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A Conative Approach to Financial Personality in Three Age Groups

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Abstract

In 2012 and 2020, a comprehensive survey was conducted on the financial culture of Hungarian higher education students. According to this, the effectiveness of financial training has not improved. The reasons for this can also be revealed by the attitude-based conative examination of the financial personality, which has been taking place since 2016 on the website of the Financial Compass Foundation (<https://penziranytu.hu/penzugyi-szemelyisegtesztek>). Voluntary and anonymous online questionnaires developed for adults, high school students and children examine behavioural patterns and motivations for the practical use of money. Based on the results, a seven-year government strategy to develop the financial awareness of the population was launched in Hungary, and compulsory economic education became part of the National Core Curriculum. Many organisations used the results of the research when designing the training courses. Interested foreign partners and institutions also indicated that they would participate in the research. Therefore, the research is currently being expanded internationally and the questionnaires are being translated. The authors of this study are members of this research group. Before moving to the international level, the methodological grounding of the questionnaires was examined using statistical methods based on the 40,000 responses collected so far in Hungary. These results are presented in their presentation. The aim of the international research is to create a database that helps to explore the background of the financial personality and enables the examination of their country-specific characteristics.

Keywords: financial behaviour; motivations; questionnaire; validation; international research



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1. Introduction

In this paper, we present the self-developed questionnaire that has been available on the Money Compass Foundation website since 2015. Answering the questions helps us to build a picture of financial personality, while giving respondents advice on how to develop their financial personality and improve their decision-making skills. Following the success of the questionnaire for adults, we have developed and made available on the Compass Foundation website separate questionnaires for children from 2018 and for secondary school students from 2021. Based on the interest shown by the continuous responses and the influence of our foreign partners, we decided to make the questionnaires, which are currently only available in Hungarian, available in several languages on the website of the Compass Foundation. Before preparing the international version, we reviewed the literature, which, as this is empirical research, we will only briefly describe the most important trends. We then describe the methodology and the results of the more than 40,000 completed questionnaire responses collected since the study began. Finally, we discuss conclusions and future research directions.

2. Body of paper

2.1 Literature review

Financial behavior and decision making, and the relationship to finance, are related to personality. The relationship between these two areas has been researched for almost 50 years. Early studies (Chen & Volpe, 1998; Danes & Hira, 1987) have approached financial behavior from a personality perspective. Later studies (Klapper et al., 2018; Lusardi & Mitchell, 2014) have focused on financial knowledge-behavior-attitudes and have treated financial decisions and activities as capabilities. This was also the direction taken by the initial Hungarian research (Németh et al., 2013). The material manifestations of financial decisions, e.g. having a bank account, using a bank card, are measured at the global level by the database created by Demirgüç-Kunt and colleagues in 2014 and updated in 2018 (Demirgüç-Kunt et al., 2015, 2018). Unfortunately, despite original plans, no new report on the subject will be published in 2021. Today, a third research direction is emerging. This does not derive financial behavior and attitudes from general personality traits, but focuses specifically on financial personality as a phenomenon in its own right. The representatives of this trend seek dimensions from which the structure of financial personality can be sketched. Our research group led by Erzsébet Németh in Hungary started along this path, investigating the financial personality of children, secondary school students and adults, and publishing our report in the summer of 2022.



