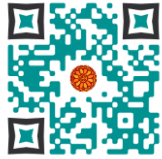




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ASCENDANCY OF FINANCIAL EDUCATION TO ESCALATE FINANCIAL CAPABILITY OF YOUNG ADULTS: CASE OF PUNJAB, PAKISTAN

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ABSTRACT

This study assesses the impact of financial education on financial capability (literacy) of young adults in Punjab, Pakistan. Combination of objective financial knowledge, financial attitudes and financial behaviors constructed financial capability. Results indicate that business students are more financially capable than non-business students. The result of the study reveals that Master's degree level education in finance has significant positive impact on financial capability as compared with study of finance in other education levels. The financial education index has highly significant positive impact on financial knowledge, financial attitudes and financial capability index. However, financial education does not improve the financial behaviors of young adults. Moreover, the results also revealed that degree in finance has positive association with financial capability.

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1. INTRODUCTION

Young adults pass through the phase of financial transformation. They enter from financial dependence to financial independence which requires them to be rational in making personal financial decisions. Youth must be capable enough to plan for ongoing and future expenses. They need to be aware of ongoing financial situations, current financial market trends, and; they need to be strong enough to behave in this demanding financial age. In early adulthood usually, the expenses are more than the financial resources of young adults. Financial education helps youth

improve their financial knowledge as well as to have positive financial attitudes. In a national survey of United Kingdom, Atkinson et al. (2007) used the term ‘financial capability’ for the first time. Formal financial education helps in positive financial behaviors Wagner (2015). The goal of financial education is to help improve financial well-being (CFPB, 2015). However, effects of financial education are inconsistent (Alsemgeest, 2015, Potrich et al., 2017). Colleges and Universities are in need of educating their students about financial literacy Boyland and Warren (2013). Little research has addressed financial capability using dimensions of financial knowledge/literacy, financial attitudes, and financial behaviors. This study focuses on the assessment of objective financial knowledge, financial attitudes, and financial behaviors. The sum of these three variables is financial capability index. The association of financial capability with three aspects of financial education (ever studied finance, source of financial education and financial education category) is also addressed in the study. The impact of specific financial education category (Certificate, specialization, and degree in finance) on financial capability is addressed for the first time. Prior to this research study, Wagner (2015) assessed the effects of financial education on financial knowledge and financial behaviors. Later, Xiao and O’Neill (2016) assessed the effects of financial education on financial capability (subjective financial literacy, objective financial knowledge, behaviors) combinations. This study aims to assess the association of financial education with financial capability of the young adults in Pakistan. Moreover, the study investigates the effects of specific categories of financial education (degree, specialization, certificate in finance) and financial education in different degree levels on financial capability.

1.1 SIGNIFICANCE OF THE STUDY

This study is expected to contribute to the financial literacy knowledge in several ways. In terms of theoretical contributions, this study improves the existing literature by addressing two questions. First of all, this study extends beyond previous studies by investigating the major background that is clearly provided for in the understanding of financial literacy of the young adults in Punjab Pakistan. Secondly, the previous studies focus on developing and low-income countries, and fewer in the case of Pakistan. Understanding overall financial capability by young adults could serve as an important contribution to the financial theory of measuring financial capability existing in literature. Past studies (Xiao & O’Neill, 2016; Hilgert et al, 2003) have highlighted that previous literature which confirms that positive behaviors are related to income level more than education level and having financial knowledge. What's more, (Xiao & O’Neill, 2016; Hilgert et al, 2003) have proclaimed that the financial capability can be measured by assessing people’s financial knowledge, skills, attitudes, and behaviors. Taking attention, they need to cross over any financial knowledge, financial attitudes, and financial behaviors. The sum of these three variables is financial capability index, this study helps the group of literature by reacting to the call for financial capability research on the young adults in Punjab, Pakistan. In addition, this study can help the noteworthy association of financial capability with three aspects of financial education (ever studied finance, source of financial education and financial education category) is also addressed in the study. The study can additionally give an understanding, comprehension which determinant financial capability using dimensions of financial knowledge/literacy, financial attitudes, and financial behaviors. Thirdly, since this study has been directed in Pakistan, the study broadens the current body of knowledge identified with the model of financial capability.

