determination, according to which people tend to internalize behaviours that are valued by significant others.²⁴ Thus, a student may internalize a

²¹ Collier and Morgan, “‘Is That Paper Really Due Today?’

²² Toutkoushian, Stollberg, and Slaton, ‘Talking ‘Bout My Generation’.

²³ Toutkoushian, Stollberg, and Slaton.

²⁴ Richard M. Ryan and Edward L. Deci, ‘Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being.’, *American Psychologist* 55, no. 1 (2000): 68–78, <https://doi.org/10.1037/0003-066X.55.1.68>; Edward L. Deci and Richard M. Ryan, ‘Motivation, Personality, and Development Within Embedded Social Contexts: An Overview of Self-Determination Theory’, in *The Oxford Handbook of Human Motivation*, by

university-going goal initially promoted by parents or other influencers.²⁵ Consequently, the motivations of first-generation and second-generation students may differ.

According to Choy, the higher the level of education achieved by the parents, the greater the probability that students will apply to a university and attend it.²⁶ However, Horn and Nuñez found that the parents' level of education is just one of many factors related to the student's decision to pursue higher education.²⁷ According to these authors,²⁸ such factors include, for example, family income, parents' expectations, or the degree of the parents' engagement in their children's education. Choy²⁹ found that students, whose parents had university education experience but dropped out before earning a bachelor's degree, did not have an advantage in university compared to students whose parents had no university experience. It can be assumed that the parent's incomplete study experience leads to the children lacking the motivation to complete their university education. They might find this step unnecessary and opt to prevent a study failure by not enrolling in university at all.

In recent years, there have been publications that address the phenomenon of first-generation students,³⁰ but we have yet to encounter a support program aimed specifically at first-generation students. If universities want to retain as many students as possible, particularly to their graduation, they should focus on this group of students and attempt to support them in their university education.

Edward L. Deci and Richard M. Ryan, ed. Richard M. Ryan (Oxford University Press, 2012), 84–108, <https://doi.org/10.1093/oxfordhb/9780195399820.013.0006>.

²⁵ Deci and Ryan, 'Motivation, Personality, and Development Within Embedded Social Contexts'.

²⁶ Susan P. Choy, *Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment* (U.S. Department of Education, 2001), https://nces.ed.gov/pubs2001/2001072_Essay.pdf.

²⁷ Laura Horn and Anne-Marie Nuñez, *Mapping the Road to College: First-Generation Students' Math Track, Planning Strategies, and Context of Support* (National Center for Education Statistics, 2000), <https://nces.ed.gov/pubs2000/2000153.pdf>.

²⁸ Horn and Nuñez.

²⁹ Choy, *Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment*.

³⁰ Bogdan Sojkin, Paweł Bartkowiak, and Agnieszka Skuza, 'Determinants of Higher Education Choices and Student Satisfaction: The Case of Poland', *Higher Education* 63, no. 5 (May 2012): 565–81, <https://doi.org/10.1007/s10734-011-9459-2>; Bogdan Sojkin, Paweł Bartkowiak, and Agnieszka Skuza, 'Changes in Students' Choice Determinants in Poland: A Comparative Study of Tertiary Business Education between 2008 and 2013', *Higher Education* 69, no. 2 (February 2015): 209–24, <https://doi.org/10.1007/s10734-014-9770-9>; Terenzini et al., 'First-Generation College Students'.

In his study, Atherton³¹ draws attention to the fact that higher education institutions would benefit if they quickly realized they should provide support programmes for first-generation students. As student populations become more diverse, higher education institutions need to understand the student's academic preparedness to provide adequate services for them. Even though first-generation students share common characteristics with other disadvantaged student groups, their situation involves specific circumstances.³² Gullat and Jan³³ or Nathan³⁴ mentioned existing intervention programmes that can bridge the gap between students from low and high-income backgrounds. These aimed to increase university enrolment and degree attainment for low-income students, the number of high school graduates among students from low-income families, or to identify and assist academically disadvantaged population groups and provide such students with academic, information-based and career experience aimed at making their university life easier.

1.2. The main motivational influences and information sources in the students' university study decisions

The main influences which motivate decisions are different for first-generation students than for second-generation students. In the previous section, we introduced some of them and in this section, we will discuss the specific influences motivating students to choose a university education that we identified. The results of the questionnaire by Sojkin et al.³⁵ identified five main topics that determine the students' decision to pursue university study: opinions and expectations of family, student life, student financial support, a chance at a better job and a better career opportunity. Dowling-Hetherington³⁶

³¹ Matthew C. Atherton, 'Academic Preparedness of First-Generation College Students: Different Perspectives', *Journal of College Student Development* 55, no. 8 (2014): 824–29, <https://doi.org/10.1353/csd.2014.0081>.

