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## **Career interest patterns of secondary school students**

Book of theses (PhD)

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## Introduction

Everyone reaches the career decision phase. Some people find it easy, others need help. A good career decision is basically ensured by a balanced combination of personality traits, abilities, career and labor market knowledge and opportunities. During our lives, we are no longer talking about a career choice point, but rather a process that can have branches. We call the process a career or a life path, which emphasizes the support that spans the ages (far beyond the school age), especially in the decision points of the individual, and the development of career management competence that adapts to the personality and individual psychological development of the student (*Borbély-Pecze, 2010, 8.*). We can effectively help the life path - and one or more decision points in it - if we reveal the pillars characteristic of the individual. Researchers in the field tried to describe which components contribute to the selection of the optimal trajectory with several types of trajectory models. Some theories emphasize career suitability, not considering the abilities of the individual (*Parsons*), others see the solution in the dynamics of several traits (*Holland*), while developmental theories (*Super*) consider the gradual building of phases to be important, modern theories (*Lent-Brown-Heckett, Savickas, Patton-McMahon*) mention the influence of the environment. In all of them, however, interest in careers is prominently displayed as a determining factor. Interest is therefore an important pillar of an individual's success, satisfaction, motivational base, academic progress and career, so a thorough understanding of it cannot be avoided. As *Csirszka (1966)* put it, the interest of young people naturally changes depending on social and economic conditions, so it is necessary to constantly provide fresh data.

It is not by chance that the phenomenon is at the center of research, since we do what we are interested in more willingly and with pleasure, because of it, action brings a sense of success, fills us with satisfaction, learning is faster and the individual is more persistent in tasks. In addition, interest and values play a much greater role in learning motivation and, through this, in preventing dropout, than the competences to be "measured", which look like abilities, since they can be developed (*Borbély-Pecze-Fazakas-Juhász, 2019*). Interest has now been proven to affect many of our personal, academic and work-related well-being. There is a significant literature on the idea that activities related to the discovery and learning of careers are initiated by interest, which then generates a series of behaviors that directly reflect on the individual's performance in the world of work.

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changes depending on social and economic conditions, so it is necessary to constantly provide fresh data.

## The purpose of the research

The aim of our research was, on the one hand, to adapt a self-assessment procedure examining foreign career interest to the current sample, and on the other hand, to use the tool to explore what characterizes students' career interest. In addition to the description of interest, we worked as variables with the secondary constructs of interest, differentiation and elevation, i.e. the aggregate intensity of interest, and we also explored the relationship between interest and career choice uncertainty, academic success and school career guidance activities. The topic is continuous and topical in the international literature, since the career decision can affect the individual several times in his life, its result permeates and shapes the entire life path, and it is also closely related to the education system as a whole and the world of work. In our country, however, it is an area that has not been explored much. Until the 1990s, the study of the effectiveness of tools for measuring interest was strong, but after that, attention to students' career interest decreased significantly. Several doctoral dissertations and articles (*Varga, 1977, Várhelyi, 1983, Tatár, 1984, Tóth, 1985, Zakar-Helembai, 1985*) provided an insight into the interest structure of the students of that time, and in 2009 *Ferenc Gebauer* created a comprehensive picture of thirty years of interest changes, and the author couple *Tóth-Béky (2010)* examined the vocational choice of secondary school students focusing on vocational training. In addition to these, the factors influencing the career decision were mostly focused on (mainly the influence of parents, motives for choosing a career), or the exploration of career interest appeared only as a secondary thread in some researches, but as we indicated in the introduction, its development affects so many areas that the 21. in the third decade of the 20th century, an exploratory work on this topic became necessary. Its significance is strengthened by the fact that it focuses on an age group and school type that falls out of the crosshairs of the studies, because either the interest in a career is identified with the choice of profession before the choice of high school, or the intention to further study after graduation is not considered a career choice. Thus, high school students benefit less from the services that help them choose and have to deal with the uncertainty associated with the choice on their own. Knowing the results, the education actors can get an idea of the young people's career interest ideas and the factors that influence them.

## **Stages and characteristics of the research**

We started our investigation with a literature review. However, the processed literature left open questions when examining career interest, so we formulated our research questions as follows:

What characterizes the career interest of high school students?

Do school career guidance services shape students' career interest?

Is the differentiation and flexibility of interest related to the students' academic results and career uncertainty?

Can groups of students with specific characteristics be identified for whom

the school can tailor its career guidance work?

