



**Doctoral School of
Business Administration**

SUMMARY OF THESES

Boglárka Zsótér

**Apple from the tree...
Intergenerational effects in young adults' financial socialization in family**

Ph.D. dissertation

Supervisor:

Dr. András Bauer, Ph.D.
Professor

Budapest, 2015

Department of Marketing

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I. Preliminaries and aims of this study

The aim of the research of the PhD dissertation is to provide insight into the financial socialization of young adults, and I will apply both a result approach – outcome of intergenerational parental influence on children’s financial behaviour – as well as a process approach – the nature of the influence. Furthermore, I apply the theory of family communication patterns, frequently applied in communication socialization and psychology, to reveal how parents’ parenting style and goals – reflected in the communication patterns – influence the previously mentioned socialization process. In order to have a greater insight into the process of intergenerational influence, in addition to financial behaviour, the attitude to money and materialism will also be studied.

Financial behaviour of young adults is an important research topic, well worth considering from various aspects. In parallel with the development of financial markets financial products have also become more complex and complicated (Habschick et al., 2007; Botos et al., 2012). Unfortunately, the complex nature of needs and markets goes with the low level of financial knowledge and financial culture (Chen and Volpe, 1998; Volpe and Chen and Liu, 2006, Lusardi and Mitchell, 2014). The study examining three dimensions of financial literacy in Hungary reveals that the high level of financial knowledge and attitude do not necessarily result in appropriate, responsible and future oriented financial behaviour (Kenesei, 2014). From the above it is clear that the development of the financial culture is of the utmost importance, and also financial behaviour has to be shifted into the right direction. Family is the primary socialization agent in children’s life. This is true for consumer behaviour too (e.g. Caruana and Vassallo, 2003; Moschis, Prahasto, Mitchell, 1986), and a step further, for consumer finances as well (e.g. Webley and Nyhus, 2012; Rettig, 1983; Hira et al., 2013).

Family life dynamism and parents’ goals are reflected in the communication patterns (Koerner and Fitzpatrick, 2002). In *Communication Research Methods II* an independent chapter was devoted to family communication, furthermore authors and editors also highlighted its relevance and importance in research on families, socialization processes and parent-child relationships (Rubin et al., 2011). Family communication patterns are a neglected subject in consumer finance research (Allen, 2010). Obviously, the socialization process is influenced by other players as well, peers, media, schools and various other factors (such as cultural factors). It is hoped that more profound insight can be obtained in the framework of the current research

if parental roles are highlighted exclusively, and other socialization agents are neglected. My decision is based on the literature, on the varying but still crucial role of families (Somlai and Tóth, 2004; Vaskovics, 2000), and additionally on the results of a joint research with Fáy András Foundation of OTP (Bauer et al., 2012; Zsótér, 2012).

Figure 1. shows the conceptual framework of the doctoral research.

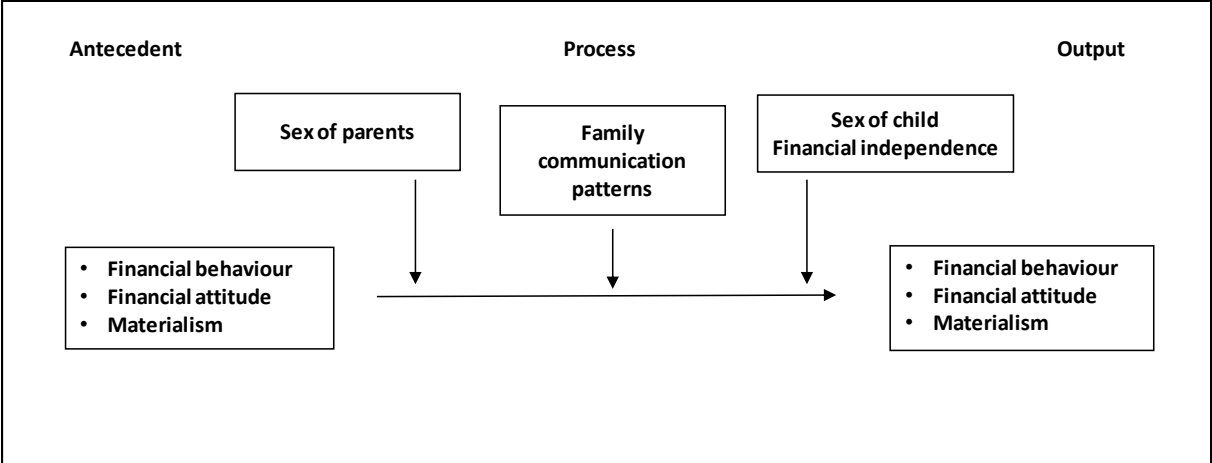


Figure 1. The conceptual framework of doctoral research

II. Methodology

II.1. Research questions

The study of the chosen field is guided by six research questions. Each of these questions are subdivided into multiple sub-questions and related hypotheses. The questions and hypotheses treated in the present dissertation are presented in Table 1. Questions Q1 and Q2 reflect an output-oriented approach, while the remaining research questions pertain to a process-oriented approach.