³² Atherton.

³³ Yvette Gulatt and Wendy Jan, *How Do Pre-Collegiate Academic Outreach Programs Impact College-Going among Underrepresented Students* (Pathways to College Network Clearinghouse, 2003).

³⁴ Alan B. Nathan, 'Does Upward Bound Have an Effect on Student Educational Outcomes? A Reanalysis of the Horizons Randomized Controlled Trial Study' (The University of Wisconsin, 2013), <https://www.proquest.com/docview/1355756348>.

³⁵ Sojkin, Bartkowiak, and Skuza, 'Determinants of Higher Education Choices and Student Satisfaction'.

³⁶ Linda Dowling-Hetherington, 'Transnational Higher Education and the Factors Influencing Student Decision-Making: The Experience of an Irish University', *Journal of Studies in International Education* 24, no. 3 (July 2020): 291–313, <https://doi.org/10.1177/1028315319826320>.

examined a sample of students at an Irish university with international campuses in Asia. She explored what influenced students' choice of university, its location, and its study programme. The participants were three cohorts of students over two years. She found that above all other factors, the international ranking of the university and the accreditations are the most influential in students' decision-making process.³⁷

In both these studies, the factors weighing the most in the students' decision-making turned out to be expectations of the family, better job prospects, professional (career) advancement, and university ranking or study programme content. In particular, both studies found that the students' university study decision was greatly affected by the social impacts and overall evaluation of the university.

Sojkin et al.³⁸ identified the sources of information that students used most frequently when searching for information about universities, as well as the factors determining their final choice. They also asked the participants what were the main sources of information while deciding on their university studies. They reported the use of the Internet, university brochures, friends' recommendations and education fairs. The most important factors of satisfaction were social conditions and professional advancement.³⁹

Le et al.⁴⁰ analysed data from prospective higher education students from Vietnam ($N = 509$). The results show that parents were the most important source of information for these students, which may reflect the collectivist and Confucian tradition in Vietnamese culture, where parents strongly influence the future of their children. Opportunities to visit the campus and university websites were found as important sources of information too.⁴¹

According to Le, Robinson, and Dobebe,⁴² "this finding could be relevant to university marketers who may be investing in online platforms as a significant tool of relationship marketing". Yet the results suggest that prospective students are not very likely to rely on social media as an information source informing their decision-making process. Although open

³⁷ Dowling-Hetherington.

³⁸ Sojkin, Bartkowiak, and Skuza, 'Determinants of Higher Education Choices and Student Satisfaction'.

³⁹ Sojkin, Bartkowiak, and Skuza.

⁴⁰ Tri D. Le, Linda J. Robinson, and Angela R. Dobebe, 'Understanding High School Students Use of Choice Factors and Word-of-Mouth Information Sources in University Selection', *Studies in Higher Education* 45, no. 4 (2 April 2020): 808–18, <https://doi.org/10.1080/03075079.2018.1564259>.

⁴¹ Le, Robinson, and Dobebe.

⁴² Le, Robinson, and Dobebe.

days and websites are not the key marketing tools of Vietnamese universities, the authors reported that students were increasingly considering these information sources, and universities were advised to adapt their promotional strategies.⁴³ The decisions about future university studies seem to be strongly influenced by cultural contexts and traditions. That is why we find it important to investigate the difference in decision-making between first- and second-generation students within the cultural aspects.

II. Material and methods

II.1. Research objectives

Our main objective is to find the factors which inform the university study decision-making of students in the graduating year of secondary school. Our objective is also to analyse the main sources of information that help students make decisions about university study. And last but not least, our objective is to identify the main differences and similarities in these matters between first-generation and second-generation students.

In this work, we deal with the main motivational factors informing the students' decisions concerning university study. This topic is not sufficiently researched on a sample of Slovak students and as mentioned above, the cultural or educational policy contexts may affect the motivational processes and information sources of students in a particular country. This is the reason why we took inspiration from the study of the Polish authors Sojkin et al.⁴⁴ who are culturally close, in defining the topics affecting the choice of study at a university. In the original Polish study, the authors focused on exploring all possible factors related to university education. They also attempted to specify the stages and sources of information informing the choice of university. Their study employed both qualitative and quantitative methods. They focused on three specific topics: (i) how students go about their decision-making, (ii) what are the main sources of information about the study area, and (iii) which factors affect the satisfaction with the study at the selected school.

