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Literacy is power and transforms lives: Channelling the relationship between financial literacy and financial satisfaction

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ABSTRACT
Anchored in the behavioral life-cycle model, the life-cycle consumption model, and the utility theory, we propose a new model that examines the channel through which financial literacy impacts on financial satisfaction. The data were gleaned with a self-administrated questionnaire from individual investors. The results disclose that financial planning mediates the relationship between financial literacy and financial satisfaction, and further, reveal that the moderating role of gender of the relationship between financial planning and financial satisfaction. Our study contributes to the frontiers of extant literature and proffers many useful practical implications and thus, from a policy perspective, our findings are crucial.

KEYWORDS
Financial literacy; financial planning; financial satisfaction; utility theory

Introduction

In recent years, financial literacy has become imperative owing to market liberalization, growth of the financial firms, globalization, independent online trading and less intermediation, and individual responsibilities of financial well-being (Faulkner, 2015; Reifner & Herwig, 2003; Van Rooij, Lusardi, & Alessie, 2011). All of these factors engender financial decision-making more complex that compelling the essence of financial literacy (Faulkner, 2015). A limited number of studies have been documented to date and the few existing studies evidence that financial illiteracy is widespread around the world even in well-developed countries such as the USA, the Netherlands, Italy, France, Sweden, Germany, Japan, and New Zealand where fully fledged financial markets and stage of economic development are the hallmarks (see Agarwal, Amromin, Ben-David, Chomsisengphet, & Evanoff, 2015; Arrondel, Debbich, & Savignac, 2013; Lusardi & Mitchell, 2011a, 2011b). Studies further highlighted a varying level of financial literacy across countries emphasizing

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profound theoretical and practical implications (see Lusardi & Mitchell, 2011a). Consequently, there is a pressing need for understanding financial literacy in exogenous countries and the present study, therefore, responds to the acknowledgment of the need.

Several studies lay emphasis on the importance of financial literacy with the plan for retirement and financial decision-making (e.g. Arrondel et al., 2013; Van Rooij et al., 2011). Notwithstanding, strongly based on amassed evidence of previous literature, studies on financial literacy and financial planning are piecemeal and patchy, and the financial literacy has been oft-treated as an endogenous variable (Jappelli & Padula, 2013). On the same grounds, many scholars voice that financial literacy should not be taken for granted (e.g. Lusardi & Mitchell, 2011a) and individual investor's style of planning is far less focused (see Wood & Zaichkowsky, 2004). From a policy perspective, apprehending the role of financial literacy on financial planning is crucial (Arrondel et al., 2013), nonetheless, extensively ignored previously. In what follows, how financial literacy promotes financial planning remains skeptical and consequently, the present study fills a void left by previous studies.

Albeit individuals are active in financial markets, they fail to take advantages of financial benefits rather plaguing many financial problems (Van Rooij et al., 2011) that could be attributed to ill-thought-out financial planning (see Arrondel et al., 2013) and thus, financial satisfaction has become crucial. Needless to say that financial satisfaction has sprouted and is at the top of the pecking order in the terrain of financial planning and financial counseling (Archuleta, Britt, Tonn, & Grable, 2011) by virtue of its insidious effects on the well-being of people such as marital dissatisfaction, marital stress, and divorce (Archuleta et al., 2011; Garman, Leech, & Grable, 1996; Hsieh, 2001; Joo & Grable, 2004; Kalra Sahi, 2013). Although the utility theory claims that a sense of satisfaction of an individual can be maximized by various means (see Kalra Sahi, 2013), there is, hitherto, no systematic study on how financial literacy promotes financial satisfaction through financial planning. Therefore, the present study fills another lacuna left by earlier studies. In addition, studies claim that the level of financial satisfaction may vary in terms of gender in all societies, nonetheless, little theoretical work of gender and its influence on financial satisfaction has been heretofore understudied and misconceived (see Hira & Mugenda, 2000). Further, there is an anecdote and sparse empirical evidence of the channel through which financial literacy impacts on financial satisfaction (see Van Rooij, Lusardi, & Alessie, 2012). Therefore, the current study fills another hiatus that has left unfilled by preceding studies.