For the answers to the research questions, we used a descriptive and correlation-revealing strategy. The former was used to find out the students' interests, and the latter to show the relationships between the individual variables.

As we highlighted earlier, we also wanted to implement a new pedagogical-psychological career interest exploration tool on our own sample during our investigation, so as a first step we had to ensure the usability of the attitude testing procedure. During the pre-test, we adapted the questionnaire called Career Chart, which was to be used in the main test, to our own sample of students. Its use was made necessary by the fact that there are few tools for exploring the career interests of high school students in Hungary, and the existing ones do not provide sufficiently detailed results, or are only available in an online version, or their length makes them difficult to use. The ones that exist are very useful in the right hands, but they are more difficult to use. Some questionnaires were not able to follow the rapidly developing training and labor market changes, so for example the area of interest in IT is missing from the older ones. There are tools that require different competence, that is, the user cannot apply the non-self-assessment procedure independently. The data collection of some questionnaires is complicated and lengthy, and the results require serious calculations. Their interpretation is not clear if they do not ask for the help of a specialist, as the tool sometimes refers to an attitude towards work, a way of working or a work environment. There are even fewer questionnaires that are specifically tailored to the training system.

Both the preliminary examination and the main examination included two stages. The first stage of the former involved a small-sample test of the procedure to help discover career interest, that is, we examined the face validity of the tool with the help of 30 high school students. In the second stage, we checked the results of the first stage on a high school sample of more than three hundred people, and compared the convergent validity of the tool with other interest measuring tools.

The main investigation was also divided into two stages. We planned a questionnaire data collection of students, during which we asked questions about career interest, career choice uncertainty, and demographic data. This was filled out by 490 high school students belonging to our main target group. At the same time, we assumed that there will be results that, according to our preliminary experience, need to be clarified, so we supplemented our investigation with individual student interviews. We used a series of questions to find those students in the sample who belonged to a group whose results, according to our investigation, require clarification.

This method is suitable for collecting views, opinions and additional data. We introduced the interview with structured questions, in which we asked the special groups, those more significantly affected by uncertainty, and inquired about the career guidance work at school. Table No. 1 summarizes how we tried to approach our assumptions from several angles.

From the point of view of the study, it was crucial to establish the differentiation and flexibility of career interest. According to *Holland (1997)*, the highest and lowest raw scores of the scales of the individual's interest questionnaire are taken into account to calculate the differentiation. The higher the level of differentiation, the more the individual's attention shifts towards a special area. We have come across several methods of calculating the flexibility of career interest in the literature. In 1999, *Fuller, Holland, and Johnston (1999)* worked with the sum of an individual's scores for each area of an interest questionnaire. *Bullock and Reardon (2008)* defined the level of flexibility as the sum of the standard values of each area of interest. *Tracey et al. (2014, cited in Atitsogbe et al., 2018)* interpreted flexibility as the average of the sum of the individual areas of interest. In our research, we follow the latter pattern during the calculations.

Chart 1. The summary of types, methods and participants of the examination

<b>Type of examination</b>	<b>Method of examination</b>	<b>Theme of examination</b>	<b>No. of participants</b>
pre-examination	questionnaire	probe of surface validity of Career Chart questionnaire on small sample	30
	questionnaire	big sample examination of Career Chart for adaptation on own sample	327
main examination	questionnaire	data collection from students on interest, uncertainty and demographical data to compare and correlate variables statistically	477
	structural interview	deeper understanding the opinion of girls and students of 10 <sup>th</sup> grade	32

The IBM SPSS program package was used to evaluate the data obtained during our investigation, and the MAXQDA application was used to process the students' structured questions.

During our study, we worked with a diverse sample. In the first and second stages of the preliminary investigation, we included high school students who participated in further education counseling at the Szabolcs-Szatmár-Bereg County Pedagogical Service in 2018 and 2019.

In the case of the small-sample study (30 people), only age was taken into account to establish face validity.

The students of the large-sample version of the preliminary study (N=327, 220 girls and 107 boys, average age 16.64 years) were selected from the high schools of Szabolcs-Szatmár- Bereg county, from settlements of different sizes and grades. The sample was dominated by girls and tenth graders, as they were randomly selected from among those participating in career counseling, and counseling assistance is the most relevant in this grade.