For this study, we used a quantitative design with a questionnaire method.⁴⁵ The Polish study served as our guide because, after 1989,

⁴³ Le, Robinson, and Dobeles.

⁴⁴ Sojkin, Bartkowiak, and Skuza, 'Determinants of Higher Education Choices and Student Satisfaction'.

⁴⁵ Colin Robson, *Real World Research: A Resource for Users of Social Research Methods in Applied Settings*, 3. ed (Chichester: Wiley, 2011).

universities in Slovakia underwent a similar boom as in Poland. The number of higher education institutions in Slovakia before 1989 was limited and not everyone had the opportunity to study at a university, whereas in the 90's the demand for higher education increased in areas like civil service, police force, preschool education, education in general, nursing, etc. This led to an increase in the number of higher education institutions. After the fall of communism in 1989, Poland also needed different skills to lead the companies in a new market economy, stimulating the growth of business-oriented education (marketing, management, finance) and a boom of private universities.⁴⁶ The number of universities and universities culminated in 2006 and began to decrease thereafter. That is why today if universities want to attract enough students to retain their status as higher education institutions, they need to adapt to the situation. It also means that higher education institutions should regard students as potential customers.⁴⁷ For this study, similarly to e.g., Keppens et al.,⁴⁸ we defined the second-generation students as those whose parents (one or both) finished university studies, and the first-generation students were defined as those whose parents had no university degree.

II.2. Research hypotheses and research questions

Our hypotheses and research questions are based on the study by Sojkin et al.⁴⁹

Hypothesis No. 1: For second-generation students, the continuation of the family tradition is a more important factor informing their decision on whether to study at a university, than for first-generation students.

Hypothesis No. 2: For first-generation students, the internet is a more important source of information, than for second-generation students.

The following research questions compare the similarities and differences between the two groups of students - 1st generation students vs. 2nd generation students:

⁴⁶ Sojkin, Bartkowiak, and Skuza, 'Changes in Students' Choice Determinants in Poland'.

⁴⁷ Robert M. Brown and Timothy William Mazzarol, 'The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education', *Higher Education* 58, no. 1 (July 2009): 81–95, <https://doi.org/10.1007/s10734-008-9183-8>.

⁴⁸ Keppens et al., 'First-Generation College Students' Motives to Start University Education'.

⁴⁹ Sojkin, Bartkowiak, and Skuza, 'Determinants of Higher Education Choices and Student Satisfaction'.

Research question 1: Who are the significant others that influence the student's university decision the most?

Research question 2: Which aspects play the greatest role in deciding about university study?

Research question 3: When do students begin deciding about going to university?

Research question 4: Which sources of information do students perceive as most important when selecting a university?

II.3. The research sample

Our research sample consisted of 357 ($N = 357$) Slovak students, 34.5% ($n = 123$) of whom were secondary school students in the graduating year and 65.5% ($n = 234$) were university freshmen. In terms of age, participants ranged from 18 to 22 years ($M = 19.0$), and in terms of gender, 71.1% were women ($n = 254$) and 28.9% were men ($n = 103$). Our research sample included 54.1% first-generation students ($n = 193$) and 45.9% second-generation students ($n = 164$). Using G-Power,⁵⁰ this sample size is considered sufficient to detect inter-group differences (with a power of 0.99 and size effect set to 0.3). This was a convenience sample with voluntary participation. The participants were recruited via schools and social media groups, where the online questionnaire was sent or posted.

II.4. Ethical statement

Approval was obtained from the Ethics Committee of the Faculty of Social and Economic Sciences, Comenius University in Bratislava. The procedures used in this study adhere to the tenets of the Declaration of Helsinki. Informed consent was obtained from all individual participants included in this study.

II.5. Measurement tools

The main research tool employed to examine this issue was a questionnaire based on Sojkin et al.⁵¹ The main part of the questionnaire consisted of 84

⁵⁰ Franz Faul et al., 'G*Power 3: A Flexible Statistical Power Analysis Program for the Social, Behavioral, and Biomedical Sciences', *Behavior Research Methods* 39, no. 2 (May 2007): 175–91, <https://doi.org/10.3758/BF03193146>.

