Family socialization of financial behaviors: evidences based on members of a credit union in the south of Brazil

Abstract

This research paper investigates personal factors linked to subjective financial well-being (FWB). A series of statistical procedures were applied and led to a proposition of a partial least squares structural equation model (PLS-SEM) using five variables: family socialization (FAM) as antecedents for belief of credit as extra income (BCI), risky indebtedness behavior (RIB) and preparedness for financial emergencies (PFE). Data collection happened from January to February 2020 in Rio Grande do Sul, Brazil's southernmost state. The final sample was composed of 81 members of a local credit union. Evidence suggests that despite the relationship between constructs being significant, nonetheless they are also weak.

Keywords: Family socialization, financial behavior, Financial-well being

Introduction

Literature review will show there isn't one uncontested definition of financial well-being (FWB), a fact that isn't so surprising considering that the topic spans research on various diverse fields, such as marketing, psychology, economics, sociology and others. One of the main disputes revolves on the matter of how concrete or how subjective FWB really is. For example, may we measure one's FWB simply by looking at socio-demographic objective indicators, such as income gearing or number of credit items on arrear? How about how many months a person has contributed to a retirement plan or how much wealth has he accumulated? Or must we use subjective measures that account for psychological, emotional and sociological factors that impact FWB? How does shining light on instances such as impulsive buying, attitude towards money or how materialistic that particular person is, contribute to understanding one's FWB? (BRÜGGEN et al., 2017; PONCHIO, CORDEIRO and GONÇALVES, 2018; ABRANTES-BRAGA and VELUDO-DE-OLIVEIRA, 2018). A growing community of researchers have adopted a preponderant stance showing preference for FWB as a subjective concept. For that reason, this paper will adopt that same avenue for research. In the seminal paper by Brüggen et al. (2017), FWB is defined as "the perception of being able to sustain current and anticipated desired living standards and financial freedom".

Aiming and following the research agenda set out by Brüggen *et al.*(2017), this research paper dives deeper into the relationship between personal factors that have already been identified and in earlier research. We hypothesize that family socialization of financial practices plays a role in developing financial behavior and beliefs (Gudmundson and Danes, 2011). Specifically, we argue that belief of credit as an extension to income and the adoption of risky indebtedness behavior (Abrantes-Braga and Veludo-de-Oliveira, 2018) have their roots on how one's family may or may not have socialized these practices. We also argue that these behaviors may have indirect consequences and influences on each other (Xiao, 2008) and conjunctly influence the development of an individual's habit of preparing one's self for financial emergencies (Abrantes-Braga and Veludo-de-Oliveira, 2018). Due to the interconnected nature of these concepts we use a partial least squares structural equation model (SEM) (Hair Jr. *et al*, 2014) to teste their relationships. This paper will first lay out the conceptual framework for the model. Methodology, data collection and results are presented. We wrap out with a general discussion, limitations and future research.

This project is funded by Sicredi Serrana, a credit union from Rio Grande do Sul, Brazil's southernmost state. The credit union was founded on 18/11/1985 and in May 2020 it employed 482 people. Its headquarters are in Carlos Barbosa city and its operational area comprises 23 cities of the Serra Gaúcha and Vale do Caí regions, attending to the local population with 31 street branches and 1 specialized branch for enterprises. By May 2020, the credit union had a total of 117.555 clients (associates) and R$ 2.273.708.727,00 of funding, including deposits, investment funds, saving accounts and others. The credit portfolio summed up to R$ 2.160.104.772,00.

Conceptual framework

Abrantes-Braga and Veludo-de-Oliveira (2018) developed three scales meant to assist researchers in measuring sub-components of the personal factors that will impact financial well-being: *belief of credit as extra income (BCI)* subscale; the *risky indebtedness behavior (RIB)* and the *preparedness for financial emergencies (PFE)* subscale. The authors developed and validated the BCI scale based on research by Soman and Cheema (2002) and Wang, Malhotra and Lu (2014) on the matter. Evidences highlight that people who have the miscorrect belief that credit limits can serve as an extension to regular income will have higher probability of actually developing such poor economic behavior. Credit card or credit limits misuse will undoubtedly lead to poorer capacity in absorbing income shock or adjusting to relative price shocks (Nga, Yong and Sellappan, 2010; Omar, Rahim, Wel and Alam, 2013; Pradhan, Israel and Jena, 2018; Sidoti and Devasagayam, 2010). This will lead to greater indebtedness risk (Disney, Bridges and Gathergood, 2008). It seems likely and possible then to suggest that these destructive outcomes will mitigate one's possibility of saving enough money to secure a financial future. It is for this reason that we propose that BCI will be an antecedent, acting negatively towards preparedness for financial emergencies and acting positively to the development of risky indebtedness behavior.