Research questions	Sub-questions	Hypotheses
Q1. Does an intergenerational effect exist within the family between young adults and their parents as regards financial socialization?	Q1/a. Does an intergenerational effect exist within the family between young adults and their parents as regards financial behavior?	H1/a. There does exist an intergenerational effect within the family as regards young adults' financial behavior.
	Q1/b. Does an intergenerational effect exist within the family between young adults and their parents as regards financial attitudes?	H1/b. There does exist an intergenerational effect within the family as regards young adults' financial attitudes.
	Q1/c. Does an intergenerational effect exist within the family between young adults and their parents as regards materialism?	H1/c. There does exist an intergenerational effect within the family as regards youth materialism.
Q2. How can the various aspects of young adults' financial socialization can be characterized relative to each other with respect to parental influence?	Q2/a. To what extent does parents' financial behavior affect young adults' financial behavior?	H2/a. The more conscious parents' financial behavior is, the more their children's financial behavior is conscious.
	Q2/b. To what extent do parents' financial attitudes affect young adults' financial attitudes?	H2/b. There is a positive relationship between the financial attitudes of parents and that of their young adult children.
	Q2/c. To what extent does parents' materialism affect young adults' materialism?	H2/c. The more a parent can be characterized by a high propensity to consider materialism as the main source of happiness and success, the more the same orientation is true for their young adult children.
Q3. How can young adults' financial socialization process can be characterized in connection with the amount of communication within the family?	Q3/a. Does the frequency of parent-child communication affect the intergenerational effect within the family as regards young adults' financial socialization?	H3/a. The frequency of communication does not affect intergenerational effects in the tested aspects of financial socialization within the family.
	Q3/b. Do imagined interactions typical of young people affect the intergenerational effect within the family as regards young adults' financial socialization?	H3/b. Imagined interactions have a moderating effect on parents' impact on their young adult children's financial socialization, that is, the intergenerational effect is higher among those who tend to imagine communication situations related to money.
Q4. How can young adults' financial socialization process can be characterized in connection with family communication patterns?	<ul style="list-style-type: none"> • Prior assumption 1 Parents in families characterized with high conceptual and high social orientation (i.e. where parents exercise a resolute control and consciously encourage autonomy at the same time [consensual communication]) are expected to have a higher impact on their young adult children's financial socialization than in the remaining subsamples. • Prior assumption 2 In families where parents do not seek to control their young adult children nor to encourage their autonomy, the results are expected to be lowest compared to the remaining subsamples. 	
Q5. Is there an observable difference along gender roles in the intensity of intergenerational effect as regards financial socialization?		
Q6. Is there an observable difference along financial independence in the intensity of intergenerational effect as regards financial socialization?		

Table 1. Research questions and hypothesis

II.2. Used methodology

The study of the intergenerational effects on young adults' financial socialization was based on the above-mentioned research questions and related hypotheses using literature-based measuring instruments. A quantitative research methodology based on international scales and the author's prior research results is used to answer the study's research questions and to test the related hypotheses. The variables included in the study originate from, on one hand, the Financial Planning Scale (Danes et al., 1999), and on the other, from the Financial Behavior Scale (FBS) (Perry-Morris, 2005). The pool of items was generated with expert assistance, and four sub-dimensions were identified: savings, objectives, monitoring, and norm compliance. Financial attitudes were measured using on one hand two subdimensions of the Money Attitude Scale (MAS; Yamauchi-Templer, 1982), namely the power-prestige and distrust dimension. On the other hand, attitude towards savings and attitude towards loans were included as measures, based on the conclusions reached in a study elaborated for OTP Fáy András Foundation, as well as attitude towards financial institutions, based on Béres et al. (2013). Materiality is measured by the Material Value Scale (MVS) (Richins-Dawson, 1992), with special attention to the happiness and success dimensions thereof. Family communications were measured using the Family Communication Patterns Scale (FCPS) (Moore – Moschis, 1981; Caruana – Vassallo, 2003). The factor structure obtained with the above scales was verified using IBM SPSS Amos 22 software.

In the framework of the research both univariate and multivariate statistical methods are used. Data was analyzed using IBM SPSS 22 software. The study of the existence of intergenerational effect within the family (Q1), and the test of hypotheses H1/a, H1/b, and H1/c was performed by a random and actual pairing of students and parents leading to a Z-test (Kanji, 1993). The research question related to the extent of parental effect (Q2), and related hypotheses H2/a, H2/b, and H2/c are assessed using regression analysis. Regression analysis was equally used on further subsamples to assessing Q3, Q4, Q5, and Q6. For hypothesis H3/a, considering the properties of the variables involved, a logistic regression analysis was chosen. In case of Q4, based on the methodology proposed by Moore and Moschis (1981), four categories of communication were created by dividing the sample along the medians for conceptual and social orientations into two parts each. To answer Q6, the three subsamples that made the comparison possible were established by performing a k-means cluster analysis by including items related to financial freedom.

II.3. Data collection and sample properties

The intergenerational effect within the family is often studied by putting only one family member into focus, and determining from their point of view whether there exists a parental effect or not. An important goal of the present dissertation was to not only determine the financial socialization aspects of young adults but also to consider their parent's answers, thereby offering a complex interpretation of the problem using a paired sample, where intergenerational effects are assessed considering both respondent groups.

The instrument used for data collection was a survey. An online survey was used for collecting data from both students and parents. While respondents were offered the choice to answer the questionnaire on paper, only a few respondents resorted to this option. Data collection was performed along freshmen students of Corvinus University of Budapest. Respondents received extra points when both them and their parents filled out the questionnaire. Participation in the study was thus optional. In order for us to be able to identify the student/parent pairs at the end of the data collection period, students' university identification codes were used. These personal data were deleted after successful pairing. The latter method allowed us to perform both a random and actual pairing of the two samples (students and parents). At the end of the data collection period, a database of 602 student/parent pairs was obtained. After data cleaning, the database was ultimately composed of 535 pairs. For the sake of comparison, the study that constituted the starting point for the present work (Moore et al., 2002) included 102 daughter/mother pairs to analyze intergenerational effects within the family. In the student sample, the majority of excluded respondents were male. For this reason, their proportion in the final sample is 37.6%. In the parent sample, the majority of respondents are female: mothers constitute approximately two thirds of the sample. The average income values obtained for both the student and parent samples leaves to suggest that respondents generally have an above average financial situation in a Hungarian context.

Table 2. shows baseline statistics for the student and parent samples.