The prime aim of the present study is to examine the relationship between financial literacy and financial planning and the mediating and combining effects of financial planning with gender on financial satisfaction. The data were gleaned from individual investors in an emerging economy, Sri Lanka, where there is bereft of studies on financial literacy, financial planning, and financial satisfaction to push back the frontiers of extant literature per se. In a nutshell, the present study contributes to the existing literature in many ways. First, anchored in strong theoretical bases, we propose a completely new model with mediating and moderating effects on financial satisfaction of individual investors. Second, we marshaled the data from a developing country, Sri Lanka, that has been neglected in the past and consequently, the study makes an empirical contribution by increasing existing stock of knowledge. Third, we validate the scales developed in another cultural context that contributes to the methodology where the future research scholars can use the same scales without caveats.

The structure of the paper is subsumed into five sections. In section 2, we critically review the extant literature on financial literacy, financial planning, gender differences and financial satisfaction, and posit hypotheses for filling the gaps left by earlier studies. In section 3, we lucidly explain methods used in the study including the description of subjects, sampling, and the instruments employed. In section 4, we present the results of the study. In the penultimate section, we discuss the results and explain how our present study makes theoretical and practical contributions. In addition, we acknowledge the limitations of our study and provide promising areas for further studies.

Theory and hypotheses

The behavioral life-cycle model portrays that individuals who save invest in a wide range of assets for maximizing their income and thus, spending is said to be sensitive to income (see Levin, 1998; Shefrin & Thaler, 1988). On the same ground, the life cycle consumption model submits individuals accumulate savings during their employment (see Van Rooij et al., 2012) and such savings are not merely confined to accumulation but also smoothing consumption in case of volatile and unpredictable income (Deaton, 1989). The confluence of the behavioral life-cycle model and the life cycle consumption model underscores the overriding importance of widespread savings of the individuals and their behavior that can promote investments that requiring the essence of financial literacy and financial planning.

Financial literacy refers to understanding and knowledge of financial concepts that enabling to make informed judgments and effective decision about money management (see Hogarth & Hilgert, 2002; Hung, Parker, & Yoong, 2009; Shih & Ke, 2014). Van Rooij et al. (2011) lay emphasize the immense importance of financial literacy suggesting that at a low level of financial literacy, people are less likely to invest in financial products. Nowadays, financial products are more complex due to cutthroat and hard-nosed competition, and changes in macro environment including globalization, technological advancement, and free trade agreements (see Faulkner, 2015; Reifner &

Herwig, 2003; Van Rooij et al., 2011). Consequently, financial literacy unequivocally becomes instrumental in making sound financial planning on lucrative financial products for enriching financial well-being.

By synthesizing the findings of previous studies in the sphere of financial literacy, we notice that financial literacy was frequently related to many financial outcomes such as financial decision-making, planning for retirement/pension-related decisions, financial satisfaction, wealth accumulation, social security benefits, financial behavior, investment and liability behavior (e.g. Agarwal et al., 2015; Ameriks, Caplin, & Leahy, 2003; Fonseca, Mullen, Zamarro, & Zissimopoulos, 2012; Hogarth & Hilgert, 2002; Kirbiš, Vehovec, & Galić, 2017; Prast & Van Soest, 2016; Shih & Ke, 2014; Van Rooij et al., 2011, 2012). For instance, Van Rooij et al. (2011) found that financial literacy of the participants, based on the data drawn from De Nederlandsche Bank's Household Survey (DHS) representing the Dutch population, affects financial decision-making where participants with low literacy have shown a little interest in investing stocks. Arrondel et al. (2013) found that financial literacy is significantly positively correlated with the propensity to plan explaining that individuals with higher financial literacy are highly engaged with the long-term financial plan. Succinctly, there have been deprived of studies on financial literacy and financial planning, however, as discussed earlier, sporadically a few studies related financial literacy with retirement planning (e.g. Lusardi & Mitchell, 2011b; Prast & Van Soest, 2016; Van Rooij et al., 2012), saving decision (Jappelli & Padula, 2013) and financial decision-making (e.g. Agarwal et al., 2015; Fonseca et al., 2012) that are more akin to financial planning. Further, we also observe conflicting findings between financial literacy (cognitive skills) and retirement plan (see Gustman, Steinmeier, & Tabatabai, 2012; Lusardi & Mitchell, 2011a; Van Rooij et al., 2012). Remarkably, Lusardi and Mitchell (2011a) on their study of financial literacy around the world emphasize that people who are financially literate are more likely to engage in retirement planning and in tandem expostulating underestimation on the effect of financial literacy on planning and the same findings reflect in their another study of financial literacy and retirement planning in the United States (2011b).