2. LITERATURE REVIEW

2.1 THE CONCEPT OF FINANCIAL CAPABILITY AND ITS MEASUREMENT

Institutions and researchers have defined financial capability in various ways. Financial literacy and financial capability are used alternatively where more than one dimensions are covered to measure financial literacy. According to World Bank (2013) “Financial capability is the internal capacity to act in one’s best financial interest, given socioeconomic and environmental conditions. It encompasses the knowledge (literacy), attitudes, skills, and behavior of consumers with respect to understanding, selection, and use of financial services, and the ability to access financial services that fit their needs.” Australian unity (2014) used objective measures to assess financial literacy. Various measures have been developed so far, such as Robb and Woodyard (2011) used subjective measures to assess financial literacy and expressed that subjective measure of financial knowledge has more impact on positive financial behaviors and attitudes. Aren and Aydemir (2014) stated: “it looks as more suitable to use objective measure of financial literacy”. These and many other studies e.g. Shambare and Rugimbana (2012), Bashir et al. (2013) and Australian Unity (2014) have assessed financial literacy of students using both, the objective and subjective measures. Fernandes et al. (2014) stated that financial literacy is “the knowledge of basic concepts of personal finance with respect to borrowing/debt and saving/investments that lead to better lifetime financial decision-making”. Financial knowledge solely is not sufficient to be considered as financial literacy (Huston, 2010). Many researchers used financial knowledge as synonym of financial literacy (Rooij et al. 2007; 2011; Fernandes et al., 2014; Wagner, 2015; Haque and Zulfiqar, 2016; Rehman et al, 2019).

Oseifuah and Gyekye (2014) assessed financial literacy of commerce students in a University of South Africa and found that the students paying their university dues through bank loans are more financially knowledgeable in comparison to family supported students. The level of education is an important determinant of financial literacy. Less-educated individuals perform poor in managing finances (Fan & Chatterjee, 2018, Fünfgeld and Wang, 2009).

2.2 FINANCIAL EDUCATION AND FINANCIAL CAPABILITY

The Organization for Economic Cooperation and Development (OECD, 2005) defined “Financial Education” as: “The process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction, and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.” To become financially literate, people need the necessary skills and knowledge of financial products that come through education and behavioral biases and other external factors also. Financial education is the key to bring positive change in the financial behaviors of the youth Xiao et al. (2011). Sherraden et al. (2011) confirmed that financial education improves financial capability (knowledge) and students who receive financial education perform better on financial knowledge as compared to those who did not.

Recently, Xiao and O'Neill (2016) indicated that “Financial education not only increases consumers’ knowledge level but also increases confidence in their financial knowledge”. In a degree

thesis on financial education and financial literacy Wagner (2015) concluded that formal education is an effective and most appropriate source of learning long-term financial behaviors; highly qualified people do not rely only on financial advice, they have their own way of thinking and view about finances.

The objective of financial education is to help increase the financial well-being of consumers (CFPB, 2015). Loke et, al (2015) examined the impact of My Path Savings, a financial education program for the less privileged youth in the United States. The findings of the study indicated that such programs help the youth improve their financial knowledge as well as financial behaviors and these training programs should be arranged for financial well-being of the youth and nations on the whole. Moreover, Batty et al. (2015) study about the impact of financial education on the financial literacy of elementary students found that students who attain financial education in a classroom setting have more positive attitudes about personal finance and seem more likely to save. Also the findings suggested that “financial learning is associated with improved attitudes and behaviors which, if sustained, may result in increased financial capability later in life”.

The course contents and duration of financial education also matters in improving financial capability/literacy of the individuals. Van Campenhout (2015) concluded that financial education programs focus mostly to improve financial knowledge only, new programs should be designed which focus on improving the financial attitudes of the youth. Improved financial attitudes help in taking effective financial decisions and improving financial well-being.