	Student sample (N=535)	Parent sample (N=535)
Gender		
<i>Male</i>	37.6%	27.3%
<i>Female</i>	62.4%	72.3%
Main residence		
<i>Budapest (capital city)</i>	32.0%	29.2%
<i>Other town</i>	49.5%	54.6%
<i>Minor municipality</i>	8.2%	8.0%
<i>Other village</i>	8.2%	8.2%
Monthly average income	54,517 HUF (175 EUR)	313,524 HUF (1000 EUR)

Table 2. Baseline statistics of the student and parent samples (Source: own elaboration)

III. Results of the study

III.1. Intergenerational effects in young adults' financial socialization

Research questions Q1 and Q2 focus on the study of the existence and intensity of intergenerational effects within the family. Question Q1 (Does an intergenerational effect exist within the family between young adults and their parents as regards financial socialization?) can be subdivided into three subquestions. Subquestions Q1/a, Q1/b, Q1/c are suitable for formulating testable hypotheses, as the existence of intergenerational effect is assumed, based on the literature (Webley – Nyhus, 2006; Fluori, 1999; Solheim, 2011; Chaplin – Roedder John, 2010). The test of hypotheses is performed in a multi-step process, as follows:

1. A paired random sample is created, where respondent students are attributed random respondent parent pairs. at the same time, a sample with actual pairs is constituted based on the identification codes provided by the respondents.
2. In a second step, variables suitable to analysis are created from the tested constructs. The factor structure obtained from the confirmatory factor analysis are used as a base for creating the variables, which are made up by the sum of items belonging to a concept or dimension. These variables are further transformed into categorical variables, i.e. for each studied construct, three groups are constituted (low, medium, high).
3. In a third step, for each variable involved we examine in both samples (actual and random pairing) how many subjects fall into the same category. The three values obtained for the random pairing show the number of parent/student category matches (expressed as a percentage), i.e. how many of them fall into a same category, regardless of whether they belong

to the same family or not. The three values obtained for the random pairing show the number of parent/student category matches (expressed as a percentage), i.e. how many of them fall into a same category. In this latter case, actual parent/children pairs are concerned.

4. In a fourth step, the significance of differences between the two groups is examined using a Z-test (Kanji, 1993), that is, we study whether the number of participants categorized into one of the three categories differs significantly between the random and actual samples. According to the null hypothesis of the Z-test, the values in the two samples do not significantly differ. The null hypothesis is rejected at a .05 significance level in case $-1.96 < Z < 1.96$. The null hypothesis is rejected at a .1 significance level in case $-2.576 < Z < 2.576$. Based on the obtained Z values, we can conclude whether an intergenerational effect exists in the studied variables. If the null hypothesis is rejected based on the result of the Z-test (i.e. the assumption that the two samples are similar turns out to be false), one can then conclude that there is an actual intergenerational effect within the family for the studied variable.

The following symbols and formulas were applied in the calculations (Kanji, 1993; Moore et al., 2002):

- p_{h1-3} = the proportion of students (young adults) (h: hallgató [Hungarian for student]) falling into the given category of the given variable
- p_{sz1-3} = the proportion of parents (sz: szülő [Hungarian for parent]) falling into the given category of the given variable
- M_{1-3} = number of paires effectively categorized into the given category
- n = sample size
- E = shows the total number of subjects in the random pairing sample who fall into the same category as their pairs
- A = shows the total number of subjects in the actual pairing sample who fall into the same category as their pairs

$$E = n * [(p_{h1} * p_{sz1}) + (p_{h2} * p_{sz2}) + (p_{h3} * p_{sz3})]$$

$$A = 2 * (M_1 + M_2 + M_3)$$

$$Z = (A/n - E/n) / \{ [E/n * (1 - E/n)] / n \}^{1/2}$$

The results of the above study performed for eleven variables (four dimensions of financial behavior, five dimensions of financial attitudes, two dimensions of materialism) support the

existence of an intergenerational effect. In nine (out of a total of eleven) cases, the obtained Z-result was higher than the threshold value of 2.576. In these cases, the null hypothesis of the Z-test can be rejected: the number of pairs significantly differ between the random and actual samples. The values of the Z-test are presented in Table 3.


Variable	Z values	Significance (P≤.01)	Does an IG effect exist?	Hypothesis accepted or rejected
Financial behavior				
Behavior_saving	0.259	not significant	NO	H1/a partially accepted
Behavior_target	3.518	significant	YES	
Behavior_control	3.688	significant	YES	
Behavior_normcompliance	6.391	significant	YES	
Financial attitude				
Power and prestige	4.223	significant	YES	H1/b accepted
Distrust	5.420	significant	YES	
Loan_attitude	13.469	significant	YES	
Savings_attitude	5.971	significant	YES	
Institution_trust	10.349	significant	YES	
Materialism				
Happiness	0.733	not significant	NO	H1/c partially accepted
Success	7.333	significant	YES	

Table 3. Intergenerational effects within the family for studied variables (source: own elaboration)

An intergenerational effect cannot be determined based on the values of the Z-test for the savings dimension of financial behavior and the happiness dimension of materialism. At the same time, we did not excluded these variables from further analysis as we estimated that relevant and significant results could be obtained by using them in testing other questions and subsamples.

Question Q2 focuses on the intensity of parental effect, and studies the various dimensions of young adults' financial socialization in terms of parental effect. Hypotheses H2/a, H2/b, and H2/c theorize a positive relationship between parents and young adults in the studied dimensions. To test the three hypotheses, a two variable regression analysis was performed. The independent variable was an attribute relative to the parent (e.g. "to what extent do you consider material goods as a source of happiness"), while the independent variable was the same attribute relative to the student (young adult). We therefore study whether the parent has an effect on their young adult children, and if yes, what is the extent of the relationship (i.e. what

is the strength of the relationship between the two variables). Table 4. shows the results of the regression analysis for financial behavior.


Hypothetical effect 		B	β	t	R ²	F	
Beh_saving_sz	Beh_saving_h	.107	.101	2.338*	.010	5.465*	
Beh_target_sz	Beh_target_h	.134	.114	2.641*	.013	6.974*	
Beh_control_sz	Beh_control_h	1.0167	.183	4.307**	.034	18.553**	
Beh_normcomp_sz	Beh_normcomp_h	.355	.302	7.325**	.091	53.659**	

*p<.05; **p<.001

Table 4. The effect of parents' financial behavior on their children's financial behavior – Results of the regression analysis (source: own elaboration)

One can conclude that among the studied dimensions of financial behavior, no significant relationship can be found at a .1 probability of type I error for the savings and targeting behaviors of parents and their young adult children. The remaining two dimension (control, norm compliance) show a significant relationship, with norm compliance being the strongest (R²=.091; F=53.659, p=.000). Parents thus have a strongest effect on their children's financial behavior where they show a model of adaptation to social norms to their children. **Hypothesis H2/a is partly supported.**

Table 5. shows the results of the regression analysis for financial attitudes.