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2.2 Material and method

2.1.1 The questionnaires

We used three self-made questionnaires for our study. The questions were formulated as statements based on the literature and our own research experience. We examined the financial personality from the viewpoint of behaviour, activity and decision making. The decision making is a frequently examined area of the financial psychology (Sipos & Tóth, 2006). The questionnaires were made available by the Financial Compass Foundation on its website. In line with research ethics, the completion of the questionnaire is voluntary and anonymous, with no questions about the demographic characteristics of the respondents (gender, place of residence). Only age group can be determined based on the age group of the respondent who completed the questionnaire. The questions in the three questionnaires were adapted to the age-specific characteristics of the target age group, taking care to ensure that statements about negative behaviors were not negative. Respondents were asked to indicate the extent to which each statement was specific to them on a five-point Likert scale. For each response, 1 represented 'not at all typical' and 5 represented 'very typical'. In each of the three questionnaires, nearly half of the statements were worded so that the maximum score for each statement was the most unfavorable result. An example of such questions is the statement "Money just flows out of my hands". In the case of those who completely agree (5 points), their financial behavior cannot be described as conscious. Such questions are labeled R (reverse). Based on the questions, four personality dimensions were defined for children, five for secondary school children and six for adults before the survey. All questions in the questionnaire were assigned to one and only one dimension. The scores for the questions describing one dimension were summed. The scores of questions marked R were multiplied by -1 before summation. By summing the scores for each dimension, we were able to describe the financial personality of each respondent with a score. We also provided a motivation for completion: after answering the questions, respondents were given an immediate assessment of their financial personality based on their score in the pre-defined personality trait domains. For each dimension, two categories were created for the assessment after answering the questionnaire: low (below median) and high (above median) scores. These were described separately and each respondent was given a score corresponding to their result in each category. The main features of the three questionnaires are summarized in Table 1.

Table 1: Main characteristics of the three questionnaires

	Primary education	Secondary education	Adults
Available since	2018	2021	2015
N^o of questions	20	30	36



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N^o of predefined dimensions	4	5	6
N^o of respondents until 2022	15,933	4,471	22,933
Method	online questionnaire, 5-grade Likert-scale		
Research ethics	voluntary and anonymous responses, no demographic data		
Motivation to complete	instant profile after completing the questionnaire		

Source: authors own

Before going international, we reviewed the methodology again and made some minor changes to the way the scores are calculated. These changes did not affect the wording and order of the questionnaire questions, nor the results of the evaluation of the responses collected so far. Statistical methods were used in the changes. We examined the internal consistency (Cronbach's α) of the questions measuring each variable and performed confirmatory factor analysis of the predefined personality dimensions.

2.1.2 The sample

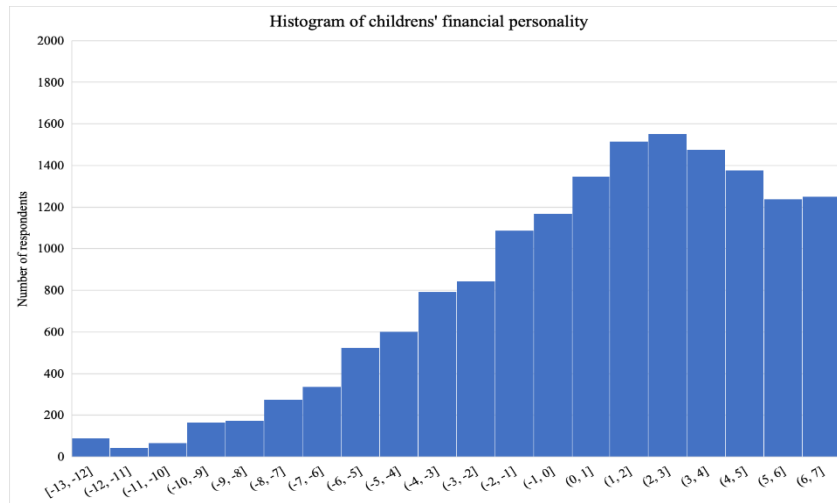
The adult questionnaire has been available continuously since 2015. By the start of processing, a total of 22,933 completed questionnaires had been collected. The children's questionnaire, available since 2018, has been completed by 15,933 respondents. The most recent questionnaire is for secondary school pupils. Here, 4,471 respondents have completed the questionnaire since its release in 2021. Given the high number of items in the age groups, we can assume normality of the sample using the central limit theorem (Polya, 1920). Due to the methodology of the sample collection procedure and the wording of the questionnaire questions, the representativeness of our sample cannot be confirmed or refuted. However, the fact remains that the high number of elements nevertheless allows general conclusions to be drawn. Given the absence of questions on demographic characteristics, the descriptive statistics of the sample can be described on the basis of the financial personality scores. As we have currently started to process the children's questionnaires with the new methodology, we present as an example the descriptive statistical histogram of the children's sample (Figure 1).