Moreover, financial literacy is very low and varying level around the world (Lusardi & Mitchell, 2011a). Surprisingly, Lusardi and Mitchell (2011b) pinpointed that the majority of Americans are less knowledgeable in financial literacy such as answering questions in inflation, interest compounding, and risk diversification. In a similar vein, Deaton (1989) holds a strong view that saving behavior and patterns, and investment thereon are determined by country-culture specific factors including household size, education, demographic structure, income prospectus, fiscal system, and government policy. And ipso facto, the findings from a single study cannot be generalized to all countries (Agarwal et al., 2015). Precisely, the thrust of the notion is that individuals with lower financial literacy are poorly inclined to plan and think about financial future (see Lusardi & Mitchell, 2011b; Van Rooij et al., 2011). Ergo, it behooves researchers to investigate the relationship between financial literacy and financial planning and thus, this study raises an intriguing question is whether financial literacy matters in financial planning? It can be, therefore, hypothesized that:

H_1: Financial literacy is positively related to financial planning.

Financial satisfaction is oft-researched in the field of business and financial management (Ali, Rahman, & Bakar, 2015; Archuleta et al., 2011; Hira & Mugenda, 2000; Hsieh, 2001; Joo & Grable, 2004; Kalra Sahi, 2013; Kirbiš et al., 2017; Kuhn et al., 2018; Van Praag, Romanov, & Ferrer-i-Carbonell, 2010). Financial satisfaction is a sub-component of general well-being (Campbell, 1981) describing a state of being free from financial worry that makes individuals feel happy and healthy about their present financial position (Gerrans, Speelman, & Campitelli, 2014; Joo & Grable, 2004; Zimmerman, 1995). Owing to the overriding effect of financial satisfaction on the well-being of people, several research scholars lay emphasis on the antecedents of financial satisfaction (e.g. Ali et al., 2015; Hsieh, 2001; Joo & Grable, 2004; Kalra Sahi, 2013). While tremendous efforts have been made to investigating antecedents of financial satisfaction (Archuleta et al., 2011; Hira & Mugenda, 2000; Joo & Grable, 2004; Kirbiš et al., 2017; Kuhn et al., 2018), the influence of financial planning is less focused in current literature (see Ali et al., 2015). Most recently, Kuhn et al. (2018) on their study of financial planning and satisfaction across 1509 sample of retired U.S. emergency Physicians found a significantly positive relationship between preparation for and satisfaction with retirement and stressed the importance of financial planning. Anchored in literature, financial behavior is somewhat similar to the financial planning and the previous studies suggest that financial behavior is a strong powerful determinant of financial satisfaction (see Joo & Grable, 2004; Mugenda, Hira, & Fanslow, 1990).

Although a few research established the relationship between financial planning and financial satisfaction (see Ali et al., 2015), to the best of our knowledge, no research, hitherto, has not focused the channel through which financial literacy might promote financial satisfaction. The tenet is supported by Mugenda et al. (1990) suggesting that more knowledgeable persons see the events and situation differently tending to boost their financial satisfaction through financial means which is the antithesis of what less knowledgeable persons think. Similarly, another study claims that basic personal finance education carves better financial behaviors that resulted in improved financial satisfaction (O'Neill, Xiao, Bristow, Brennan, & Kerbel, 2000). Joo and Grable (2004) flag up an indirect relationship between education and financial satisfaction. From amassed literature, we can intuitively plausible that financial planning mediates the relationship between financial literacy and financial satisfaction (e.g. Ali et al., 2015). Therefore, the present study fills a lacuna left by earlier studies that has long been subject to anecdotal evidence by answering a pressing question: does financial planning mediate the relationship between financial literacy and financial satisfaction? Thus, it can be hypothesized that:

H_2: Financial planning mediates the relationship between financial literacy and financial satisfaction.