We arrived at the sample for the main study of our research through the high schools of Szabolcs-Szatmár-Bereg county through expert sampling. Among the institutions, we



searched for those that had neither a primary school nor a vocational training section. Based on feedback, we contacted a high school with a long history, where the head of the institution also assured of his support for the implementation of the research, and we were able to involve the entire student community of the school in the investigation. The school offers a general four-year course, a five-year preparatory language course and the János Arany Gifted Care Program. Although our sample was not representative in any way, it still characterizes the community of high school students in general. According to the research plan, the data collection had to take place between September and December 2020. Following the regulations of the Covid-19 epidemic situation, we were not allowed to enter the institution, so we prepared a guide for the class teachers to conduct the survey, thus ensuring the same conditions. The students and parents were informed that the response was voluntary and anonymous, and that there was no compensation for it. Of the eighteen classes, two classes were left out of the survey due to the transition to digital education on November 11, 2020, so we recorded the responses of a total of 490 students. We deleted from the database those students who did not record information relevant to the research, so in the end we worked with the materials of 477 students.

The students are between 15 and 19 years old, their average age is 16.93 (SD: 1.308). The number of girls in the sample was almost twice as high (65.6%), and seven did not indicate their gender, the distribution between grades is even.

Student interviews were also conducted through the school using a set of written questions in September 2021. We managed to reach 6.7% (32 people) of the student community of the sample.

During the research, we used four types of tools. The Career Chart questionnaire is a paper-and-pencil tool, based on a free-choice technique, which forms the result by associating several types of information: it sheds light on both work activities, work methods and subjects. Due to its text and content, it can be used effectively in counseling high school or older age groups. The questionnaire covers sixteen areas of interest, and the student is prompted to answer seventeen times within one question (area of interest), where only the statements typical of the individual must be circled, indicating how much they like the given activity, attribute or subject. The individual areas of interest are categorized according to the United States Department of Labor (O\*Net: <https://www.onetonline.org/find/career?c=1>), on the basis of which the student can forge learning, further education and career plans. In the case of high school students, it is therefore also suitable for indicating the direction of higher education, and we have also

shown that the results are also suitable for the scientific fields of Hungarian higher education.

The questionnaire was developed by the staff of the Oklahoma Department of Technology and Education, with their permission the instrument was translated into Hungarian. The original version was translated into Hungarian by two specialists working in career counseling who speak English, and then the final form was created by comparing the versions. Then, by examining the apparent validity of a small sample, we received feedback on whether it was understandable for the students, whether there were typos in the text or whether the questionnaire was confusing. The investigation shed light on numbering, spelling and interpretation errors, which have been corrected.

The Career Choice Uncertainty Scale questionnaire is the work of *Chartrand et al.* (1990), which was validated by *Lukács* (2012) on a Hungarian sample. The scale examines the cognitive and emotional components of career uncertainty. Instead of the original twenty-one, Lukács saw the questionnaire as usable with seventeen statements, which follows the original form with four factors. On a scale from 1 to 5, the respondent must indicate the level of anxiety related to career choice (5 questions), general uncertainty (3 questions), need for self-knowledge (5 questions) and need for career information (4 questions). The authors consider anxiety to be a foreshadowing of uncertainty, which influences the career decision. The high level of general uncertainty indicates that the individual cannot make a decision even if all conditions exist, presumably due to the lack of the necessary competencies. The need for career information is an expression of the fact that the person still needs knowledge about professions and occupations in order to make a decision. The importance of self-knowledge appears in several career choice models, since it is difficult to make career plans without knowledge of abilities, interests and values.

Our self-edited background questionnaire covered gender, age, grade, place of residence, parents' education and occupation, leisure activities, and further education ideas. In addition to these, we asked about three areas that are relevant to our research. In the case of the academic result, we asked the students for the marks at the end of the previous year, and not just the average. Although career interest is not the same as subject interest, the competences developed and transferable by the subjects may show a connection with the basic dimensions of the areas of interest. Based on our previous experience (*Tudlik, 2020*), certain subjects contribute more to the development of interest and to the rise of its level, so we wanted to provide an opportunity to examine the subjects independently. Finally, due to the remote connection, the results of this study were not used in the thesis.

When listing the school career guidance services, we took into account the service lists of several previous researches (*Suhajda, 2017, Hegyi-Halmos, 2016, Csányi-Széll, 2020*), and based on our own experiences, we judged the typical school career guidance options, such as:

out-of-school career counseling,

- school group further education counseling,
- factory visit,
- higher education open day,
- Night of Professions program,
- listening to guest speakers at school,
- online help (e.g. felvi.hu or other website),
- school career orientation day,
- career choice exhibition,
- Education exhibition,
- voluntary work,
- student work,
- individual discussion with class teacher/teacher,
- other.