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Figure 1: Financial personality of children



Source: authors' own

The main message of the histogram is that the majority of children perform above the median, so we have a more favorable picture of the whole sample of children than the theoretically expected average personality traits.

2.2 Results

2.2.1 Results of the methodological review

Given that the theoretical structure of all three questionnaires is the same and only the number of questions differs between the age groups, the results of the children's questionnaire are presented as an example. Table 2 contains the internal consistency values of the variables.

Table 2: Internal consistency of personality and its dimensions

Dimension (factor)	Cronbach's α
Thrifty	0.622
Diligent	0.398
Conscious	0.553
Moderate	0.624
Financial personality (full)	0.787

Source: author's own

As our study is an attitude survey, the acceptable lower bound of Cronbach's α is not the usually expected value of 0.7, but the value of 0.5 according to the literature (T. Kárász et al., 2022). This expectation was fulfilled for all dimensions, and the Cronbach's α value for the entire personality construct is above the conventional value of 0.7.

The next question is to examine the factors. The pre-defined personality dimensions correspond in fact to the results of a factor analysis carried out in theory. Therefore, we need to examine the extent to which the sample itself proves to be a posteriori suitable for the



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theoretical construction of factors. To this end, we should perform an exploratory factor analysis on the full sample and test the suitability of the sample for factor construction by performing the Kaiser-Meyer-Olkin (KMO) test. This was not necessary, however, because we had already done this in our own principal component analysis in the research report. Therefore, all we had to do was to take the KMO value from the report (0.872), which is in line with statistical expectations. We then performed a confirmatory factor analysis by treating the dimensions as factors and the questions measuring them as variables. Its fit statistics are shown in Table 3. On this basis, the fit of the model was found to be adequate.

Table 3: Fit statistics of confirmatory factor analysis

χ^2		df		p	
18304		164		< .001	
Fit Measures				RMSEA 90% CI	
CFI	TLI	SRMR	RMSEA	Lower	Upper
0.705	0.658	0.0795	0.0833	0.0823	0.0843

Source: authors' own

The studies have therefore statistically confirmed the usability of the questionnaire, so there is no methodological obstacle to internationalization.

2.2.2 Key conclusions of the research in Hungary

When designing the questionnaire, the pre-defined personality types mentioned above were created. However, by statistically analysing the collected responses (principal component analysis), we were able to describe a new personality structure in each of the three age groups. In total, we can characterize the financial personality of adults in eight dimensions, the most significant of which are reactivity and order- and family-oriented attitudes. Reactivity is associated with diligence and thrift, but this personality trait means that such adults act only when the problem is already established. So either they do not think ahead or they have no motivation to prevent the problem from developing. Similar behavioural patterns are also found in passive diligent and indifferent personality dimensions, as well as in the living in the present attitude. These three groups account for 53% of the total adult sample. This is a high proportion, which is why one of the most important tasks of adult financial education in Hungary is to develop a proactive mindset and motivation to act accordingly. Another typical problem for adults is excessive and reckless spending. Lack of conscious saving is associated with financial vulnerability. This category includes 32% of all adults, who also need to be given increased attention. Together, these two groups account for 87% of the adult sample, meaning that almost all adults (9 out of 10) need to improve their financial literacy (Figure 2).