Hypothetical effect 		B	β	t	R ²	F	
Power_sz	Power_h	.349	.334	8.190**	.112	67.073**	
Distrust_sz	Distrust_h	.294	.308	7.480**	.095	55.948**	
Sav_att_sz	Sav_att_h	.332	.314	7.640**	.099	58.368**	
Loan_att_sz	Loan_att_h	.427	.448	11.569**	.201	133.833**	
Inst_trust_sz	Inst_trust_h	.385	.428	10.934**	.183	119.550**	


**p<.001

Table 5. The effect of parents' financial attitudes on their children's financial attitudes – Results of the regression analysis (source: own elaboration)

Results of the regression analysis show a significant effect of parents on their young adult children in all studied dimensions of financial attitude. In can be concluded that parents' financial attitudes have a significant effect on their young adult children's financial attitudes. Parents' attitude towards loans has the strongest effect among the attitude elements included in the analysis, while the weakest effect is observed for distrust. **Hypothesis H2/b is accepted.**

The third studied aspect of financial situation was materialism. In connection with the two subdimensions included in the study, namely happiness and success, hypothesis H2/c posits that the more parents consider material goods a factor of happiness and/or success, the more

their young adult children will do the same. Parameters for the two related regression models are shown in the following table.

Hypothetical effect 		B	β	t	R ²	F
Happiness_sz	Happiness_h	.332	.353	8.708**	.125	75.824**
Success_sz	Success_h	.275	.289	6.964**	.083	48.503**

**p<.001

Table 6. The effect of parents' materialism on their children's materialism – Results of the regression analysis (source: own elaboration)

Parents materialism does affect their young adult children's materialism. Among the two dimensions of materialism, this relationship is stronger for happiness ($R^2=.125$; $F=75.824$; $p=.000$) than for success ($R^2=.083$; $F=48.503$, $p=.000$). **Hypothesis H2/c is accepted.** If one compares this result to the results of H1/c, it can be noted that the happiness dimension of materialism is precisely the one that did turn out to have no significant effect as regards intergenerational effects within the family in the study sample. That is, the matches formed as a result of random and actual pairings are not significantly different. Therefore, an external factor must be assumed behind this (and thus behind hypothesis H2/c, too). It can be assumed that the thoughts on materialism in the parent sample and the student sample can originate from other (external) sources. Thus it can be assumed that is not primarily parents' views (stating that material goods are sources of happiness) that are transmitted, but a strong influence from the social and media environments is also conceivable.

By a combined view of the three larger areas of financial socialization one can note that not all of the eleven linear regression models indicate a significant effect of parents on their young adult children, in case a stricter level of significance is determined ($p<.001$). Among the three areas (financial behavior, financial attitudes, materialism), the first two models showed no significant result at $p<.001$ for financial behavior, for the dimensions related to savings and target-making. One also has to note that the two above models did produce a significant result for $p<.05$, however only a very weak positive relationship was shown. Thus as regards financial behavior, a statistically significant positive relationship between parents' and their childrens' behavior can only be observed for control and norm compliance at a $p<.001$ level of significance. A significant relationship was observed in all models for the remaining two aspects of financial socialization, namely financial attitudes and materialism. The relationship was in all cases positive, with attitude towards loans and trust in financial institutions being the strongest.

III.2. The effects of family communication

The intergenerational effects of family communication on young adults' financial socialization can be approached from various perspectives. According to the literature, the style of communications is more relevant than frequency (Carlson et al., 1990; Moschis – Moore, 1979). More, as regards financial socialization, imagined interactions can play a role, i.e. situations that young people (or children) simulate mentally before real communication with the parent may take place (Honeycutt, 2003; Allen et al., 2007). Practitioners attribute an important role to imagined interactions, for they believe that they have a similar effect than living through a real situation, and they can equally forecast the outcomes of a real situation (Allen et al., 2007; Honeycutt et al., 1989). Therefore we assume that the frequency of communication will not significantly affect financial socialization in the studied aspects of intergenerational effects within the family. As the frequency of communication is set as the independent variable, a logistic regression can be employed to study its effect on matches within the family. Results of the logistic regression are presented in Table 7.

Independent variable	Dependent variable	B	Wald	Sig.	Exp (B)
Communication frequency	Matching of Behavior_saving	.017	.077	.781	1.017
	Matching of Behavior_target	.116	3.666	.056	1.123
	Matching of Behavior_control	.134	4.904	.027	1.143
	Matching of Behavior_normcompliance	.027	.188	.665	1.027
	Matching of Power and prestige	.023	.144	.704	1.024
	Matching of Distrust	.041	.436	.509	1.041
	Matching of Loan_attitude	-.010	.028	.868	.990
	Matching of Savings_attitude	.083	1.712	.191	1.086
	Matching of Institution_trust	.001	.001	.982	1.001
	Matching of Happiness	-.025	.160	.689	.976
Matching of Success	-.054	.771	.380	.947	

Table 7. Effects of communication frequency – Results of the logistic regression analysis (source: own elaboration)

The results of the table show that the established model is in no case significant. Based on this latter result, *hypothesis H3/a is accepted*, as there seems to be no relationship between the frequency of parent-child communication and the intergenerational effect within the family as regards young adults' financial socialization.

The other hypothesis stemming from Q3, namely H3/b states that: *Imagined interactions have a moderating effect on parents' impact on their young adult children's financial socialization, that is, the intergenerational effect is higher among those who tend to imagine communication*

situations related to money. To test whether imagined interactions indeed have a moderating effect on financial socialization, the models of parent-children pairs used during the testing of hypotheses H2/a-c were complemented with the introduction of a dummy variable, and a hierarchical regression analysis was carried out. The following table includes parameters for models which were found to be significant at a .5 or .1 probability of type I error.