⁵¹ Sojkin, Bartkowiak, and Skuza, 'Determinants of Higher Education Choices and Student Satisfaction'.

statements, which were measured using a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Twenty-three out of the 84 statements in the questionnaire measured the possible responses to the decision to study at university. Another 27 of the 84 statements measured the significance of the variables determining the choice of university and 34 measured the various forms of satisfaction with the study at the selected university.

We obtained the original questionnaire of Sojkin et al.⁵² from the authors themselves who also granted us their consent to follow up on their research. To improve the accuracy of the results we needed to rectify some shortcomings of the original questionnaire (such as outdated questions or choice of answers; in some questions the number of answers was left to the respondent's choice, preventing a relevant assessment of the results). We translated the original questionnaire into Slovak and then removed the outdated questions (e.g., the reason for university study being the avoidance of compulsory military service; searching for information about university studies in a telephone directory) and changed the answer scale of the questionnaire (from the original Likert scale to dichotomous, yes/no, answers offering a subsequent option of ranking the three most important factors – 1st place, 2nd place and 3rd place), to allow for a better evaluation of the data. Our main focus was to identify similarities and differences between the groups of first- and second-generation students, which is why we added the following question to the questionnaire: *Are your parents university graduates? (a) yes, one; (b) yes, both; (c) no, neither*. In this question, we divided the sample so that if the student indicated either (a) or (b), we included them among second-generation students. If they indicated (c), they were included among first-generation students. Finally, we expanded the questionnaire to obtain some demographic data about our participants.

Since we translated and modified the original questionnaire, we ran a pilot of the Slovak version of it. The pilot was conducted as semi-structured online interviews via MS Teams, using the method of cognitive interviews in the form of verbal probing.⁵³ With this method, we read the questionnaires to the participants point by point and asked them additional questions. The interviews were held with six secondary school students and six first-year university students aged 18 to 22 ($M = 19.0$). The pilot enabled us to verify that the questions and answer options were comprehensible and that the terms used in the questionnaire were easy to understand.

⁵² Sojkin, Bartkowiak, and Skuza.

⁵³ Gordon B. Willis, *Cognitive Interviewing: A Tool for Improving Questionnaire Design* (Thousand Oaks, Calif: Sage Publications, 2005).

II.6. Data analysis

We analysed the collected questionnaire data using the SPSS statistical programme, version 25. We used the Chi-squared test to determine the relationships between the variables because we were conducting an inter-subject comparison of nominal variables in our hypotheses.

III. Results

H1: For second-generation students, the continuation of the family tradition is a more important factor informing their decision on whether to study at a university, than for first-generation students.

The difference between first-generation students (54.1%; $n = 193$) and second-generation students (45.9%; $n = 164$) in their university study decisions due to the influence of the continuation of the family tradition is statistically significant but small, $X^2(2; N = 357) = 15.96; p = .003; V = 0.21$. The results show that 21.3% of second-generation students ($n = 35$) stated that they were influenced by the desire to continue the family tradition when choosing a university, while only 7.3% of first-generation students said so ($n = 14$). This means that for second-generation students, continuing the family tradition is a more significant factor in deciding to study at a university than for first-generation students. Hypothesis 1 was confirmed.

H2: For first-generation students, the internet is a more important source of information, than for second-generation students.

We did not find any difference between first- and second-generation students in their use of the internet as a source of information, $X^2(2; N = 357) = 3.26; p = 0.516; V = 0.10$. The results show that 99% of first-generation students ($n = 191$) stated that they considered the Internet to be the main source of information, while 97.6% ($n = 160$) of second-generation students said so. Hypothesis 2 was not confirmed.

RQ1: Who are the significant others that influenced the student's university decision the most?

The results show that the most frequently selected questionnaire item was *I decided myself*, which was chosen by 79.3% ($n = 153$) of first-generation students and by 72.0% of second-generation students ($n = 118$). The second most frequently selected item was *parents (mother/father)*, which was chosen by 11.4% ($n = 22$) of first-generation students and by 18.9% ($n = 31$) of second-generation students. The third most popular answer

among the students was *my peers*. It was selected by 2.6% ($n = 5$) of first-generation students and by 5.5% ($n = 9$) of second-generation students.