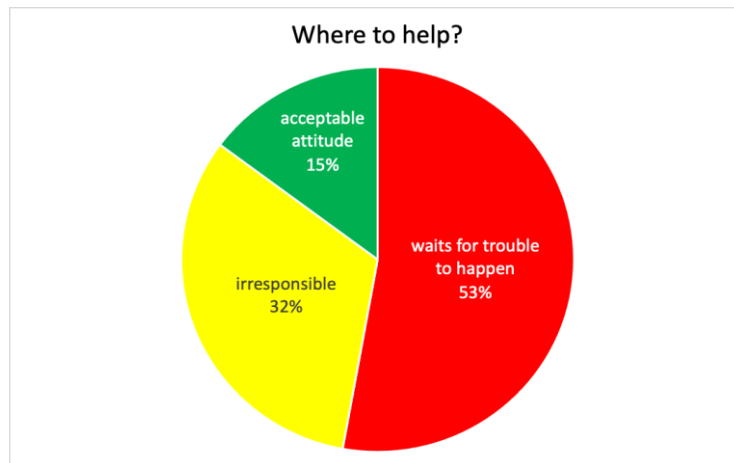


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Figure 2: Key areas for adult financial education



Source: authors' own

The sample of secondary school students has a significantly smaller number of items compared to adults (n=4,471). This is because this questionnaire was launched latest in 2021. However, we still obtained valuable results. The personality constructed on the basis of the responses in the secondary school age group is made up of seven dimensions. As in the case of adults, attitudes to living in the present are organized into separate dimensions. As is typical for this age group, independence and innovative aspirations are of particular importance, and are seen as an independent personality trait. These two traits are prominent in almost three quarters of secondary school respondents (58% autonomous, 16% innovative, 74% in total). Interestingly, a significant proportion (20%) of respondents in this age group have no innovative tendencies at all, and are in fact very conservative. Looking further into the responses, the autonomous group is quite heterogeneous (Figure 3).

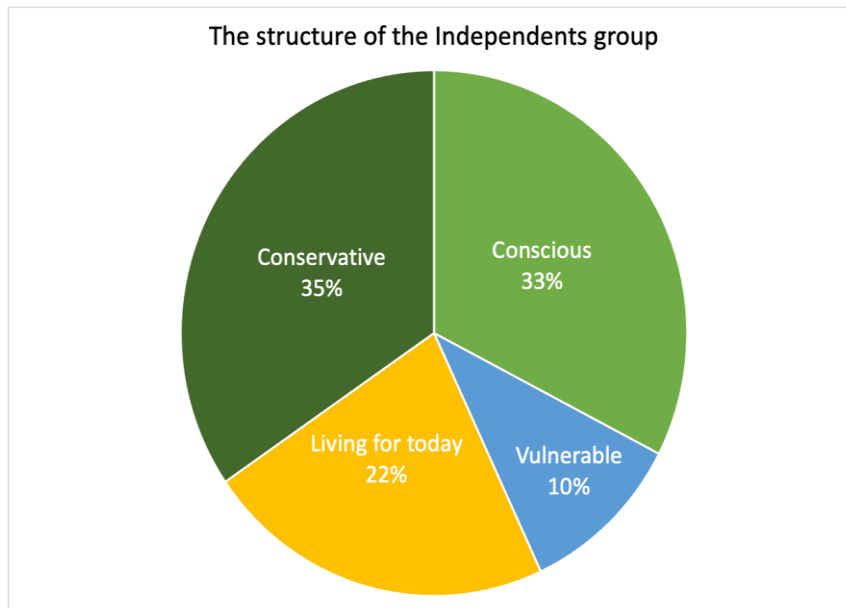


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Figure 3: Groups of secondary school students who value autonomy as important



Source: authors' own

It is clearly visible that among those who consider autonomy important, the proportion of secondary school students who associate the need for autonomy with irresponsibility and financial vulnerability is almost 30%. Autonomy without awareness is more dangerous than the lack of autonomy.