	β_1 (t-value)	β_2 (t-value)	R ²	Corr. R ²	R ² var.
<i>Model 1</i> (Y: Behavior_saving_h; X ₁ : Behavior_saving_sz; X ₂ : Imagined interactions)	.106* (2.201)	-.095 (-2.461)	.021*	.018*	.009*
<i>Model 2</i> (Y: Behavior_control_h; X ₁ : Behavior_control_sz; X ₂ : Imagined interactions)	.112* (2.621)	-.124* (-2.894)	.028**	.025**	.013*
<i>Model 3</i>	.335** (8.356)	.185** (4,628)	.146**	.143**	.034**
<i>Model 4</i> (Y: Distrust_h; X ₁ : Distrust_sz; X ₂ : Imagined interactions)	.290** (7.178)	.207** (5.110)	.137**	.134**	.042**
<i>Model 5</i> (Y: Happiness_h; X ₁ : Happiness_sz; X ₂ : Imagined interactions)	.346** (8.639)	.152** (3.782)	.147**	.144**	.023**
<i>Model 6</i> (Y: Success_h; X ₁ : Success_sz; X ₂ : Imagined interactions)	.286** (6.901)	.082* (1.978)	.090**	.087**	.007*

*p<.05; **p<.001

Table 8. Regression models with the inclusion of interaction variable (source: own elaboration)

After including the imagined interactions variable, the model's explanatory power increased in six cases. However, it is worth noting that even though the changes in the value of R² were significant in all cases, the intensity thereof was in some cases very small (e.g. in case of saving behavior, or the success dimension of materialism). The fact that the interaction effect was not significant means that imagined interaction do not have a moderating effect on parents' effect on their children in the studied dimensions of financial socialization. Therefore ***hypothesis H3/b is rejected.***

As neither communication frequency nor imagined interactions were shown to have no significant effect, it is worthwhile to examine communication style, as suggested by the

literature. Based on the FCP scale, one can distinguish between two major communication orientations: conceptual and social. A combination of these two styles (distinguishing, along the median of each orientation, between a low and high category) leads to the four communication styles typical of parents (Moschis, 1979; Moschis, 1986). The proportion of respondents categorized into each category (along their perceived self-reported communication styles) did vary from the student sample to the parent sample (see Table 9). Most differences were observed at the laissez-faire and consensual communication types. It seems that parent perceive themselves as less liberal, than their children perceive them. In the following analyses, parents' communications styles will be represented by their values as provided by their children's perception, as the main goal of the whole analysis is to investigate the factors influencing their behavior.


Communication styles based on the FCP scale	distribution in the parent sample (N = 535)	distribution in the student sample (N = 535)
Consensual	40.7%	33.1%
Pluralistic	15.1%	17.0%
Protective	25.4%	24.5%
Laissez-faire	18.7%	25.4%
Total	100%	100%

Table 9. Communication styles in the parent and student samples (source: own elaboration)

According to studies in the topic, communication styles within the family have an important effect on children's consumer behavior (e.g. Moschis and Churchill, 1978). In particular, a number of studies examine the effect of the degree of autonomy and say parents leave to their children in their own consumption activity (e.g. Carlson and Grossbart, 1988; Carlson et al., 1990; Rose et al., 2002). However our literature review has not revealed any studies that examine the role of family communication patterns in intergenerational effects. Therefore instead of formulating hypotheses, we formulate prior assumptions.

- *Prior assumption 1: Parents in families characterized with high conceptual and high social orientation (i.e. where parents exercise a resolute control and consciously encourage autonomy at the same time [consensual communication]) are expected to have a higher impact on their young adult children's financial socialization than in the remaining subsamples.*
- *Prior assumption 2: In families where parents do not seek to control their young adult children nor to encourage their autonomy, the results are expected to be lowest compared to the remaining subsamples.*

In the following table we summarize the results of the regression analyses on the four communication style subsamples (values of the R^2 determination coefficients), and display the value of the R^2 determination coefficient for the entire research sample, which will enable us to answer research question Q2.

Hypothetical effect 		R^2 (m)	R^2 (t)	R^2 (v)	R^2 (lf)	R^2 (total)
Beh_saving_sz	Beh_saving_h	.067**	.000	.019**	.001	.010*
Beh_target_sz	Beh_target_h	.012	.020	.009**	.010	.013*
Beh_control_sz	Beh_control_h	.042*	.065*	.010	.028	.034**
Beh_normcomp_sz	Beh_normcomp_h	.057*	.094*	.108**	.059*	.091**
Power_sz	Power_h	.133**	.125**	.152**	.057*	.112**
Distrust_sz	Distrust_h	.141**	.040	.028	.123**	.095**
Sav_att_sz	Sav_att_h	.158*	.106*	.113**	.033*	.099**
Loan_att_sz	Loan_att_h	.196**	.061*	.297**	.223**	.201**
Inst_trust_sz	Inst_trust_h	.259**	.119**	.160**	.153**	.183**
Happiness_sz	Happiness_h	.172**	.152**	.111**	.084**	.125**
Success_sz	Success_h	.064*	.226**	.034*	.097**	.083**

** $p < .001$; * $p < .05$;

(m: consensual; t: pluralistic; v: protective; lf: laissez-faire)


Table 10. Values of the determination coefficients obtained from the regression analysis of the four communication subsamples¹ (source: own elaboration)

In case of the *consensual communication style*, five variable pairs (saving behavior, distrust, attitude towards savings, trust in financial institutions and the happiness dimension of materialism) show higher R^2 values than the other samples. Two additional variable pairs (control and power) show higher R^2 values than the R^2 value of the entire sample. Both in case of *pluralistic* and *protective* families, two variable pairs turn out to show the strongest correlation among the four subsamples. The R^2 value is higher than that of the entire sample in the case of another three variables pairs in both subsamples. No variable pair was found to be most important in families that can be characterized by a more liberal, or *laissez-faire* communication style. Three variable pairs were found to be higher than the R^2 value relative to the entire sample. Based on the above, it can be concluded that **both prior assumptions turned out to be true**. One can equally establish that it is the consensual communication style that goes along with a highest effect of parents over their young adult children's financial socialization, while a laissez-faire communication style produces the lowest effect.

¹ Colored values in the table represent those higher than the value of R^2 relative to the entire sample. Values highlighted in bold represent those with the strongest correlation relative to the regression analysis of the given variable pairs.

III.3. The influence of gender role

A number of studies examining parental influence conclude that gender roles are not negligible, and mothers can have different kinds of influence on their daughters and sons, and fathers likewise (Kim et al., 2009; Odenweller, 2011). It is then equally worthwhile to examine gender roles in connection with intergenerational effects within the family in financial socialization, and to determine whether the eleven studied variables produce different results for the following subsamples: mother-daughter; mother-son; father-daughter; father-son.