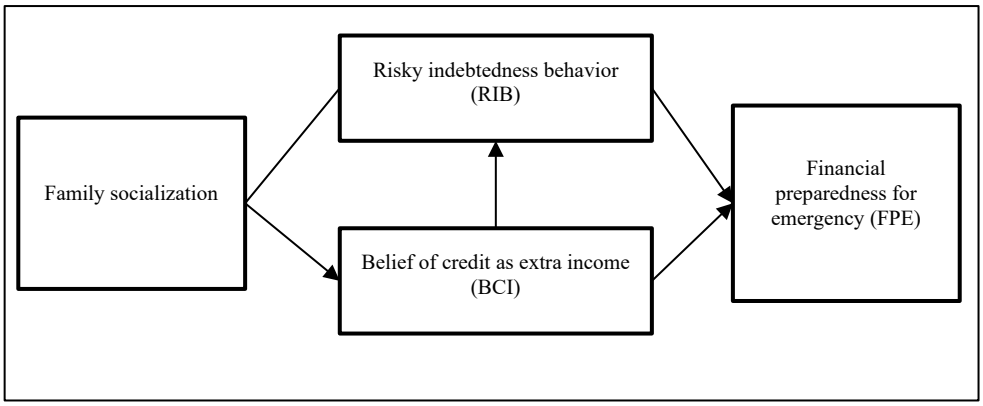
Marketing, psychology and economics academia have extensively researched the relationship between indebtedness and FWB and evidences all have reinforced the obvious negative connection between the two. Lack of self-control has been proven to be a significant predictor of poor economic behavior leading to greater risk of indebtedness (Strömback *et al.*, 2017*;* Flores and Vieira, 2014; Gathergood, 2012; Ottaviani and Vandone, 2011). Mahdzan, Zainudin and Sukor, 2019, found a positive and significant relationship between internal locus of control (LOC) and FWB. LOC is defined as an individual's attitude, belief or individual expectation related to his or her personal behavior and their related outcomes (rewards or punishment). The authors showed that poor internal LOC led to poor economic behavior, higher indebtedness and lower FWB. Garðarsdóttir and Dittmar (2011) found that money management skills are strong predictors of amount of debt. Disney, Bridges and Gathergood (2008) endeavored a major research in the UK to understand the drivers of indebtedness and found that income shocks and poor money management are two major drivers of such phenomenon. For these reasons, I hypothesize that poor behavior in terms of indebtedness management will lead to lower preparedness for financial emergencies, as it will lead to higher risk of over-indebtedness, lower resilience to income shocks and possibly a whole array of other FWB-reducing problems.

In Brüggen *et al*. (2017)'s framework, FWB has a time dimension. It takes into account the current and the future subjective state of one's financial and personal situation. This definition is innovative in two ways. The first aspect is that it takes into account a future-based assumption of FWB considering the current present situation projection of the future; the second aspect is that FWB becomes dynamic in the sense that it may change over time due to

personal or contextual factors. Trying to measure subjective FWB without taking these two aspects in account would be incomplete and this is why the preparedness for financial emergencies becomes such an important aspect of FWB. Ponchio, Cordeiro and Gonçalves (2018) created a regression-based model with subjective FWB as composed of two components, a current financial management stress component and an expected future financial security component. The authors' measures for expected future financial security are directly derived from Netemeyer *et al* (2017) perceived financial well-being scale (items 01 "I am becoming financially secure"; 02 "I am securing my financial future" and 05 "I will be financially secure until the end of my life"). Strömback *et al.* (2017) investigated self-control as antecedent of a gamma of interrelated financial concepts, future financial security perceived as the ability of being prepared for that future being indicated as one of the main consequences. The Consumer Financial Protection Bureau (2015) states that the future dimension of FWB consists of both the capacity to absorb financial shock and the capacity to keep on track to meet your financial goals. Chatterjee, Kumar and Dayma (2018) reported that income security, specifically the belief that one's future personal income will be secured, is a key determinant of FWB and found to be significantly and positively related to FWB. We then argue that BCI and RIB act as negative antecedents of FPE.