With the structured set of questions about career guidance characteristics and needs, we wanted to emphasize the phenomena on which our investigation focuses, that is, we organized the questions around career interest, uncertainty and school career guidance services. In addition to the questions to be explained, we tried to stimulate the students' work by completing sentences that require more creativity and thinking. The eight questions and six unfinished sentences covered six topics as follows:

- need for help: what supports him in finding a career,
- decisiveness: how confident he is in his decision,
- studies: how subjects and grades affect the career interest,
- school help: how did the institution contribute to the development of your interest,
- information: what other help do you expect.

## **Hypotheses of the research**

The literature has pointed out that we do not know enough about the interests, career orientation and future ideas of students in high schools. Few tools are available for the learning process. We do not know whether the work within the school contributes to the development of young people's interest, whether the institutional career orientation promotes the differentiation of the students' interests and the decisive decision. It is not clear whether there are groups within the student community that require other types of support to make a career decision.

Our aim was therefore to apply a career interest attitude measuring instrument to our own sample, to explore high school students' career interest on multiple levels, and to learn about the relationship with the uncertainty variable related to career interest. In addition, we wanted to test the effect of school career guidance work on interest, with particular attention to certain groups of students. To answer the above, we set up four hypotheses.

*H1 The Career Chart questionnaire can be used to characterize the career interest of high school students, its flexibility and differentiation.*

It is not possible to list enough tools in order to explore the specific interests of the students. When setting up our hypothesis, we were right to expect that newer and newer attitude measures would shed light on areas that the previous ones did not, or could supplement them. Based on our preliminary review, the Career Chart covers a wider spectrum of interests than the commonly used procedures, and it will also help you learn about other constructs of career interest.

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*H2 Students who use several school career guidance services have more differentiated career interests.*

Based on the literature, the three career models providing the theoretical framework also indicated that there must be a demonstrable effect between the students' emerging career ideas and the attended career orientation activities. We believed that this effect could also be felt in our study. In our quasi-impact assessment, we were not interested in which service offered by the school was the most effective or the best, but rather our aim was to point out that it is worthwhile to involve students in as many events as possible that stimulate career interest, because this alone promotes the consolidation and differentiation of interest.

*H3 The level of career choice uncertainty is more significant among 10th and 12th graders and among students whose interests are not differentiated and flexible, but students with differentiated career interests experience lower career choice uncertainty.*

Based on our prior knowledge, we expected that those students who have concrete ideas will be better able to keep their academic results in mind for the implementation of their plans, focus on their areas to improve, and thus be less affected by the phenomenon of uncertainty. Our goal was to examine whether there is a relationship between maturity of interest and easing of doubts. We used the assumption that the level of uncertainty increases at the decision points - when choosing an advanced subject in the tenth year, and when choosing a major as a graduate student. This does not remain at the level of evidence if it turns out from the answers to the previous hypotheses that the uncertainty can be corrected by differentiating interest, that is, by increasing the career guidance work at school in these grades.

We expect a similar level of uncertainty in the event that the student shows no signs of interest differentiation or flexibility. In other words, he is not able to accurately formulate his wishes, expectations and desires in relation to his future field of work, and at the same time, he is not sufficiently open to accepting opportunities.

Our aim was therefore to examine whether the phenomenon of career choice uncertainty, interest differentiation and flexibility are related in our sample.

*H4 A good academic result increases the flexibility of career interest.*

The literature indicated that elevation, that is, the overall level of career interest, is a kind of positive attitude and flexibility towards work areas. In our opinion, in the case of

students with outstanding academic results, it is possible for them to think in a wide range of interests or to switch easily due to their good abilities, diligence and study habits. Our goal was to highlight that the better results a student's flexibility and curiosity produces, the stronger their curiosity about careers.

## **The results and significance of the research**

**In the framework of our educational research, we have adapted a tool for investigating career interest to our own model, which is suitable for exploring and learning about the phenomenon in the context of career counseling.** It can be used to demonstrate individual attraction to the sixteen areas of career interest, and the standard makes it possible to compare student results and their strength. It became apparent that the sample is most receptive in the direction of education-training, tourism-hospitality, law-public safety and trade-marketing areas, and this is overall the same as the indications in the literature.