Hypothetical effect 		R ² (Mother-Daughter)	R ² (Mother-Son)	R ² (Father-Daughter)	R ² (Father-Son)	R ² (total)
Beh_saving_sz	Beh_saving_h	.022*	.004	.009	.005	.010*
Beh_target_sz	Beh_target_h	.023*	.013	.057*	.005	.013*
Beh_control_sz	Beh_control_h	.031*	.065*	.012	.029	.034**
Beh_normcomp_sz	Beh_normcomp_h	.0133**	.050*	.017	.114**	.091**
Power_sz	Power_h	.0131**	.081*	.006	.204**	.112**
Distrust_sz	Distrust_h	.115**	.099**	.053*	.078*	.095**
Sav_att_sz	Sav_att_h	.170**	.096**	.046	.016	.099**
Loan_att_sz	Loan_att_h	.143**	.176**	.269**	.412**	.201**
Inst_trust_sz	Inst_trust_h	.164**	.200**	.086*	.335**	.183**
Happiness_sz	Happiness_h	.134**	.107**	.153*	.091*	.125**
Success_sz	Success_h	.135**	.053*	.031	.050	.083**

**p<.001; *p<.05;


Table 11. Values of the determination coefficients obtained from the regression analysis of the four gender role subsamples (source: own elaboration)

Results show that gender roles lead to varying degrees of parental effects on young adults financial socialization. Parental effects in the case of all three aspects of financial socialization can be said to depend on whether we study attributes relevant to the mother or the father, or to the daughter or the son. Only a few significant relationships were found among the dimensions of financial behavior. Compared to the other subdimensions, fathers' impact on their sons was shown to be the greatest in connection with norm compliance. Two groups can be distinguished between regarding the financial attitude aspect. In the first group, mothers are shown to have a greater impact on their daughters, for example in dimensions like attitude towards savings ($R^2=.170$) or distrust in financial institutions ($R^2=.115$). The other distinguishable group is that of fathers having a greater effect on their sons, in dimensions like power and prestige ($R^2=.204$), attitude towards loans ($R^2=.412$) or trust in financial institutions ($R^2=.335$). Material goods are shown to have a greater effect between the father-daughter subsample ($R^2=.153$). The same

determination coefficient is equally higher in the mother-daughter subsample ($R^2=.134$), than in the overall sample. This outlines the conclusion that daughters are more likely to incorporate their parents views on materialism as far as happiness is concerned, i.e. that material goods are an important source of happiness. In the success dimension, only one subsample produced a significant parental effect, namely in the mother-daughter relationship ($R^2=0,135$). This result suggests that mothers have an impact on their daughters in connection with regarding the possession of material goods as a factor of success.

III.4. The effects of financial independence

The same way as gender roles or family communication patterns affect the degree to which attitudes, values and norms are transmitted in the family, one can assume that there equally exist other factors with similar effect. One additional factor that can be considered in connection with young adults financial socialization is their financial independence. In the questionnaire respondents were asked to what extent they believed they were financially independent, and when they were looking to be fully independent. A K-means cluster analysis of the relevant variables resulted in the formation of three groups: (1) not at all independent, and unlikely to become independent from their parents in the near future; (2) partly independent, who give themselves time to become fully independent; (3) fully independent. Among the socio-demographic and financial attributes of each cluster, it is worthwhile to underline the fact that the proportion of male respondents was highest in the "not independent" cluster (41.5%). Respondents in the "fully independent" cluster are most likely to live in a single-parent family (35%). The more independent a respondent felt, the less they seemed to consider their parents as a source of income. The same way, financial independence was shown to be related to a higher proportion of being in employment. Respondents in the "not independent" cluster turned out to have the lowest average monthly income (44,727 HUF / 143 EUR), while those in the "fully independent" cluster with the highest (67,357 HUF / 215 EUR). Further characteristics of the clusters are presented in the Annex. Similarly to the communication patterns and gender roles, the following regression models were run for the three clusters:

Hypothetical effect 		R ² (not independent)	R ² (partly independent)	R ² (fully independent)	R ² (total)
Beh_saving_sz	Beh_saving_h	.024	.003	.018	.010*
Beh_target_sz	Beh_target_h	.068*	.003	.006	.013*
Beh_control_sz	Beh_control_h	.038*	.029*	.031	.034**
Beh_normcomp_sz	Beh_normcomp_h	.174**	.078**	.047*	.091**
Power_sz	Power_h	.102**	.209**	.003	.112**
Distrust_sz	Distrust_h	.109**	.320**	.016	.095**
Sav_att_sz	Sav_att_h	.213**	.050**	.108**	.099**
Loan_att_sz	Loan_att_h	.237**	.205**	.162**	.201**
Inst_trust_sz	Inst_trust_h	.258**	.173**	.140**	.183**
Happiness_sz	Happiness_h	.052*	.137**	.099*	.125**
Success_sz	Success_h	.029	.104**	.173**	.083**

**p<.001; *p<.05;

Table 12. Values of the determination coefficients obtained from the regression analysis of the three financial independence clusters (source: own elaboration)

Based on the results presented in Table 12 one can conclude that the highest parental effect can be observed within the "not independent" group. As regards financial behavior, norm compliance is the dimension where parental effect is shown to be significant at a .1 significance level, within the category of financially dependent young adults ($R^2=.174$).

Three dimensions of financial attitudes, namely attitude towards savings ($R^2=.213$), attitude towards loans ($R^2=.237$), and institutional trust ($R^2=.258$) are shown to equally have the greatest parental effect in this category. In the "partly independent" group, parental effect is shown to be strongest for three of the eleven studied variables, namely the power ($R^2=.209$) and distrust ($R^2=.320$) dimensions of financial attitude and the happiness ($R^2=.137$) dimension of materialism. In the group of respondents claiming to be most independent financially, only one parental effect was strongest among the three groups: the success ($R^2=.173$) dimension of materiality. The analysis of the pattern of parental effects shows that the more a young adult deems to be financially independent, the less there will be factors of financial socialization with a strong parental effect.