Gender has been extensively studied as a determinant of financial satisfaction, nonetheless, studies disclose conflicting findings (see Hira, Fanslow, & Vogelslang, 1992; Joo & Grable, 2004; Loibl & Hira, 2005). For instance, some studies revealed a significant relationship between women and financial satisfaction (Loibl & Hira, 2005) but a few other studies did not find any significant relationship (e.g. Joo & Grable, 2004). Profusely, in a given the same socio-economic scenario, men report a higher level of financial satisfaction than females (see Hira & Mugenda, 2000; Kirbiš et al., 2017; Krannich, Riley, & Leffler, 1988; Power & Hira, 2004). Therefore, the perception of financial satisfaction is about personal aspirations/feelings and consequently, it may vary in terms of gender that underpins serious implication in research and practice. Interestingly, a recent study of Kirbiš et al. (2017) disclose that gender moderates the relationship between financial attitude and financial satisfaction based on the sample of 900 Croatian citizens. What is a hiatus left by earlier studies is about the role of the gender of the relationship between financial planning and financial satisfaction (see Hira & Mugenda, 2000; Joo & Grable, 2004). In consultation with dominant literature, we examine the potential moderating effect of gender between financial planning and financial satisfaction. Thus, it can be hypothesized that:

H_3: Gender will moderate the relationship between financial planning and financial satisfaction. Specially, the positive effects of financial planning on financial satisfaction will be stronger for men than for women.

Methods

Participants and data collection

Subjects who have the account with central depository system (CDS) were selected when they participated in awareness sessions conducted by the Colombo Stock Exchange (CSE), Sri Lanka. Data were garnered through self-administrated questionnaire and we have issued 180 questionnaires among the respondents during the 15 events (7 public seminars, 4 workshops and 4 seminars on current market) held in latter part of 2017 at the CSE. Of the 180 questionnaires, 26 questionnaires were not usable owing to the ignorance of some important questions and multi-choice responses, yielded a usable response rate of 86% (N = 154). The majority of the respondents (56%) were males and the remaining 44% were females. The civil status of the respondents was grouped into married (including widows, widowers, and divorce) and unmarried (single). The results show 54.5% of respondents were married and 45.5% were unmarried. The respondents were asked to report their age on a five consecutive scale: below 25, 26–35 years, 36–45 years, 46–55 years and above 55. Over 50% of respondents fell between 26 and 35, followed by below 25 years (33.8%), between 36 and 45 years (9.7%), between 46 and 55 years (2.6%), and the remaining respondents belong to above 55 years of age (1.3%). Therefore, almost 86% of participants were below 35 portraying greater involvement of the youths in the financial markets. Interestingly, data disclose that 42.9% of respondents were degree holder including bachelor and master degrees and 37.6% of respondents presently earn over LKR 50,000.

Measures

Financial literacy

Questions measuring financial literacy developed by Van Rooij et al. (2012) were adapted to assess financial literacy of the respondents. The questions were subsumed under two categories: basic and advanced financial literacy. The basic literacy consists of five questions examining numeracy, interest compounding, inflation, time value of money, and money illusion. A sample question is: 'Suppose you had LKR100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?; (i) More than LKR200; (ii) Exactly LKR200; (iii) Less than LKR200; (iv) Do not know; (v) Prefer not to say. Similarly, advanced financial literacy was measured with 11 questions and a sample question is "Considering a long time period (for example, 10 or 20 years), which asset normally gives the highest return?": (i) Savings accounts; (ii) bonds; (iii) stocks; (iv) do not know; (v) Prefer not to say. All questions are presented in the Appendix. The Cronbach's alpha for financial literacy was.77 indicating high reliability of the measure employed (see Hair, Black, Babin, & Anderson, 2014).

Financial planning

Financial planning was measured with 11 items scale developed by Ali et al. (2015). The respondents were asked to indicate their agreeableness on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree

(1). An example item includes: “I ensure that I would save some with every day pay.” All questions are presented in the Appendix. The Cronbach’s alpha for financial planning was .83 indicating high reliability of the scale employed (see Hair et al., 2014).

Financial satisfaction

Financial satisfaction was measured with a 6 item scale developed by Ali et al. (2015). The respondents were asked to indicate their agreeableness on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1). An example item includes: “I am satisfied with my current financial situation.” All questions are presented in the Appendix. The Cronbach’s alpha for financial satisfaction was .84 indicating high reliability of the scale used (see Hair et al., 2014).