Young people mostly come into contact with these areas of interest, that is, they easily recognize and identify with school topics, travel services and commercial work. The interest scales that are less attractive or that the students have not yet tried, such as manufacturing, the agricultural naturefood industry or science-mathematics-engineering activities, are listed with a low average. In the case of these, we also encountered outliers, that is, the students who think about this are few, but they are quite determined.

The secondary constructs of interest indicate that, in general, the students of the examined high school have medium or rather differentiated interests. This is a good sign, as the school's direct and indirect task is to continuously shape interest. A similar result can be seen in the case of career decision commitment, 50.2% of students are moderately committed.

Since, according to the literature, career interest and career choice uncertainty show a connection, at the same time, the research in this regard is not complete, so we considered it necessary to examine the two phenomena. We found that the students of this institution are moderately insecure, the general insecurity is at a low level, the anxiety is not expressed, but the need for self-knowledge and career knowledge on the part of the young people is significant.

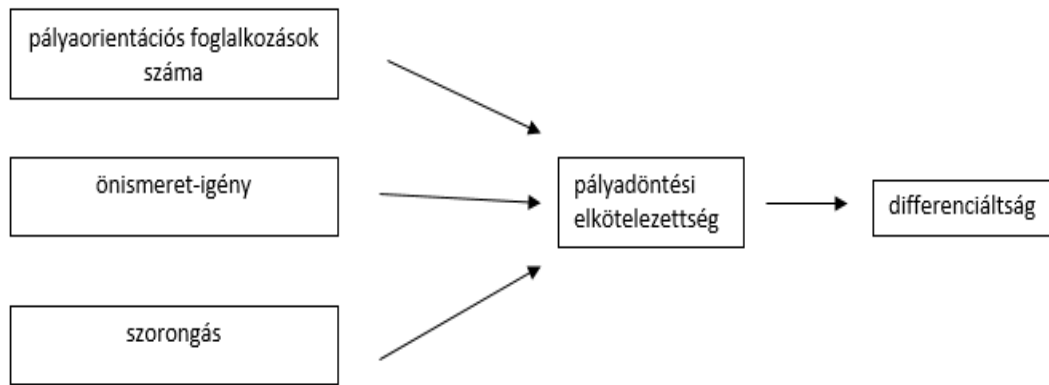
With our investigation, we also affected the career guidance work at school. The results showed that during their high school years, students use several services (3.5 on average). In our sample, on the one hand, the structure of the school's career guidance work can be followed, and on the other hand, the services used by individual grades. Regular and vigorous career guidance is not yet typical for ninth-graders, rather they only participate in the so-called compulsory school career guidance day. In the 11th grade, the career orientation day dominates, and the independent acquisition of knowledge is strengthened among the graduates, i.e. online orientation and visits to higher education institutions.

The 10th graders mostly rely on the orientation day and listening to the guest speaker. Among the services, the forms of individual assistance contribute the most to the differentiation of students' career interests. If we look at them individually services, then the class teacher's conversation, student work, career choice exhibition, online resources, listening to a guest speaker and group work provide the most to the students.

**Our sample highlighted the importance of the fact that other constructs of career interest are still worth researching.** This is especially true for the much-discussed phenomenon of elevation (flexibility used by some specialist literature and also by us). We started from the assumption that flexibility is negatively related to differentiation, that is, those who have a precise idea change it little, while those with undifferentiated interests tend to reconsider their decision under the influence of external factors. However, in our sample, we found that the two phenomena show a moderately strong correlation, but at the same time they are in the opposite direction to the phenomenon of general uncertainty. This allowed us to conclude that our variable moves together with the differentiation of interest, but at the same time it appears as the opposite of uncertainty, but not in a general sense, but in connection with the paths. In other words, instead of flexibility, we are dealing with a kind of decision-making commitment indicator. In this way, it becomes understandable that the individual with sufficiently differentiated interests is committed to her/his vision, but is not affected by the general uncertainty.

**We have shown which factors are related to the categoricalness, i.e. differentiation, of career interest.** It shows the strongest correlation with career decision commitment, which, however, depends on the number of career guidance services used, the level of self-knowledge and anxiety (in that order). In other words, the more school services the student uses, and the more pronounced his need for self-knowledge, the more his anxiety decreases and his commitment increases, which leads to an increase in the level of differentiation. The connection and process are illustrated in the following diagram.