2.3 THE CONCEPTUAL MODEL OF FINANCIAL CAPABILITY AND DEVELOPMENT OF HYPOTHESES

As per the best of our knowledge, there is no standard pattern or theory of measuring financial capability existing in the literature. Xiao and O’Neill (2016) assessed financial capability of the consumers using the sum of their objective financial knowledge, subjective financial knowledge, perceived financial capability, and financial behaviors. World Bank (2013) report says that “Financial capability can be measured by assessing people’s financial knowledge, skills, attitudes, and behaviors”. Financial education improves financial knowledge and also improves the confidence in knowledge Xiao and O’Neill (2016). This confidence helps individuals to improve financial behaviors.

Based on literature review and above definitions, the study proposes following hypotheses;

H1: Receiving financial education has a positive impact on financial capability.

H2: Financial education from a specific source and combination of financial education sources (H2a) help perform better in financial capability.

H3: Those who have specific financial education category, score higher on financial capability.

3. METHODOLOGY

3.1 A SAMPLE OF THE STUDY

This empirical study investigated randomly selected university students studying in the undergraduate and postgraduate degree levels in Punjab, Pakistan. The data was collected from business and non-business students. The data was collected during April-May 2016. Sample of the study consisted of students enrolled in BS, Master, MS/M Phil and PhD students in Business

Administration and other disciplines. In total 600 printed questionnaires were distributed for data collection. After deleting the incomplete questionnaires, a valid response for analysis comprises 400 individuals' data. The effective response rate used in analysis makes 66% for the survey. The higher response rate for data is because of researchers' personal reference in the universities which helped in filling the questionnaires during lectures. Data collection in-class settings made possible the maximum response from the audience.

There are several justifications for selecting the young adults studying in universities of Punjab, Pakistan:

- Out of 179 Higher Education Commission of Pakistan registered universities in Pakistan, more than 50 are located in Punjab having multiple campuses functional. The literacy rate is highest in Punjab province as compared to other provinces.
- University students are in a phase of entering from financial dependence to financial independence. They have to make financial decisions which define their fortunate future or can bring consequences in the form of poor financial decisions and lower level of financial well-being.
- There is less likeliness in individuals with lower educational levels to answer the financial knowledge questions correctly and more they are likely to say that they "do not know the answer".
- Overall there is less financial literacy research in Pakistan and not existing in the academic sector. Therefore, it was needed to assess financial literacy in the young and particularly university students. Table 1 gives the detail of the sample of the study.

Table 1: Sample Size of the Study

Institution	Postgraduate	Master's	Bachelor degree	Total
BZ University (10%)	10	24	26	60
The University of Punjab Lahore (8.33%)	12	20	18	50
COMSATS University Vehari and Lahore (18.33%)	31	34	45	110
NCBA&E and UVAS Lahore (16.67%)	40	21	39	100
Other Private Universities in Lahore (33.33%)	45	75	80	200
UET Lahore (8.33%)	5	15	30	50
University of Gujrat (5%)	8	7	15	30
Total	151	196	253	600

3.2 VARIABLES OF THE STUDY

Financial capability, the dependent variable of the study was measured as the sum of financial knowledge, financial attitudes, and financial behavior variables. Index of these three variables called financial capability. This combination was used following the definition of the World Bank (2013) report which says that "Financial capability can be measured by assessing people's financial knowledge, skills, attitudes, and behaviors". For this purpose well researched financial knowledge questions of Rooij et al. (2011), were adapted by Potrich et al. (2016) to study the financial literacy of university students in Brazil. A total eight financial knowledge questions were selected by researchers. The questions were objective in nature, multiple-choice type and test the knowledge of simple interest calculation, inflation, time value of money, stock market functions, asset risk diversification and evaluation of highest returning asset. The correct answer to each question was awarded 1 score and the 0 was marked to incorrect answer.