Table 1
People influencing students in their choice of university study

Influence on study selection	1st Generation ($n = 193$)	2nd Generation ($n = 164$)	Total ($N = 357$)	χ^2	p
Myself	153 (78%)	118 (72%)	271 (76%)	9.840	.198
Parents (mother/father)	22 (11%)	31 (19%)	53 (15%)		
Other family members	8 (4%)	3 (2%)	11 (3%)		
Secondary school teachers	2 (1%)	1 (1%)	3 (1%)		
Acquaintances/colleagues who have completed their studies	1 (1%)	2 (1%)	3 (1%)		
Acquaintances/colleagues who are still studying	1 (1%)	0 (0%)	1 (0%)		
My peers	5 (3%)	9 (5%)	14 (4%)		
Employer	1 (1%)	0 (0%)	1 (0%)		

RQ2: *Which aspects play the greatest role in the university study decision?*

The most popular item was the *extension of knowledge*, for which 76.2% ($n = 272$) of students chose yes, meaning that they were influenced by this aspect. The item was considered influential by 48.9% ($n = 133$) of first-generation students and by 47.4% ($n = 129$) of second-generation students. Only 5.6% ($n = 20$) of all students ($n = 357$) stated that they were unaffected by this aspect. Out of the 20 participants who answered in the negative, 45% ($n = 9$) were first-generation students and 55% ($n = 11$) were second-generation students. Of the number of participants who considered this aspect influential, 32.3% ($n = 88$) indicated that it was the most important aspect: 55.7% ($n = 49$) of them were first-generation students and 44.3% ($n = 39$) were second-generation students.

The aspect of *acquiring a profession* ranked second because 65.8% ($n = 235$) of the students answered in the affirmative, meaning that they were influenced by this aspect. The aspect was considered influential by 54.9% ($n = 129$) of first-generation students and by 45.1% ($n = 106$) of second-generation students. Only 10.4% ($n = 37$) of the total number of students ($n = 357$) indicated that they were unaffected by this aspect. Out of the 37 participants who answered in the negative, 40.5% ($n = 15$) were first-generation students and 59.5% ($n = 22$) were second-generation students. Out of the number of participants who identified this aspect as influential, 22.1% ($n = 52$) said that this aspect was the most important, and of those 67.3% ($n = 35$) were first-generation students and 32.7% ($n = 17$) were second-generation students.

The aspect of *investment into the future* was ranked third and 67.8% ($n = 242$) of students answered in the affirmative meaning they were affected by this aspect. This aspect is considered to be influential by 55% ($n = 133$) of first-generation students and by 45% ($n = 109$) of second-generation students. Only 9.2% ($n = 33$) of all students ($n = 357$) indicated not to have been affected by this aspect. Out of these 33 participants who answered in the negative, 24.2% ($n = 8$) were first-generation students and 75.7% ($n = 25$) were second-generation students. Out of the number of participants who identified this aspect as influential, 21.1% ($n = 51$) stated they would rank this aspect first, and of those 45.1% ($n = 23$) were first-generation students and 55% ($n = 28$) were second-generation students.

Table 2

The most important aspects of the university study decision

Aspects in the college study decision	Yes/No	1st Generation ($n = 193$)	2nd Generation ($n = 164$)	X ²	p
Extension of knowledge	Yes	94 (49%)	90 (55%)	3.702	.448
	No	9 (5%)	11 (7%)		
Acquiring a profession	Yes	94 (49%)	89 (54%)	8.213	.084
	No	15 (8%)	22 (13%)		
Investment into future	Yes	110 (57%)	81 (49%)	19.877	.001
	No	8 (4%)	25 (15%)		

RQ3: *When do students begin deciding about going to university?*

The results show that the most frequently selected item was *during secondary school studies*. This answer was indicated by 58% ($n = 206$) of

participants. No significant differences were found between the first- and second-generation students. The second most frequently selected answer was *before starting secondary school*. It was chosen by 26.3% ($n = 94$) of participants, 24.9% ($n = 48$) of whom were first-generation students and 28.0% ($n = 46$) were second-generation students. The third most frequent answer was *immediately after graduating from secondary school*, chosen by 8% ($n = 30$) participants, with $n = 18$ (9%) first-generation students and $n = 12$ (7%) second-generation students.

Table 3
When does university study decision-making begin?