The empirical personality structure of children's responses is simpler than that of adults or secondary school students. It consists of only four dimensions. However, it is noteworthy that two of the four personality traits have a negative effect. They display the same irresponsible, unaware spending and living in the present that we have already observed among secondary school pupils and adults. These two behaviours are more prevalent in 38% of children, while the remaining 62% are characterized by a predominantly conscious trait. Conscious children, however, can be divided into two groups, with 40% of them displaying uncertainty associated with consciousness, and therefore either not daring to make a decision and act accordingly, or displaying unjustified assertive behavior, not caring about the risk of making a wrong decision. Both types of behavior result in financial loss (Figure 4) This means that only 37% of children appear to be financially well-adjusted.

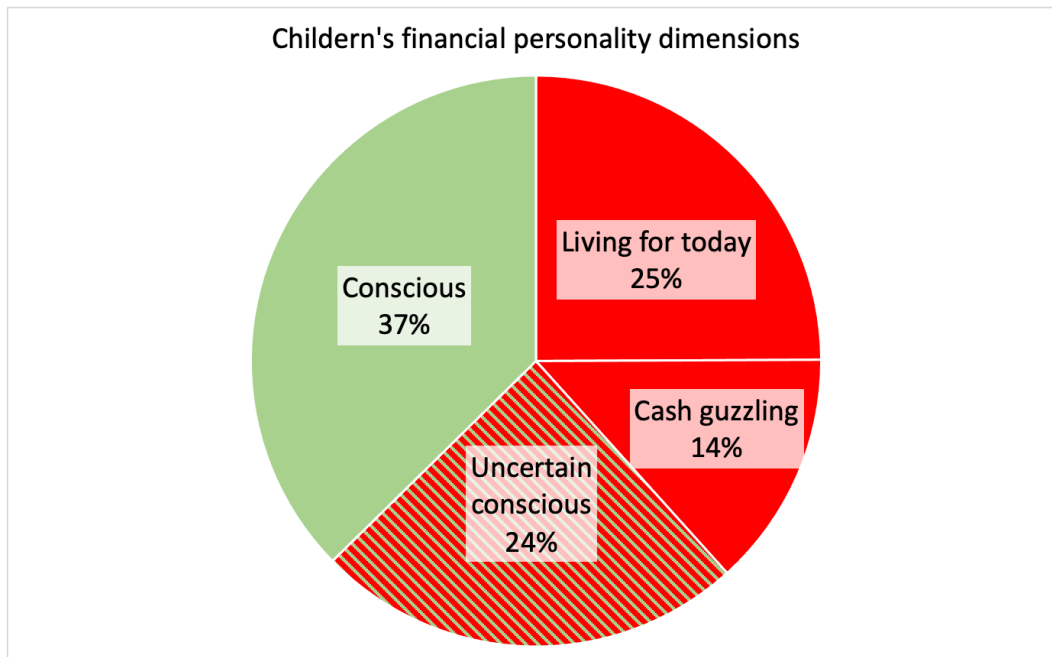


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Figure 4: Children's financial personality



Source: authors' own

3. Conclusion

Based on the empirical picture of financial personality across three age groups, we can say that certain personality traits can be observed among the Hungarian population in all age groups. Unfortunately, these are not all favorable. Those who live in the present, spend irresponsibly and are financially vulnerable are also found among children, secondary school pupils and adults. They account for 38% of the youngest, 19% of secondary school pupils and 32% of adults. The high rate among children can be explained by age-specific factors. Years in public education show a significant improvement: the percentage of irresponsible children is halved. The repeated rise in adulthood suggests that the financial knowledge and skills acquired in primary and secondary education are inadequate or not sufficiently embedded. This indicates the importance of teaching financial knowledge and behavior properly. However, it also suggests that, in addition to acquired knowledge, the adverse impact of the social environment (e.g. family patterns) is also very strong.

Our study presented the methodology and results of a multi-age research project that has been ongoing in Hungary for almost ten years. The aim of this research is to create a financial personality profile and to establish a common starting point for international comparative studies to be targeted in the future. Currently, the questionnaires are being translated into English, but in the near future we plan to produce Swedish, Italian, Czech, Ukrainian and Macedonian versions with the help of interested foreign partners.



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