Factors shaping the differentiation of career interest

**Our research revealed that, as in so many fields, each group of students has different characteristics in terms of career interest.** The gender comparison reflected what is described in the literature, that is, girls prefer activities related to people, while boys prefer activities related to objects. In terms of grades, there was not such a glaring difference. A significant difference was found in the case of the IT career field, ninth-graders like it to a greater extent than tenthgraders. Furthermore, graduate students stick to data and regular, repetitive work processes more than lower grade students.

Our investigation showed that girls have a more differentiated career interest than boys. Girls are also characterized by stronger anxiety, greater general insecurity, and a greater need for self-knowledge. From the year-by-year comparison, we found a pronounced need for selfknowledge and a higher overall career choice uncertainty among the tenth graders.

**We separated different student groups based on the characteristics of interest.** Based on the differentiation of interest, we determined that students with insufficiently differentiated career interests show a somewhat high level of anxiety. The degree of high commitment to career decision-making is indicated by the high need for self-knowledge and career knowledge, i.e. the more curious and open the student is to career information, the stronger the commitment to career decision-making, thus the differentiation of career interest.

Another group-forming force was that we compared the standardized values of some variables. The three student groups showed significantly different characteristics. STUCK students are a little behind in their studies, they are not sufficiently committed, and their need for mild field knowledge does not make up for their undifferentiated interest. Those

belonging to the ALREADY DECIDED category have good results, are committed and their interests are differentiated, thus they do not desire more self- and career knowledge. THOSE WHO STRIVE FOR PERFECTION are in a difficult situation despite the fact that they produce excellent academic results, their interests are very differentiated, the future is important to them, but they require additional knowledge of themselves and their careers, which causes tension in them.

It also emerged from our investigation that certain career fields (activities closely related to People) are associated with high differentiation, which is facilitated by the female gender and the high need for self- and career knowledge. Career areas related to Objects, Data and People require a high degree of career decision-making commitment. In addition, general uncertainty is at odds with the Data track, presumably due to practicality and systems thinking.

The student feedback revealed that career uncertainty and the help expected from the school are the main themes in their thinking. The overwhelming majority of them can name what worries them, but overall they have a positive view of the process of obtaining information related to careers and further education. They primarily rely on teachers (or close people, family members) and consider them a source of knowledge for the future. They are mostly expected to present the possibilities. Young people are concerned about whether the chosen career will suit them, whether they will be able to get a job in that field, and whether they will earn well. They are very confident that their uncertainty about the decision will be reduced with help. Although several people stated that the school did not contribute anything to the differentiation of their career interests, or that they could not name the useful career guidance programs launched by the school, this somewhat contradicts our investigation, which indicates that the students have an average or rather differentiated interest, for which, of course, the school and other external factors also contribute. They found the annual career orientation days, community work and self-knowledge sessions to be good. A detailed presentation of the higher education majors and feedback from the majors' teachers were identified as expectations from the institution. The comparison of student opinions also revealed that those who are sure of their decision are generally satisfied with the help provided by the school. On the other hand, those who lack help can name what they need and hope that it will improve their situation, and that they trust the teachers' guidance.

*H1 The Career Board questionnaire can be used to characterize the career interest of high school students, its flexibility and differentiation.*

We **verified** our hypothesis about the device. We examined the Career Chart on several samples. We filtered out possible errors, typos, and interpretation problems with face validity, and its reliability and convergent validity proved to be adequate. Our large sample preliminary study (N=327) and main study (N=477) produced similar results. We found that high school students primarily find the world of education-training, tourism-hospitality, law-public safety and trade-marketing attractive, because they recognize everyday life in these activities.

At the same time, they prefer manufacturing, agriculture-nature-food industry or science-mathematics- engineering fields less. This result was also confirmed by previous studies. We found outliers in our samples, but this hides important information regarding career interest, since there are few students who are interested in less preferred fields, but they are quite committed. It also turned out that there is a good reason for exploring the secondary characteristics of career interest, as they also provide information on how specific and certain the student's interest is. In our sample, we saw that young people have medium or rather differentiated interests, and this is a positive external and refers to school work. At the same time, we also shed light on the fact that the phenomenon of flexibility, which is also discussed in the literature, has a completely different meaning in our sample, presumably the concept hides a kind of career decision commitment. Overall, the tool can be used well to describe the primary and secondary constructs of career interest, to get information, and to start a counseling conversation. Its handling and analysis is simple and short, yet sixteen different career fields and the personality traits associated with them can be learned through it.