III.5. Main conclusions of the study

Based on the results of the study, there were shown to be differing degrees of parental effects on the various aspects of children's financial socialization. Among the three studies aspects, young adults' financial attitudes were shown to be most influenced by parents. Within the category of financial attitudes, the attitude towards loans were found to be most transmissible, as well as institutional trust and the view of wealth being a factor of power. In the category of financial behavior, norm compliance was shown to have a distinguished intergenerational effect. The above results comply with the literature (Jorgensen – Savla, 2010). It is important to note that prior research has shown that future borrowing intention and behavior is strongly influenced by the subject's general attitude towards loans (Kidwell et al., 2003; Shim et al., 2010). Financial education then thus needs to take into account the strong influence of the family in forming attitudes and the outcomes thereof.

Consumer socialization theories emphasize the process and interaction dimensions (McNeal, 2007; Roedder John, 1999; Lassare – Roland-Lévy, 1989) which are consistent with the results of the present doctoral dissertation. Both consumer socialization and intergenerational effects are thus to be regarded as ever-changing phenomena with peculiar dynamics, and not as the effect of one given and known output variable. This is supported by the finding that the strength of the measured parental effects can be distinguished along dimensions like family communication styles and respondents' financial independence. Financial independence is an ongoing process in the case of young adults, where parental influence does not cease to exist from one day to another, and more, they remain very strong for certain dimensions. The fact that young adults no longer spend most of their time at home, their parents influence subconsciously accompanies them all along their lives. This finding is consistent with the findings by Moore et al. (2002) and Neulinger and Zsótér (2013).

Literature highlights the role of mothers in the various aspects of intergenerational effects on consumer socialization (Mandrik et al., 2005; Moschis, 1985; Xu et al., 2004). However the present study draws attention to the fact that fathers also play a prominent role, and in some cases (e.g. attitude towards loans, institutional trust) a more important role than mothers. When investigating gender roles within the family, a prominent effect of mothers on daughters, and fathers on sons was found, with this latter relationship being the strongest among the studied parental effects. In some cases, cross-effects also apply: for instance in the case of the attitude

towards loans where the father's impact is already exceptionally strong (on both their sons and daughters). Based on the study of gender roles, one can establish that both parents and their children ought to be considered homogeneous groups as much in the financial education process as a potential (or actual) target group. Depending on the subject, in certain cases fathers (e.g. loans), in other cases mothers (e.g. savings) will be more worthwhile to be targeted.

Varying levels of parental effects were shown along the different family communication patterns. Parents following a consensual communication style can have a larger influence on their young adult children, as they can encourage their children's gradual independence by constantly communicating with them and keeping a certain amount of control as regards their financial status. On the contrary, parents with a liberal or laissez-faire communication style have a negligible impact on their children compared to the other groups. This result is in line with the literature of consumer socialization, stating that family dynamics are an important factor in the study of intergenerational effects (Moschis – Moore, 1979; Kim et al., 2009; Caruana – Vassallo, 2003; Sharma – Sonvaney, 2014). When aiming to address parents with a financial education program through the school or through a financial institution, parents ought to be segmented along their various educational goals and subsequent family communication patterns. It cannot however be established whether one or the other communication style is better. One can indeed imagine a scenario where a parent following a laissez-faire style of communication would otherwise perpetuate negative habits and attitudes and thus way the young adult is left with a choice to take example from outside sources regarding their financial socialization.

Organizations targeting young adults with financial education programs or financial products/services ought not consider this group as a homogeneous crowd, as, for instance, their levels of financial independence determine the impact their parents have on their finances. Those young adults who receive income from a form of employment, and those that plan on becoming financially independent on the short run will be likely to be interested in different pieces of information than those who have a somewhat guaranteed existence.

III.6. Scientific and practical significance

The added scientific value of the present doctoral dissertation can be assessed in multiple aspects. The novel *nature of the topic* offers the dissertation an area of investigation which has only been put to the focus of studies in Hungary, and topic lacks of scientific results as of yet. The dissertation provides a number of empirical results to topics that have been reported as facts in various genres of articles, without any scientific evidence so far. The same way, studies so far have examined the related phenomena from one given perspective (e.g. from that of the child, or the parent). The scientific conclusions in the dissertation therefore serve, among others, as a more accurate, more reliable and more valid point of reference for upcoming scientific studies in the field. Thus way the dissertation contributes to building scientific intelligence due to the *nature of its methodology*: 535 child-parent pairs were included in the empirical analysis, thereby offering a study of intergenerational effects by taking into account both actors' sides. *Various fields of science* are considered in the theoretical foundations of the dissertation. The processing and synthesizing of this wide body of literature bring about an important scientific implication of the dissertation. Moreover, the dissertation integrates into one study both the output- and process-oriented views typical of socialization and intergenerational theories.

Our results go beyond scientific achievements and can provide useful insights and implications for practitioners. The fields of financial education and education policy often lack the time or the competence to investigate the various details related to the field. Our results draw attention to the fact that it can equally be important to educate parents and/or to involve them in connection with young adults' financial education. It is also apparent that the role of attitudes is determining in intergenerational effects. This leads to believe that when developing an educational program, it is not enough for it to be knowledge-based, information-providing in nature, but it also needs to take into account the features typical to the participants to be enrolled in the program. The importance of the role of fathers is empirically supported in the study: contrarily to other consumption contexts, fathers' opinions and philosophy can be crucial in connection with family finances. This finding can equally be an important finding for practitioners. Financial service providers are important stakeholders in the topic of financial socialization, who regard young adults as potential or actual clients. The more these institutions are aware of this group's financial behavior, attitudes and philosophy, the more precisely they can establish relevant and personalized financial products and can communicate with the target

audience. The dissertation's results (as they are general to a money spending aspect) are not only relevant for financial service providers, but also to other market actors who consider young adults as an important target group.

III.7. Limitations and future studies

The dissertation's main limitation lies in the sampling method. While the analyses and results of the present dissertation are built on a larger sample size than similar studies with paired samples, and they equally include fathers, the sample is restricted to students of any university. The general presentation of the sample reveals that the study's population comes from an above-average financial background. For this reason, our results cannot be generalized to young adults and their families with less favorable or even very-low income situations. Therefore, future research should extend the sample to students of other institutions of higher education, and to young adults who do not attend any institution of higher education.