Controls

In consultation with previous studies (Agarwal et al., 2015; Hsieh, 2001; Joo & Grable, 2004; Kirbiš et al., 2017; Shih & Ke, 2014; Van Rooij et al., 2012), we have controlled respondent’s educational qualification, income, civil status, age, and experience that have potential impact on financial planning and financial satisfaction.

The psychometric properties of the model were tested and the results disclose a strong reliability and convergent validity of the measured employed: the average variance extracted (AVE) is over the minimum requirement of 50% (AVE: financial literacy – .54; financial planning – .60; and financial satisfaction – .65); the composite reliability (CR) is greater than .70; and significant factor loadings between .96 and .71 (see Hair et al., 2014). The results also ensure a strong discriminant validity of the measure: the maximum shared variance (MSV: financial literacy – .03; financial planning – .43; and financial satisfaction – .43) < AVE and the average shared variance (ASV: financial literacy – .02; financial planning – .22; and financial satisfaction – .23) < AVE (see Hair et al., 2014).

Results

As a caveat, we examined the fundamental statistical assumptions for determining appropriate statistical tests. The results of the primary analysis confirm the normality of the dataset: univariate skewness (max. .76) and kurtosis (max. 1.94) were below the maximum thresholds (skew <2, kurtosis <7; Byrne, 2016) and Mardia’s coefficient of 3.50 is indicative of multinormality of the dataset (recommended <5; Byrne, 2016). Remarkably, the study produces 86% of response rate that negates the problem of nonresponse bias (e.g. Dooley & Lindner, 2003). Podsakoff, MacKenzie, Jeong-Yeon, and

Podsakoff (2003) warn that collecting data with a single-sourced might be a portent of common method variance (CMV). Therefore, we have scrupulously paid attention to minimize potential effects of CMV by various means: assured confidentiality and anonymization of the responses, early expert examination of the questionnaire, questionnaire made available on respondent's own language (translated version) and questions on the questionnaire required careful reading per se (calculations). In addition, Harman one-factor test was performed for dependent variables (financial planning and financial satisfaction). The unrotated factor analysis produced a two-factor solution (the decision for exacting two factors are based on the eigenvalues, and concord with parallel analysis, and the scree plot) and the first factor contributed to 36% of the variance is not constituted the majority of the covariance (Podsakoff et al., 2003). Successively, confirmatory factor analysis (CFA) was executed where all variables were inputted onto a single factor and the results of the single factor model showed poor fitted model indices: χ^2 (528) = 3486.64, p < .05; *CMIN/DF* = 6.60; *CFI* = .07; GFI = .39; *TLI* = .01; *RMSEA* = .19; *SRMR* = .22. Consequently, the present study is free from CMV.

As can be seen in Table 1, first five questions describe basic financial literacy (BFL 1-5) that are related to knowledge of numeracy (simple calculation), interest compounding, inflation, time value of money and money illusion, and subsequent eleven questions (AFL 1-11) relate to advanced financial literacy (see Appendix for wording of the questions). The majority of the respondents show a high level of basic financial literacy in numeracy, interest compounding and inflation, nonetheless, the respondents are below the average (less than 50%) as for the time value of money and money illusion. As shown in the same Table, 60% of the respondents answered basic financial literacy questions correctly indicate that the majority of the respondents appear to be financially literate. Advanced financial literacy questions are much more complicated than that of basic financial literacy questions. We can see in Table 1 that slightly over the half of the respondents answered all questions correctly indicate an average knowledge in advanced financial literacy. The pattern we observed seems that there is no variation between basic and advanced financial literacy and consequently, we have employed a Paired Samples Test for confirming our hunch.

Figure 1 shows the pattern of correctly answered questions on both basic financial literacy and advanced financial literacy. The results of the Paired samples statistics show that basic financial literacy and advanced financial literacy are not significantly different t (153) = 1.80, p > .05, see the mean values of basic and advanced literacy are very close (BFL: M = .60; AFL: M = .56). Consequently, we have considered the average basic and advanced financial literacy as the score for financial literacy.

Table 1. An overview of financial Literacy.