Four financial attitudes of the youth were also assessed which Potrich et al. (2016) used in the final analysis of the study. The scale was originally developed by Shockey (2002), which comprises nine

questions organized as a five-point Likert scale, where 1= absolutely disagree and 5= absolutely agree. Four questions are considered in this study.

The third and very important variable of financial capability was financial behaviors. Five financial behaviors were the part of the study, as adapted from Potrich et al. (2016). These questions are the application of financial attitudes. Higher the value of response, positive the financial behavior was considered. Demographic and socio-economic variables make difference in financial capability level of the people. Financial education, the explanatory variable was quantified in two questions. One question asked about the finance course studied during bachelor degree, master, MS/MPhil, PhD and employee provided. The respondents entered the level of their finance study. The next question was asked regarding the category of financial education. The categories of financial education were divided into a certificate in finance, specialization in finance, degree in finance.

3.3 MEASUREMENT OF FINANCIAL CAPABILITY

Sum of Financial knowledge (0-1), financial attitudes (1-5) and financial behaviors (1-5) mean was the financial capability. The financial capability values ranged from 1.01 to 3.54.

3.4 MEASUREMENT OF FINANCIAL EDUCATION AND FINANCIAL EDUCATION INDEX

Binary variables were generated for specific financial education types (1=Yes, 0=No). Similarly, the financial education category was also coded in binary variables (1=Yes, 0=No). One variable was generated for the youth who had ever received financial education or not. Those who had ever studied finance were coded as “1” and “0” for vice versa.

These variables were generated for financial education in bachelor, Master, MS/MPhil, and PhD. To create the financial education index the sum of financial education (0-4) at different educational levels was created. This index was created following the publication of Xiao and O’Neill (2016) and Wagner (2015). These two studies gathered information on financial education in school, college, and the workplace.

4. DATA ANALYSIS

Descriptive analysis was performed to write the frequency and percentage of respondents across groups. Independent sample t-test and one-way analysis of variance (ANOVA) were executed to distinguish the scores of financial knowledge, financial attitudes, financial behaviors and financial capability among groups on the base of personal and family differences. Linear Regression was performed to test the impact of financial education on financial capability of the youth. SPSS. 20 was used for analysis purposes.

To find out inter-item consistency, reliability was tested for the main variables of the study, financial attitude, and financial behavior. Meeting the criteria of Kline (2011) Alphas values, Financial behaviors comprise five items and the value is $\alpha = 0.715$ which is adequate. The financial attitude variable comprises of four items. The reliability of financial attitude and financial behaviors is also valid $\alpha = 0.856$.

5. RESULTS

5.1 DESCRIPTIVE STATISTICS

The analysis was performed on final data of 400 youth studying in Universities of Punjab, Pakistan. Table 1 describes the percentage and the mean financial capability value among groups of youth. The mean of eight questions of financial knowledge was 0.44 which represents that youth in Pakistan has financial knowledge but the level is low. The mean value of the financial attitudes was 4.00. The results revealed that youth in Pakistan has positive financial attitudes. The mean value of financial behaviors was 3.02. The value of financial capability was found by combined average scores of financial knowledge, financial attitudes, and financial behavior scores. After combining the mean values, the obtained value was divided by 3. The mean value of financial capability is 2.49 and it makes about 68% score. The lowest level is 1.01 which is 27% and the maximum value is 3.54, 96%. The range of combined financial capability score was 1.01 up to 3.67. The detail of each category is given in Table 2.