The decision to study at college started	1st Generation (n = 193)	2nd Generation (n = 164)	Total (N = 357)	X ²	p
One year or later after graduating from secondary school	11 (6%)	8 (5%)	19 (5%)	2.939	.709
Immediately after graduating from secondary school	18 (9%)	12 (7%)	30 (8%)		
During the secondary school studies	111 (57%)	95 (58%)	206 (58%)		
Before starting secondary school	48 (25%)	46 (28%)	94 (26%)		
I do not remember	5 (3%)	3 (2%)	8 (2%)		

RQ4: Which sources of information do students perceive as most important when selecting a university?

As many as 98.9% ($n = 191$) of first-generation students and 97.5% ($n = 160$) of second-generation students identified the internet as the main source of information used when deciding about university study. This answer was placed first on a scale of 1 to 3 by 55.4% ($n = 106$) of first-generation and 61.8% ($n = 99$) of second-generation students. The option which was the second most frequently to be answered in the affirmative was *University open day* - this item was chosen by 53.9% ($n = 104$) of first-generation students and by 55.0% ($n = 88$) of second-generation students. This answer

was placed first on a scale of 1 to 3 by 12.4% ($n = 24$) of first-generation and 7.9% ($n = 13$) of second-generation students. *Acquaintances/colleagues* was the item that participants identified as the third most relevant. Of them, 48.1% ($n = 93$) were first-generation students and 59.7% ($n = 9$) were second-generation students. This answer was placed first on a scale of 1 to 3 by 4.1% ($n = 8$) of first-generation and 8.5% ($n = 14$) of second-generation students.

Table 4
Sources of information in college study decision

Source of information	1st Generation ($n = 193$)	2nd Generation ($n = 164$)	X ²	p
The press	32 (17%)	31 (19%)	4.790	.310
Television	10 (5%)	9 (5%)	.970	.808
Radio	5 (3%)	8 (5%)	3.462	.326
Internet	191 (99%)	160 (98%)	3.256	.516
Education fairs	94 (49%)	71 (43%)	1.238	.872
Academic information centres	41 (21%)	23 (14%)	5.762	.218
University information brochure	82 (42%)	69 (42%)	.430	.980
The family	68 (35%)	86 (52%)	12.858	.012
Acquaintances, colleagues	93 (48%)	98 (60%)	7.855	.097
Secondary school teachers	75 (39%)	59 (36%)	10.977	.027
Advertising in secondary school	35 (18%)	46 (28%)	5.886	.208
University Open Day	104 (54%)	88 (54%)	3.084	.544
Employer's opinion	6 (3%)	5 (3%)	2.035	.565

IV. Discussion

The results of our first hypothesis suggest that continuing the family tradition (i.e., attending university) is an aspect with slightly higher importance for second-generation students when deciding about university study than for first-generation students. The difference is small but statistically significant. The reason could be that second-generation students have at least one parent who attended university, providing a role model or motivation for this student rather than for a first-generation student, who lacks a role model

like this in the family.⁵⁴ In the first research question, we found no differences, but we did discover similarities between the first- and second-generation students, in terms of who influenced them in their university study decision.

The second hypothesis was not confirmed - the internet is not a more relevant source of information for first-generation students than for second-generation students. The results of the study by Sojkin et al.⁵⁵ indicate that students in Poland also reported the internet to be their most frequently used source of information. In another study, students in Portugal cited the Internet as their main source of information.⁵⁶ According to Khoo,⁵⁷ there are several reasons why digital marketing is the best way to reach prospective students: they spend more time online than with any other media; online advertising surpasses traditional advertising methods; potential students use the Internet to search for or select educational institutions and courses; parents or guardians have started to evaluate schools and universities based on their websites and online presence on social networks; most higher education institutions use the Internet for student applications or communication with the public; both foreign and domestic students heavily rely on the information from the website of the higher education institution during the application and admission procedure.

The internet is, consequently, considered by students to be the most important source of information when making a university study decision, regardless of the division of students between first- vs. second-generation students. Due to this finding, we recommend that universities pay considerable attention to their websites, which students search for before applying. We also suggest that universities be active on social networks (updating news about themselves, sharing the achievements of their students or faculty, organizing online interviews with university faculty, running public competitions, informing about study programmes and more) because these activities make up a large part of internet searches and at the moment social networks are probably the most frequently used place where students search for information in general, but where they also search for information about

⁵⁴ Toutkoushian, Stollberg, and Slaton, "Talking 'Bout My Generation'; Choy, *Students Whose Parents Did Not Go to College: Postsecondary Access, Persistence, and Attainment*.

⁵⁵ Sojkin, Bartkowiak, and Skuza, "Determinants of Higher Education Choices and Student Satisfaction".