Brüggens *et al*. (2017) includes financial practices and how the socialization of these practices evolves in a family context in their financial well-being conceptual framework. Gudmunson & Danes (2011) developed a systematic review of over 100 studies and identified that family financial socialization is largely ignored process empirically in personal finance literature. They posit that the creation of healthy financial behavior and motivation for future financial behavior change emanates from family interaction and relationships and from purposive financial socialization.

Figure 1 - Conceptual framework. Elaborated by the Authors.



According to Danes (1994), financial socialization is "the process of acquiring and developing values, attitudes, standards, norms, knowledge, and behaviors that contribute to the financial viability and well-being of the individual" (p. 128). Jorgensen & Savla (2010) showed that parental influence affects FB through the complete mediation of financial attitudes. In other words, parents are key to shaping a positive attitude towards financial behavior. Still according to the author parents tend to be the key influence in their children's lives, the positive or negative financial knowledge, attitudes, and behaviors young adults have about money are influenced by their parents. Gudmunson & Danes (2011) suggest a research agenda that should look at how family socialization patterns the of initiation and termination of financial behavior, and also how children deal with or perceive financial issues as they transition to adulthood, create new families, and how their normative conceptions of attitudes

and activities are reinforced or are redirected to facilitate or create behavior change. In face of such findings we hypothesize that family socialization will act as antecedent to BCI and RIB.

Method and data collection

This project adopted a positivist stance and enacted quantitative statistical procedures in order to test the relationship highlighted in the conceptual framework. Specifically, we tested the model using partial least squares structural equation modeling (PLS-SEM). This is a non-parametric technique that uses available data to estimate the path relationships in the model with the objective of minimizing the error terms (i.e., the residual variance) of the endogenous constructs. (HAIR Jr. et al., 2014)

Data collection used a mixed stratified and convenience sample approach (Nique and Ladeira, 2015). Sicredi Serrana credit union sponsored this research project and for that reason all participants are members (clients) of this credit union. All participants were recruited by credit union employees following instructions we provided in order to guarantee a stratified representation of the population, controlling for age, gender, geographical location, income, job status (employee vs employer), children (with or without). Twelve of the thirty credit union's street branches were selected for the recruitment job. Employees from these branches then used convenience methods to select members that fit the stratified instructions they received (e.g. members who have they stronger ties with but also fit the stratified instructions). A total of 100 members were recruited.

Three pairs of interviewers conducted the data collection which happened between January and February 2020. All interviewers followed a single interview script and used rigorous research procedures as suggested by Flick (2009) during the interview. Two members did not show up for their interviews. Seventeen interviews showed inconsistent or incomplete data and were excluded. A total of eighty-one data points was eligible for analysis. Table 1 below brings basic descriptive statistics on socio demographic information on the sample.

Socio-demographic Variable	Minimum	Maximum	Mean	Standard Deviation
Age	19	68	38,52	12,02
Number of children	0	4	0,86	0,946
Income (R$)	849,06	42630,89	5133,33	6948,36
Gender	Male	47	Female	34
Job status	Employee	43	Employer	38

Table 1 - Descriptive statistic of the sample. Elaborated by the author

We calculated the sample size in order to achieve a minimum statistical power of 80% for detecting R2 values of at least 0.25 (with a 5% probability of error). Since our model is composed of five independent variables in the measurement and structural models, then our minimum sample should be of 70 observations (Field, 2011). The final sample with 81 data points is then sufficient for this accuracy.