Table 2: Descriptive Statistics

Variable	Mean	Percentage
Financial knowledge (0-1)	0.44	
Financial attitudes (1-5)	4.007	
Financial behaviors (1-5)	3.025	
Financial Capability Index (1.01-3.54)	2.49	
Gender		
Male (1)	2.47	62.3
Female (0)	2.51	37.8
Age Group		
18-24	2.46	64.5
25-32	2.54	29
33-43	2.54	6.5
Marital Status		
Single	2.49	80.8
Married	2.53	18.5
Divorced	2.23	0.8
Annual Family Income		
Less than Rs. 500,000	2.55	42.8
500,000-1000,000	2.45	23.8
1000,000-1500,000	2.43	14.5
1500,000-2000,000	2.44	10.0
More than 2000,000	2.43	9.0
Degree Discipline		
Business Students	2.53	72.3
Others	2.31	27.8
Studied Finance Course During		
Bachelor	2.52	72.3
Master's	2.56	39
Postgraduate	2.61	12.3
Type of Financial Education		
Certificate in Finance (1=Yes, 0=No)	2.38	4.8
Degree in Finance (1=Yes, 0=No)	2.64	10.3
Specialization (1=Yes, 0=No)	2.53	15.0
None	2.46	70.0

5.2 RESULTS OF ONE-WAY ANOVA

The results presented that individuals who have ever received financial education performed better on financial capability measurement than those who never received financial education. They have higher financial knowledge, positive financial attitudes, and financial behaviors. The

difference in financial capability index was significant for those who had ever received financial education as compared other counterparts. Table 3 explains the financial capability differences and the individual components of financial capability.

Table 3: One-way ANOVA Results for Financial Education Level and Categories

Category of Financial Education	Financial Attitude (1-5)	Financial Knowledge (0-1)	Financial Behavior (1-5)	Financial Capability Index (1.01-3.54)
Finance course in Bachelor Degree				
Yes	4.042	0.459	3.063	2.52
No	3.916	0.406	2.926	2.41
P		0.036*		0.031*
Finance course in Master's Degree				
Yes	4.11	0.492	3.089	2.56
No	3.938	0.411	2.984	2.44
P	0.027*	0.001*		0.008*
Finance course during MS/MPhil				
Yes	4.17	0.5	3.102	2.59
No	3.988	0.438	3.016	2.48
Finance course during PhD				
Yes	4.406	0.64	2.875	2.64
No	3.999	0.44	3.028	2.489
P		0.013*		
Certificate in Finance				
Yes	2.385	0.421	3.063	2.385
No	2.497	0.445	3.023	2.497
Specialization in Finance				
Yes	4.079	0.431	2.996	2.531
No	3.994	0.518	3.03	2.485
P	0.006*			
Degree in Finance				
Yes	4.166	0.503	3.238	2.635
No	3.988	0.437	3	2.475
P				0.025*
Ever received Financial Education				
Yes	4.042	0.459	3.063	2.521
No	3.916	0.406	2.926	2.416
P		0.036*		0.031*

*p-value <0.05

Table 4: Regression Results of Effect of Financial Education on Financial Capability Index and Individual Components

Variables	Financial Knowledge		Financial Attitude		Financial Behavior		Financial Capability Index	
	B	P	B	P	B	P	B	P
Business students								
Take finance course during Graduation	0.105	0.036*	0.072	0.148	0.069	0.171	0.108	0.031*
Master's Degree	0.168	0.001*	0.111	0.027*	0.057	0.254	0.133	0.008*
MS/MPhil	0.083	0.098	0.071	0.157	0.029	0.564	0.076	0.13
PhD	0.124	0.013*	0.073	0.144	-0.024	0.633	0.048	0.336
Financial Ed. Index	0.170	0.001*	0.117	0.019*	0.063	0.206	0.142	0.005*
Financial Education Category								
Certificate in Finance	-0.023	0.641	-0.097	0.053	0.009	0.852	-0.055	0.275
Specialization in finance	0.138	0.006*	0.039	0.44	-0.013	0.788	0.037	0.457
Degree in finance	0.089	0.077	0.07	0.162	0.081	0.106	0.112	0.025*

Result significant at *<0.05

Table 4 shows regression results indicate that financial education positively contributes to improving the financial knowledge and financial capability of young adults in Pakistan. Business students perform better on financial knowledge (p=0.036) as compared to non-business students.