⁵⁶ Cláudia Simões and Ana Maria Soares, "Applying to Higher Education: Information Sources and Choice Factors", *Studies in Higher Education* 35, no. 4 (June 2010): 371–89, <https://doi.org/10.1080/03075070903096490>.

⁵⁷ Benjamin KS Khoo, "Mobile Applications in Higher Education: Implications for Teaching and Learning", *International Journal of Information and Communication Technology Education* 15, no. 1 (January 2019): 83–96, <https://doi.org/10.4018/IJICTE.2019010106>.

their current or future school or career. In our study, the internet turned out to be the most important source of information for students in their university study decisions. However, it is important to consider changing trends in the use of internet sources and social media. Some studies highlight the fact that different cohorts of students may prefer different social media or the pattern of their use,⁵⁸

In our first research question (see RQ1: *Who are the significant others that influenced the student's university decision the most?*) we focus on who influences students the most when they are choosing a university, whether it is their own decision or are they influenced by someone else. Both the first- and second-generation students indicated that the decision to continue studying was 1) their own (preferred by first-generation students but only by 7.3 percentual points), followed by 2) the influence of their parents (preferred by first-generation students but only by 7.5 percentual points), and 3) the influence of their peers (preferred by second-generation students but only by 2.9 percentual points).

Both groups chose approximately the same top three factors and there were no significant differences between them. This means that both groups most frequently based their university study decision on their initiative, then to a lesser extent on their parents, followed by their peers. In a study by Le et al.,⁵⁹ they found that students considered parents to be the largest factor in their choice of study, while in our research the students stated that the decision to study at university was mostly their own. These differences between results may be due mainly to the fact that the authors conducted their research on a sample of Vietnamese students. There are many differences between the Slovak and the Vietnamese populations, particularly in terms of culture and traditions. It is generally known that in Vietnam parents have a greater say in the future of their children. Vietnamese students would therefore naturally indicate their parents as the most significant factor in their university study decision-making.

In our second research question (see RQ2: *Which aspects play the greatest role in the university study decision?*) we looked at the most significant aspects informing the university study decision in the groups of first- and second-generation students. In both groups *extension of knowledge* ranks first among aspects that the students consider important to their decision-making. *Acquiring a profession* was ranked second and was chosen by 9.8% more first-generation students than second-generation students. The

⁵⁸ Yang, 'Similar Patterns, Different Implications'.

⁵⁹ Le, Robinson, and Dobeles, "Understanding High School Students Use of Choice Factors and Word-of-Mouth Information Sources in University Selection".

third most important factor for students is an *investment in the future*, which was chosen by 10% more first-generation students than second-generation students. The study by Sojkin et al.⁶⁰ found that *family opinion and expectations* were ranked first in importance, followed by *student life* (closer undefined) and *financial support of the family* in third place. Our results in this research question somewhat diverge from the results of the study we used as the basis. *Acquiring a profession*, which our participants ranked second, was ranked fourth by the participants in Sojkin et al.,⁶¹ which is not hugely different. These results are not expected to be identical because the participants in our two surveys were of different ages. While our research sample consisted of young people aged 19 to 22, the original study of the authors whose questionnaire we used had participants aged 19 to 30. The authors, therefore, used participants who were eight years older and may consequently have different opinions regarding university study decisions than the younger sample we used in our research. It could be said that the larger age range of the participants in the original study also included young adults who chose to study at university to experience student life. People aged 25 to 30, after all, are often those who have been out of school for some time and may be returning to a classroom after several years of having worked in a job. At this age, the motivation to study at university and obtain a degree may significantly differ from students who arrive at university straight from secondary school.

In our third research question (see RQ3: *When do students begin deciding about going to university?*) we study when students begin to decide whether to study at university. Our results indicate that both first- and second-generation students began to ponder university study already while attending secondary school, and there were almost no differences between the two groups, on the contrary, they were similar. The options which were ranked second and third in our research also exhibited similarities between the two groups. The second most frequently indicated option by the participants was that they began pondering their university studies just before enrolling at their selected university. The third most frequently chosen option was the last year of secondary school. In the study by Sojkin et al.,⁶² this question appears in the questionnaire but from the results of their research, we cannot conclude how exactly their participants responded because their analysis only included

⁶⁰ Sojkin, Bartkowiak, and Skuza, "Determinants of Higher Education Choices and Student Satisfaction".