Results

The measures for BCI (4 items), RIB (6 items) and FPE (3 items) derived directly from Abrantes-Braga and Veludo-de-Oliveira (2018). All measures were self-report seven point likert scales (1 = totally disagree and 7 = totally agree). The measure for family socialization

(3 items) derived from Jorgensen and Savla (2010) perceived parental influence instrument. “How much did you learn about managing your money from your parents?” and rated this item using a 5-point Likert-scale (ranging from 1 = none to 5 = a lot). For the second question, participants were asked: “How often were you influenced by or did you discuss finances with your parents?” and rated this item using a 5-point Likert-scale (1 = never, 2 = once per year, 3 = every few months, 4 = twice per month, 5 = weekly). The implicit/explicit variable measured students’ perceptions of how they learned about finances in the home. Students answered the question: “How would you describe how finances were communicated in your family?” (implicit only = “We didn’t talk much about finances but I learned from their examples”; explicit = “My parents explicitly taught me about finances [e.g., credit cards, debt, budgeting, and saving]”). In this sense, the higher the score the greater extent of socialization has occurred (more frequent, greater influence and in a explicit manner).

All items used were translated to Brazilian Portuguese. Backward translation procedure was applied with 3 different judges. Of all 16 items only one presented translation problems. This problem was reported by only one of the judges. When translating the item “I am frequently in debt”, this specific judge translated the word “debt” as “indebted”. When asked about this translation, the judge pointed out that the two words in Portuguese are very much associated with one another, and that the judge thought the two had the same meaning. Since the lack of financial literacy is a worldwide problem (Gathergood, 2012; Skagerlund *et al*. (2018); Philippas and Avdoulas, 2020; Jorgensen and Savla, 2010), it would then be possible to propose that this is much more of an educational problem than it is one of translation.

Models’ measurement instruments assessment

Measurements model’s evaluation for our reflective model was done using procedures of confirmatory composite analysis (CCA) that is a systematic methodological process for confirming measurement models in PLS-SEM. According to Sekaran and Bougie (2013), reliability is a test of measuring the consistency of the instruments while validity is a test that indicates the wellness of the developed instrument in measuring a particular concept of the study. We analyzed the Estimate of Loadings and Significance, Indicator Reliability (items), Composite Reliability (construct), Average Variance Extracted (AVE), Discriminant Validity – HTMT, Nomological Validity and Predictive Validity, as suggested by Hair Jr. *et al*. (2020).

It should be noted that the RIB construct, initially composed of six items, presented validity problems (Cronbach’s Alpha=0,640, CR=0,765, AVE=0,371). The item “I am frequently in debt” was excluded because of translation problems. After, two rounds of item exclusions were necessary to achieve good adjustments for RIB. Items were removed in stages, first the item “I often borrow money to pay off my debts” and after “My debts damage my life goals, such as saving money, investing in education, or buying my own home”. Table 2 shows the results obtained in the final model.

Because indicators are not equally reliable, composite reliability, which is weighted, is more accurate then Cronbach alpha (unweighted), and therefore CR should be assessed and reported (Hair et al., 2014) to analyze reliability of the constructs. In all cases CR values were bigger than alpha values. Average Variance Extracted (AVE) measures the average variance shared between the construct and its individual indicators. Both CR and AVE showed appropriate values and ensured that the items were appropriated for these constructs. AVE´s values are above 0,5 and CR are above 0,7.

Discriminant validity measures the distinctiveness of a construct. Discriminant validity is demonstrated when the shared variance within a construct (AVE) exceeds the shared variance between the constructs. We used the heterotrait-monotrait ratio of correlations method (HTMT) (Henseler, Ringle, Sarstedt, 2015). The greatest value achieved was of 0,693 at RIB→PFE relation. Because this value is below 0,85 suggest threshold, we can assume that discriminant validity between the constructs are adequate.

Table 2 – Measurement Model Analysis Result

	Item	Content validity		Internal consistency reliability		Discriminant Validity	
		Cross Loading	AVE	Cronbach Alpha	Composite Reliability	HTMT	VIF
		>0.50	>0.50	0.60-0.95	0.60-0.95	<0.85	<5.00
FAM	3	0.675-0.900	0,663	0,755	0,853	0,135-0,396	1,546-2,231
RIB	3	0,836-0,869	0,725	0,818	0,888	0,370-0,693	1,558-2,321
BCI	4	0,803-0,919	0,748	0,888	0,922	0,155-0,521	2,080-3,658
PFE	3	0,719-0,862	0,629	0,729	0,834	0,354-0,693	1,371-1,500

*AVE: Average Variance Extracted; HTMT: Heterotrait-Monotrait Ratio; VIF: Collinearity Statistic

SEM assessment

The results presented up to this point indicate the quality of the proposed measurement model. Evaluating the structural model involves examining the model's predictive capabilities and the relationships between the constructs. We analyzed determination coefficients (R2), predictive relevance (Q2), size and significance of paths between coefficients and effect sizes (f2 and q2) (Hair Jr. et al., 2014).