6. DISCUSSION

Descriptive statistics revealed that females are more financially capable than males. One-way ANOVA results indicated that Business students had more financial capability than non-business students. The maximum financial capability level was in the youth who studied finance courses during a PhD degree. Young adults with degree in finance had maximum financial knowledge, most positive financial attitudes and positive financial behaviors as compared to youth with specialization in finance and certificate in finance.

Regression results for financial education in degree levels were different from ANOVA results. The results of linear regression revealed that studying finance during a Master's degree had a significant positive impact on financial capability index ($p=0.008$). The financial education index revealed significant positive impact on financial capability index ($p=0.005$). Further the regression analysis of financial education categories revealed that degree in finance has significant positive impact on financial capability index ($p=0.025$). This result confirmed the one-way ANOVA results.

Financial education has a positive association with financial capability variables. Financial knowledge and financial education revealed positive association. A higher level of financial education confirmed a higher financial knowledge score, confirming the findings of Nurul and Tabiani (2013), Wagner (2015) and Xiao & O'Neill (2016). Financial education at all educational levels improves the financial attitudes of the youth. This finding was consistent with the findings of Batty et al. (2015). Studying finance in a master's degree and financial education index confirms significant ($p=0.027$, $p=0.019$) positive association in the financial attitudes of the youth.

7. CONCLUSION

This study assessed the impact of financial education on the financial capability of the youth studying in Universities in Punjab, Pakistan. This study financial education was quantified in two questions. In total 400 individuals' data was analyzed and found that financial education improves the financial behaviors of the youth. Contrary to the improvement in financial attitudes and financial knowledge, no strong association was confirmed in this study. The justification for less or negative association can be in previous literature which confirms that positive behaviors are related to income level more than education level and having financial knowledge. This study result for financial education and financial behaviors variable are contrary to the findings of previous research studies (Xiao & O'Neill, 2016; Hilgert et al, 2003; and Robb & Woodyard, 2011). This finding is greatly in line with the hypotheses of the study that receiving financial education has positive impact on financial capability. The impact of financial education is significantly positive on financial capability of the youth and the financial education index also has significant positive impact on financial knowledge, financial attitudes and overall financial capability of the youth. However, the impact of financial education on financial behaviors is not significant in our study. The reason is that behaviors are more related to income level than the knowledge level. The sample of our study was youth in early adulthood, so they scored lesser on financial behaviors because they are in the cycle of life where expenses are higher and income is very limited or they unemployed. All the hypotheses of the study are accepted in regression analysis.

8. MATERIAL AND DATA AVAILABILITY

Information regarding this study can be requested to the corresponding author.