*H2 Students who use several school career guidance services have more differentiated career interests.*

We consider our second hypothesis **to be verified**, as there is an indirect and direct correlation between differentiated career interest and the number of career guidance services used ( $p < 0.001$ ,  $r = 0.183$ ). Participation in career guidance services determines which differentiation group a student is placed in 16% of the time. In addition, along with anxiety and the need for self-knowledge, it also supports the development of differentiation through career decision commitment (Model 1 Sig. 0.000  $R = 0.281$   $RSq = 0.079$   $RSqAdj = 0.073$   $F(13.548)$   $p = 0.000$ ). Although the students indicated that the opportunities provided by the school are not sufficient, because they would need more career and professional knowledge and information, the majority of students still belong to the group with more differentiated career interests. In other words, the institution has an important task in this field, by initiating several high-quality, diverse programs.

It also emerged from the study that it is worth focusing on individual forms of assistance, because they significantly contribute to the development of differentiation ( $p=0.033$ ,  $r=4.582$ ).

*H3 The level of career choice uncertainty is more significant among 10th and 12th graders and among students whose interests are not differentiated and flexible, but students with differentiated career interests experience lower career choice uncertainty.*

We consider our third hypothesis **partially confirmed**. Although student feedback attributes importance to interest in the development of academic performance, we found no evidence of this in our study. We found no correlation between the academic average and the differentiation of interest. The fact is that students with better academic results have differentiated interests, but it is not clear whether they learn well in all subjects as a result of differentiation or vice versa.

It was not possible to prove that students with less differentiated interests experience significantly greater career choice uncertainty overall, but the anxiety of those with less differentiated interests is more pronounced. In other words, the differentiation of the student's career interest is formed through the uncertainty subscales (anxiety and need for self-knowledge) (Model 1 Sig. 0.000  $R=0.281$   $RSq=0.079$   $RSqAdj=0.073$   $F(13.548)$   $p=0.000$ ). The significance of this can be seen in the fact that anxiety and a lack of self-knowledge increase uncertainty, which can be an obstacle to making a firm career decision.

Although we expected, based on our experience, that students who had reached the decision point would have a more pronounced career choice uncertainty, during our investigations we only found evidence of an increase in the value of this in the tenth graders compared to the eleventh graders (ANOVA  $SumSq=721,084$   $df=3$   $Msq=240,361$   $F=3,019$   $Sig=0.030$  Scheffe 10-11 years=3.27). In the case of the subscales, there is also a significant difference between the 10th and 11th graders, namely that the 10th graders place a greater demand on themselves for self-knowledge (ANOVA  $SumSq=194.136$   $df=3$   $Msq=64.12$   $F=3.602$   $Sig=0.013$  Scheffe Year 10-11 = 1.635).

Our assumption that the uncertainty is more significant for students whose interests are not differentiated and not flexible was not verified. Our hypothesis was based on the fact that the two phenomena move in opposite directions, that is, those with differentiated interests, who know what they want, cannot be flexible at the same time. This would mean that he is interested in relatively many things, but due to external (e.g. labor market) considerations, he is willing to move towards one or another area of interest, i.e. his interest is not yet sufficiently differentiated. So those whose interests are neither differentiated nor flexible, we can also call them a flat interest pattern, should face greater

uncertainty according to experience. However, in our research, instead of flexibility, we found a measure expressing a kind of career decision commitment, which showed a correlation with differentiation (Model 1  $RSq=0.241$   $RSqAdj=0.239$   $F=150.866$   $Sig=0.000$ ). Consequently, we did not have the opportunity to test uncertainty (due to the lack of the phenomenon) on non-differentiated and non-flexible students.

*H4 A good academic result increases the flexibility of career interest.*

Our fifth hypothesis **could not be verified**. Starting from the literature, we assumed that in the case of good students, especially excellent students, it can be observed that since their academic performance is outstanding and their abilities are generally very good and are working, it is difficult to recognize the specific field of career interest in which they could or would like to excel. Our study was hindered by the fact that, behind the phenomenon of flexibility, in our sample we experienced rather a kind of career decision commitment. In other words, on the one hand, it became pointless to explore the connection, and on the other hand, we did not find a significant relationship between the academic average and career interest. At the same time, it can be seen that for students with good academic results, the new variable, that is, the commitment to the career decision, plays a major role.

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