Since the measurement model's analysis relies on multiple regression characteristics, initially it is important to determine whether multicollinearity is present in the model. We've undergone that analyzes through VIF. The results indicated values below 5 for all items, with only one item above 3, therefore without multicollinearity problems (Table 2).

Path analysis was conducted using standardized coefficients. Table 3 shows standardized loadings, T statistics and the p values obtained from the bootstrapping procedure (2000 samples). It is observed that the relations between FAM and BCI and between RIB and PFE are not significant in this sample.

Next analysis executed was the evaluation of the model's predictive quality using R2, f2 and Q2 criteria. These methods are useful for evaluating the predictive in-sample power of the

model (Sarstedt et al., 2014) but can create an overfitting problem (a higher prediction ratio than could actually be achieved in reality) indicating that the model may have limited capacity in predicting observations that are not from the original sample. Because the objective of this work is not to predict values, we agree that these methods are sufficient for our analysis.

Table 3 – Structural Model Analysis Result

	Loading fator	t statistic	p value
FAM → RIB	-0,225	2,145	0,032*
FAM → BCI	-0,086	0,645	0,519
BCI → RIB	0,288	1,997	0,046*
BCI → PFE	-0,231	1,245	0,213
RIB → PFE	-0,308	2,082	0,037*

*Significant at 0,05

Initially we used determination coefficients (R2 value). This coefficient is a measure of the model's predictive accuracy and is calculated as the squared correlation between a specific endogenous construct's actual and predicted values, combining the exogenous latent variables' combined effects on the endogenous latent variable, and represents the amount of variance in the endogenous constructs explained by all of the exogenous constructs linked to it (Hair Jr. et al, 2014). The R2 value ranges from 0 to 1 with lower levels indicating lowers levels of predictive accuracy. We obtained values 0,007 for BCI, 0,192 for PFE and 0,145 for RIB. All these R2 values indicated than the variance of these constructs can't be explained by those constructs associated to them.

In addition to evaluating the R2 values, f2 effect size needs to be analyzed. It represents the change in the R2 value when a specified exogenous construct is omitted from the model. It can be used to evaluate whether the omitted construct has a substantive impact on the endogenous constructs (Hair Jr. et al., 2014). Guidelines for assessing f2 are that values of 0.02, 0.15, and 0.35, respectively, represent small, medium, and large effects (Cohen, 1988) of the exogenous latent variable. The f2 effect size of BCI on PFE is 0,060 and the effect size of RIB is 0,106, which indicate low and medium effect, respectively. In the evaluation of the RIB construct, the effect values are 0.096 for BCI and 0.059 for FAM. The value of f2 effect size of FAM → BCI is 0,007. In general, the values of the effects are low and only the effect of the FAM on the BCI construct can be understood as null.

A third metric used to assess prediction is the Q2 value. This measure is an indicator of the model's predictive relevance, and calculates a cross-validated redundancy measure for each endogenous construct. It is also referred to as blindfolding (Hair Jr. et al. 2020). We choose D values of 7, as suggested by Hair Jr. et al. (2020). When interpreting Q2, values larger than zero are meaningful whereas values below 0 indicate a lack of predictive relevance. Q2 values larger than 0.25 represent medium predictive relevance of the PLS-SEM model (Hair Jr. et al., 2014). We obtained 0,003, 0,049 and 0,082 for BCI, RIB and PFE, respectively, which indicates low predictive effect.

Discussion and conclusion

Analysis shows that the research constructs were used correctly producing an adequate and consistent measurement model. The relationship between constructs proved to be significant, nonetheless also showed to be weak, contradicting our original theoretical assumptions. Of all proposed hypotheses only two we're not supported. We expected that the paths FAM → BCI, and BCI → FPE should have been significant but the evidences don't support these

assumptions. The model shows that FAM negatively impacts RIB and in the same manner RIB inversely impacts FPE. Therefore, we can infer that this sequence of events could influence the positive relation between family socialization and FPE. We also report that BCI→RIB has a significant but weak relation.