9. REFERENCES

- Alsemgeest, L. (2015). Arguments for and against financial literacy education: where to go from here? *International Journal of Consumer Studies*, 39, 155-161.
- Aren, S. and Dinç Aydemir, S. (2014). A literature review on financial literacy. *Finansal Araştırmalar ve Çalışmalar Dergisi*, 6(11), 33-49.
- Atkinson, A., McKay, S., Collard, S., & Kempson, E. (2007). Levels of financial capability in the UK. *Public Money and Management*, 27(1), 29-36.
- Bashir, T., Prof, A., Afzal, N. and Scholar, M.S. (2013). Financial Literacy and Influence of Psychosocial Factors, *European Scientific Journal*, 9(28), 384-404.
- Batty, M., Collins, J.M. and Odders-White, Elizabeth (2015). Experimental Evidence on the effects of Financial Education on Elementary School Students' knowledge, behavior, and attitudes. *Journal of Consumer Affairs*, 49(1), 69-96.
- Bernheim, B., Garrett, D. & Maki, D. (2001) Education and saving: the long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 80, 435–465.
- Boyland, J., and Warren, R. (2013). Assessing the financial literacy of domestic and international college students. *MBA Students Scholarship, Paper*, 18, 1-15.
- CFPB. (2015). *Financial well-being : The goal of financial education*. Consumer Financial Protection Bureau, United States. Retrieved from <http://www.consumerfinance.gov>.
- Fan, L., & Chatterjee, S. (2018). Application of situational stimuli for examining the effectiveness of financial education: A behavioral finance perspective. *Journal of Behavioral and Experimental Finance*.
- Fernandes, D., Lynch Jr, J.G. and Netemeyer, R.G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861-1883.
- Fünfgeld, B. and Wang, M. (2009). Attitudes and behavior in everyday finance: Evidence from Switzerland. *International Journal of Bank Marketing*, 27(2), 108-128.
- Haque, A. and Zulfiqar, M. (2016). Women's economic Empowerment through Financial Literacy, Financial attitude, and financial wellbeing. *International Journal of Business and Social Science*, 7(3), 78-88.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, 89, 309.
- Huston, S.J. (2010). Measuring Financial Literacy. *The Journal of Consumer Affairs*, 44(2), 296-316.
- Johnson, E., & Sherraden, M. S. (2007). From Financial Literacy to Financial Capability among Youth. *J. Soc. & Soc. Welfare*, 34, 119.
- Kline, R.B. (2011). *Principles and practice of structural equation Modeling*, 3rd ed., The Guilford Press, New York, NY.
- Loke, V., Choi, L., & Libby, M. (2015). Increasing youth financial capability: An evaluation of the MyPath Savings Initiative. *Journal of Consumer Affairs*, 49(1), 97-126.
- Lusardi, A. (2011). *Americans' financial capability* (No. w17103). National Bureau of Economic Research.
- Nurul, S.M. and Tabiani, S. (2013). Impact of financial literacy on individual saving: An Exploratory Study in the Malaysian Context. *Transformation in Business & Economics*, 1(28), 41-55.

- Organization for Economic Co-operation and Development (OECD) (2013). *PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy*, OECD Publishing, Paris.
- Oseifuah, E.K. and Gyekye, A.B. (2014). Analysis of the Level of Financial Literacy among South African Undergraduate Students: *Journal of Economics and Behavioral Studies*, 6(3), 242-250.
- Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2017). How well do women do when it comes to financial literacy? Proposition of an indicator and analysis of gender differences. *Journal of Behavioral and Experimental Finance*.
- Potrich, A.C.G., Vieira, K.M. and Mendes-Da-Silva, W. (2016). Development of a Financial Literacy Model for University Students. *Management Research Review*, 39(3), 356-376.
- Rehman, N., Khurshid, M. K., & Saleem, A. (2019). Financial and Economic Indicators of Economic Advancement: Evidence from Asian Countries. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*. 10(11). 10A11E: 1-15.
- Robb, C.A. and Woodyard, A. (2011). Financial knowledge and best practice behavior. *Journal of Financial Counseling and Planning*, 22(1), 60-70.
- Rooij, M.C.J. Van, Lusardi, A., and Alessie, R.J.M. (2011). Financial Literacy, Retirement Planning And Household wealth. *The Economic Journal*, 122(2006), 449-478.
- Shambare, R., and Rugimbana, R. (2012). Financial literacy among the educated: An exploratory study of selected university students in South Africa. *Thunderbird International Business Review*, 54(4), 581-590.
- Sherraden, M. S., Johnson, L., Guo, B., & Elliott III, W. (2011). Financial capability in children: Effects of participation in a school-based financial education and savings program. *Journal of Family and Economic Issues*, 32(3), 385-399.
- Van Campenhout, G. (2015). Revaluing the role of parents as financial socialization agents in youth financial literacy programs. *Journal of Consumer Affairs*, 49(1), 186-222.
- Wagner, J. (2015). *An analysis of the effects of financial education on financial Literacy and financial behaviors*. University of Nebraska- Lincoln, Nebraska, United States.
- Xiao, J. J., & O'Neill, B. (2016). Consumer financial education and financial capability. *International Journal of Consumer Studies*.
- Xiao, J.J., Tang, C., Serido, J., and Shim, S. (2011). Antecedents and consequences of risky credit behavior among college students: Application and extension of the theory of planned behavior. *Journal of Public Policy & Marketing*, 30(2), 239-245.



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