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Financial literacy in Southern Brazil: Modeling and invariance between genders

Ani Caroline Grigion Potrich, Kelmara Mendes Vieira*, Daniel Arruda Coronel, Reisoli Bender Filho

Post Graduation Program in Business Administration, Federal University of Santa Maria, Brazil

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ABSTRACT

Financial literacy is an essential attribute that allows people to reach a successful financial state. Therefore, the objective of this paper is to develop a model to measure financial literacy, testing invariance in the proposed measure from three scales: financial knowledge, financial attitude and financial behavior. In this sense, a survey was conducted with 991 individuals who live in southern Brazil. For an analysis of the collected data, Structural Equations Modeling (SEM) was employed. The valid model indicates that financial literacy is measured as a combination of financial behavior, attitudes and knowledge. In addition, the tests indicated that this model is adequate for both male and female. However, male individuals showed a higher level of financial literacy on average compared to females.

1. Introduction

Financial literacy has been known as an essential ability for citizens who need to operate in a more complex financial scenario. Governments around the world are interested in finding efficient approaches to improve the population's level of financial literacy through the creation or improvement of national strategies for financial literacy with the objective of offering learning opportunities at different levels of education (Atkinson and Messy, 2012).

In recent years, developed and emerging countries have become preoccupied with the level of financial literacy of their citizens, mainly because of the difficult economic and financial contexts and the fact that the lack of financial literacy is one of the factors that have contributed to poor informed financial decisions with huge negative repercussions in financial situations (Gerardi et al., 2010). As a result, financial literacy comes to be known around the world as an important element to economic stability and development, and it reflects the approval of the High Principals Level about National Strategies for Financial Literacy from the Organization for Economic Co-operation and Development (OECD) endorsed for the G20 meeting (G20, 2012).

In addition to governments, international organizations and researchers who dedicate themselves to this theme, OECD (2012) is an example of an organization that conceptualizes financial literacy as a process in which individuals improve their comprehension of financial products and their concepts and risks in such a way that through information and clear recommendations, abilities and necessary confidence can be developed to make fundamental and safe financial decisions to improve their well-being.

* Correspondence to: Roraima 1000, 74C, 4212, Santa Maria, RS, 97105-900, Brazil. Tel.: +55 99366552.
E-mail addresses: anipotrich@gmail.com (A.C.G. Potrich), kelmara@terra.com.br (K.M. Vieira), daniel.coronel@uol.com.br (D.A. Coronel), reisolibender@yahoo.com.br (R. Bender Filho).

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From this perspective, Anderloni and Vandone (2010) define financial literacy as a preventive measure that allows individuals to have enough conditions in which to understand financial problems and manage their personal finances in a satisfactory way, avoiding indebtedness.

Another aspect related to financial education is financial literacy. According to Robb et al. (2012), financial literacy involves the ability to understand financial information and make efficient decisions using the same information, while financial education simply involves remembering a group of facts. In this context, financial education can be considered an ability to develop a process of making correct decisions and successful management of personal financials and financial literacy is the ability to use the knowledge and abilities required. Simply, the main focus of financial literacy involves not only knowledge but also individuals' financial behaviors and attitudes.

However, there remains a lack of a consensus in the academic field about the instruments for measuring financial literacy. In recent years, many studies have been conducted in the USA, such as those by Chen and Volpe (1998, 2002), Murphy and Yetmar (2010) and Neidermeyer and Neidermeyer (2010). Studies with families from the United Kingdom have also been conducted by Lusardi and Tufano (2009) and Disney and Gathergood (2011). In addition, similar studies were conducted with university students from Japan by Sekita (2011) and from Ghana by Ansong (2011) and with retired people in Holland by Rooij et al. (2011). Among emerging countries, it remains common to find works that discuss the themes approached in this paper. In the Brazilian scenario, this subject has been the focus of studies conducted by Mendes-Da-Silva et al. (2012) and Norvilitis and Mendes-Da-Silva (2013) in student sample. A difference in our paper is the study of the general population.

Independent of the measure used, many studies have proved the associations and influences of socioeconomic and demographic variables on the levels of individuals' financial literacy (Chen and Volpe, 1998; Lusardi and Tufano, 2009; Hastings and Mitchell, 2011; Lusardi and Mitchell, 2011; Atkinson and Messy, 2012; Brown and Graf, 2013; Mottola, 2013; OECD, 2013). Gender is one of the main variables researched, and the majority of the evidence indicates that women generally show lower indices of financial literacy than men (Chen and Volpe, 1998; Lusardi and Mitchell, 2011; Atkinson and Messy, 2012; Lusardi and Wallace, 2013; Brown and Graf, 2013; Mottola, 2013).

Sekita (2011) broadens the evidence that women face greater difficulties than men in making financial calculations, which, in addition to not having the basic financial concepts and lower level of knowledge, make responsible financial decisions more difficult to achieve. This can be considered a worrisome factor because women are gaining space in the labor market and participating more in consumer decisions, income management and indebtedness; furthermore, women usually have the role of being responsible for the household. In the period between 2000 and 2010, Brazilian women that were responsible for the family grew from 22.2% to 37.3% according to the Brazilian Institute of Geography and Statistics (IBGE, 2010). Moreover, studies in the Brazilian's context are important because this country has had a set of very unique characteristics that promise the country a bright economic and social future, such as large and expanding domestic market; single language; sophisticated financial market; abundance of water, land, and sunlight; and others (Gouvea, 2012).

The extant literature has argued that financial literacy is a multidimensional concept and that a unique construct would not be sufficient to cover all dimensions involved. Although some studies have already been conducted, there is still uncertainty about the constructs and best proxies to evaluate financial literacy and also whether a model could be used for different genders. All of these facts suggest the necessity of building and validating models that are able to consider measures and their sub-relations simultaneously.

In this sense, we try to fill this gap by developing a model to measure financial literacy, testing the proposed model's invariance and the differences in the measures between female and male genders. To achieve this objective, a model that integrates financial knowledge, financial attitude and financial behavior of the individuals of southern Brazil is evaluated.

2. Financial literacy

The term financial literacy has been frequently used as a synonym for financial education or financial knowledge, but in reality, these constructs are conceptually different, and using them as synonyms can cause problems because financial literacy is deeper than financial education. Huston (2010) says that financial literacy has two dimensions: understanding, which represents the personal financial knowledge of financial education, and use, which means the application of the management of personal financial knowledge. Hung et al. (2009) define financial education as a process by which people improve their comprehension about financial products and services, and financial literacy is defined as the ability to use the knowledge and abilities acquired to manage resources effectively, providing financial wellbeing.

According to Lusardi and Tufano (2009), financial literacy is the ability to make simple decisions about debt contracts, and more specifically, the application of basic knowledge about compound interest in the context of financial decisions. Financial literacy for Mandell (2007) refers to the ability to evaluate new and complex financial instruments and make informed judgments regarding the choice of instruments and their more adequate use as well as being guided in efficient decision-making in relation to the use of money and management (Servon and Kaestner, 2008).

One of the dilemmas in financial literacy analysis is the understanding of the differences between this construct, financial knowledge and financial education. In this sense, Robb et al. (2012) make a distinction among these terms, indicating that financial literacy involves the ability to understand financial information and make efficient decisions using this information, while financial education is only the ability to remember a group of facts or simply financial knowledge. Xiao et al. (2011) argue that financial knowledge is not sufficient for efficient financial management, and the influence of financial knowledge on behavior