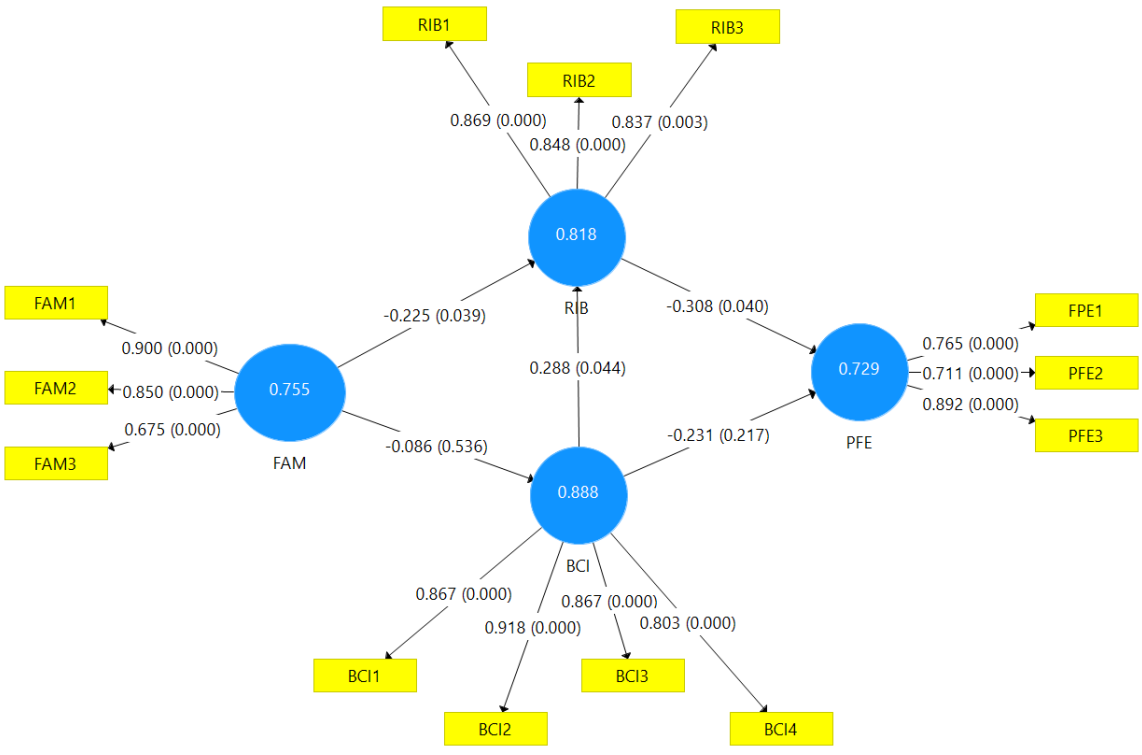
We can conclude that family socialization does indeed impact financial behavior, such as BCI, RIB and FPE, and in turn will have consequences to one's FWB (Brüggen *et al*. 2017; Gudmundson and Danes, 2011; Jorgesen and Savla, 2010). Nonetheless the relationship between the studied constructs showed to be theoretically weak thus instilling the question of what other constructs are working in the background influencing these developments.

Limitations and future research

This research is not without its limitations. The sampling method may have caused some influence on data collection and we point to possible influences. The first is cultural. The region where the data collection happened has very strong cultural influence from its italian and german immigration background. Basic socio-demographic variables for the region differ in various ways from the main characteristic of Rio Grande do Sul state and Brazil. This means that external validity may be affected and generalizations about the evidences have to be treated with caution. The second possible influence is linked to the participant recruitment strategy using credit union employees. Despite the procedures set out to try to hamper any misleading influence, this mixed stratified and convenience sample method might have caused a selection of members that have a specific set of behavioral characteristics that may have caused uncontrolled or unforseen covariance in the responses (such as being good payers, above average investors, etc).

The validation problems regarding the RIB scale warrant further investigation. Financial education, financial knowledge and financial literacy might be strong candidates for mediation or moderation variables linked to RIB.

Figure 2 – PLS-SEM with loadings and significance. Elaborated by the authors



Acknowledgement

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