In terms of parental roles, fathers in the sample represented a too small proportion to be able to proceed to a further breakdown and categorization (e.g. along the four communication styles) in their case. As fathers were shown to be an important factor of financial socialization within the family, their inclusion in future works is strongly recommended, even by putting them into the focus (see e.g. Odenweller's [2011] work who combined the father-son roles with the communication patterns).

The dissertation is mainly exploratory in nature and was not intended to elaborate a complex model. However our results suggest that future research ought to investigate the relationships that the present study does not elaborate on by using structural equation modeling or path analysis. In the doctoral dissertation, the parent-child relationships were investigated by including identical attributes into each regression model. However it cannot be ruled out that a given attribute of the parent equally affects various other attributes of their children. It is thus possible, for example, that parents' materialism does not only affect their children's materialism, but also their behavior or attitudes.

At the beginning of the thesis I am suggesting that intergenerational effects within the family are not unidirectional, i.e. that children can influence their parents: this is referred to as reverse socialization in the literature (Kulkarni, 2014; Ekström, 2007). The phenomenon could be most apparent along the process of digitalization (e.g. the effects of young adults on their parents' online banking behaviors).

Students included in the sample come from a business education, which can equally affect their responses. For instance, it is imaginable that in case of potential respondents without a business education, the parental effects could be even stronger, as there are no external stimuli to form their behavior and attitudes in the field. A potential future research direction is the comparison between young adults participating in economic and non-economic types of training in terms of the outcomes and nature of their financial socialization. Young adults' financial socialization is equally not only affected by their parents and the above-mentioned school programs, but also by their peers and by the media. The present study did not consider these effects, while at the same time they provide a rich area for future research. It is for example imaginable to build a model where young adults' financial socialization is assessed in a complex way by including all three main socializing agents, namely the family, peers and the media (Moschis – Churchill, 1978).

IV. List of publications by the author in the dissertation's topic

Refereed journal articles (in English language):

1. Zsótér Boglárka - Nagy Péter (2012): Our Everyday Emotions and Finances. The role money-related attitudes and materialistic orientation play in developing financial culture. *Public Finance Quarterly*, 2012/3. pp. 286-297.

Refereed journal articles (in Hungarian language):

2. Zsótér Boglárka – Béres Dániel – Németh Erzsébet (2015): A magyar fiatalok jellemzése pénzügyi attitűdjeik és magatartásuk mentén – Vizsgálat a felsőoktatásban tanulóknak pénzügyi attitűdjeiről és magatartásáról. *Vezetéstudomány/ Budapest Management Review*, 46/6. pp. 70-80.
3. Neulinger Ágnes – Zsótér Boglárka (2014): Mother-Child Interactions In Youth Purchase Decisions, *Society and Economy*, 36 (3), pp. 387-406.
4. Neulinger Ágnes - Zsótér Boglárka (2013): A családi fészekben élő fiatal felnőttek és fogyasztói döntéseik, *Vezetéstudomány/ Budapest Management Review*, 45/2. pp. 22-32.
5. Zsótér Boglárka - Nagy Péter (2012): Mindennapi érzelmeink és pénzügyeink. A pénzzel kapcsolatos attitűdök és materiális irányultság szerepe a pénzügyi kultúra fejlesztésében, *Pénzügyi Szemle*, 2012/3. pp. 310-321.

Other journal articles:

6. Zsótér Boglárka (2010): A materialista értékek megjelenése különböző kultúrákban. *South-East Europe International Relations Quarterly*, 1 (4), Elérhető innen: www.southeast-europe.org/pdf/04/DKE_04_M_N_ZSB.pdf

Conference presentation and/or appearance in book of proceedings (in English language):

7. Bauer András - Zsótér Boglárka - Mitev Ariel - Nagy Péter - Varga Zsolt (2012): Money attitudes and financial behaviour of young adults in an emerging market: First results. EMAC Regional Conference, Belgrade, 12-14 September 2012.
8. Zsótér Boglárka (2012): Intergenerational influences on financial behaviour of young adults. EMAC Regional Conference, Belgrade, 12-14 September 2012.

Conference presentation and/or appearance in book of proceedings (in Hungarian language):

9. Palotás Petra – Zsótér Boglárka (2015): A zsebpénz jelentése és jelentősége a 6-15 éves korosztály számára. EMOK 21. Országos Konferenciája, Budapesti Műszaki és Gazdaságtudományi Egyetem, 2015
10. Zsótér Boglárka (2013): A fiatalok pénzügyi szocializációja a családban, Marketing Oktatók Klubja 19. országos konferenciája, Budapest, 2013
11. Zsótér Boglárka (2013): A pénzügyi edukáció aktuális kérdései, kutatómódszertani problémái, Neveléstudományi és Szakmódszertani Konferencia, Komarno, 2013
12. Neulinger Ágnes - Zsótér Boglárka (2012): Mennyire önállóak a fiatal felnőttek vásárlásaikban? A családi környezet befolyásának vizsgálata fiatal felnőtt gyermekek vásárlására. MOK Konferencia. Miskolc, 2012

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VI. Appendix

The demographic and financial characteristics of the three clusters are presented in the following table (see Table 13).

Attributes	Not independent (N=123)	Partly independent (N=295)	Fully independent (N=117)
<i>Gender</i>			
Male	41.5%	35.9%	37.6%
Female	58.5%	64.1%	62.4%
<i>Main residence</i>			
Budapest (capital city)	38.2%	32.9%	32.5%
Other town	46.3%	49.1%	53.9%
Minor municipality	4.9%	10.2%	6.8%
Other village	10.6%	7.8%	6.8%
<i>Family type</i>			
Single-parent family	16.3%	19.3%	35.0%
<i>Financial attributes</i>			
Does have income from parents	91.1%	76.6%	52.6%
Does have income from employment	1.6%	12.9%	22.4%
Has never had a job	27.6%	25.8%	21.4%
Has a student loan	8.9%	13.9%	14.5%
Has a plan for spending money	52.8%	71.2%	76.9%
Average income per month	44,727 HUF (143 EUR)	53,563 HUF (170 EUR)	67,357 HUF (215 EUR)
Highest occurring income	120,000 HUF (380 EUR)	210,000 HUF (670 EUR)	210,000 HUF (800 EUR)

Table 13. Demographic and financial typology of clusters based on financial independence (source: own elaboration)