⁶¹ Sojkin, Bartkowiak, and Skuza.

⁶² Sojkin, Bartkowiak, and Skuza, "Changes in Students' Choice Determinants in Poland".

multi-item questions. One remaining issue is whether an earlier interest in university study has a positive impact or whether this aspect is irrelevant. To find out, we would recommend carrying out a longitudinal study, which would cover several groups of students (those who had considered university study during their elementary and secondary school; those, who entertained the idea when selecting their secondary school graduation subjects, etc.) and would yield results relatable to the success of the university study.

Our last research question (see RQ4: *Which sources of information do students perceive as most important when selecting a university?*) studied the sources of information that are perceived by students to be the most relevant to choosing a university. *The internet* was the most frequently indicated choice by both first- and second-generation students. It appears to be the most important source of information for students. This statement is confirmed by the results of the study by Sojkin et al.,⁶³ which also concluded that the Internet was the most important source of information for students. The study by Simões and Soares⁶⁴ produced the same results, pointing to the importance of the Internet as a key source of information for future students. In our research, the *University open day* ranked second, and the numbers of first- and second-generation students who chose it differed by only 1.1%. The third most significant sources of information were *Acquaintances/colleagues*, mentioned by 11.6% more second-generation students than first-generation students.

The reason students massively reported the internet to be the main source of information was undoubtedly also affected by the pandemic, which prevented personal visits to universities. This means that students were not able to attend open days or access printed brochures (even though some universities tried to hold online University Open Days or send their brochures to secondary schools in electronic format). Young people particularly are regular users of the internet in the modern age, and this habit may have been boosted during the pandemic due to the restriction of personal contact.

Our findings indicate that family tradition plays a role in the decision-making about university studies in Slovak students, which supports the hypothesis of differences in first and second-generation students' decision-making. However, there are also similarities between those groups in terms of the sources they use in the decision-making about their studies. These results contribute to the existing theory of generational differences in the culturally

⁶³ Sojkin, Bartkowiak, and Skuza, "Determinants of Higher Education Choices and Student Satisfaction".

⁶⁴ Simões and Soares, 'Applying to Higher Education'.

and historically specific situation of the Slovak education system. As such these results are applicable in several contexts. First, career counselling in secondary education may address the different needs and expectations of those two groups of students. Second, Slovak universities may adopt policies and practices supporting guidance for first-generation students that may help them to socialize into the university setting. Universities may develop intervention programs to prevent these students from early attrition.

We are aware that the questionnaire method used in our research comes with disadvantages - we were unable to ask supplementary questions⁶⁵ and we were not aware of the context of the answers chosen by the participants. In the future, we recommend studying the decision-making of first-generation vs. second-generation students by employing focus group interviews as well as in-depth one-on-one interviews. The former method would allow a discussion to take place, producing several counter-arguments, while the latter would enable a more detailed understanding of first-generation vs. second-generation student decision-making.

V. Conclusions

The main objective of our study was to compare first-generation and second-generation students in their university study decisions, to look for influences informing university study decisions, and to look for the main sources of information about university study which are taken into account by the students during their university study decision-making.

We found that students of both groups largely decide to study at university on their initiative, and the influence of parents or peers closely follows as a deciding factor. We also found that the most important aspect driving students to study at university, regardless of the first-generation/second-generation division, is the desire to expand their knowledge. The most important source of information about potential university study was the internet, once again irrespective of the first/second-generation distinction.

Our research highlights possible similarities between first- and second-generation students, for example in terms of information resources used by the students or influences which inform the students' university study decisions. We also point out the differences between first- and second-generation students, for example when choosing to study due to their parents' influence to continue a family tradition. It might be interesting to analyse these findings in a broader context to further explore this issue and to develop

⁶⁵ Robson, *Real World Research*.

tools to help, for example, first-generation students specifically. This could lead to further research, expanding the topic of the student's university study decisions, and helping to find answers to questions related to first-generation vs. second-generation students.

At present, universities compete with each other more than ever before and struggle for potential customers - new students - every year, leading to a need to consider supporting disadvantaged groups of students. In the case of our study, we draw attention to the group of first-generation students who might be the target audience of an intervention programme targeted specifically at them. We are aware that creating a good and functional intervention programme is challenging in its own right, but it is worth trying because today's competitive milieu of university institutions and ongoing paradigmatic changes within the entire academic eco-system place enormous demands, especially on first-generation students when it comes to making their career decisions.

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