Answer	*M* (BFL)	BFL 1	BFL2	BFL3	BFL4	BFL5	*M* (BFL)	AFL1	AFL2	AFL3	AFL4	AFL5	AFL6	AFL7	AFL8	AFL 9	AFL10	AFL11
Correct	*.60*	124	111	87	66	72	*.56*	98	81	81	82	79	78	97	123	77	72	86
Wrong	….	30	43	67	88	82	….	56	73	73	72	75	76	57	31	77	82	68
Correct %	….	80.5	72.1	56.5	42.9	46.8	….	63.6	52.6	52.6	53.2	51.3	50.6	63.0	79.9	50	46.8	55.8
Wrong %	….	19.5	27.9	43.5	57.1	53.2	….	36.4	47.4	47.4	46.8	48.7	49.4	37.0	20.1	50	53.2	44.2

M – Mean; BFL – Basic Financial Literacy (5 questions); AFL – Advanced Financial Literacy (11 questions).

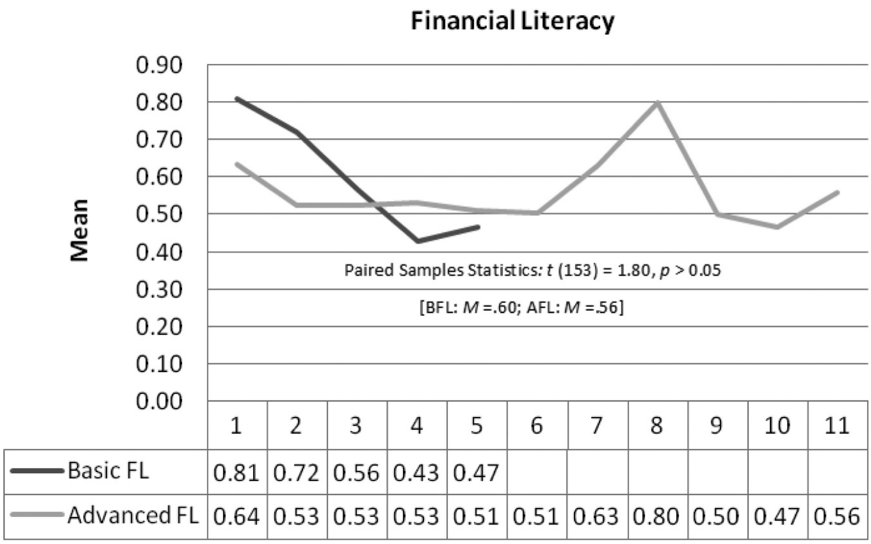

Figure 1. Financial literacy and paired samples statistics.

Table 2. Means, standard deviations, bivariate correlations, and scale alphas.

	Variables	*M*	*SD*	1	2	3	4	5
1.	Gender	….	….	….				
2.	Civil status	….	….	.16*	….			
3	Financial Literacy	.58	.28	−.15	.06	*(.77)*		
4.	Financial Planning	3.21	.79	.06	.08	.18*	*(.83)*	
5.	Financial Satisfaction	3.28	.88	−.04	.27**	.03	.66**	*(.84)*

* $p < 0.05$; ** $p < 0.01$; $N = 154$.
M, Mean; *SD*, Standard Deviation; Cronbach's α in parenthesis.
Gender – 1 = Male, 2 = Female; Civil status – 1 = Married, 2 = Single.

The values of mean, standard deviation, bivariate-correlation and scale alpha are presented in Table 2.

Table 2 shows that the majority of the respondents appear to be financially literate ($M = .58$, $SD = .28$) indicating widespread knowledge of basic and advanced financial literacy. The average values of financial planning ($M = 3.21$, $SD = .79$) and financial satisfaction ($M = 3.28$, $SD = .88$) are very close showing a considerable level of respondents' agreeableness on the statements as for financial planning and financial satisfaction. As can be seen in Table 2, inter-correlations between financial literacy and financial planning ($r = .18$, $p < .05$), and financial planning and financial satisfaction ($r = .66$, $p < .01$) are statistically significant. Surprisingly, financial literacy and financial satisfaction are not significantly associated with each other ($r = .03$, $p > .05$). The respondents who are unmarried are positively associated with financial satisfaction (see Table 2).

The results of the model using SEM are presented in Table 3. For measuring the exact effects of the model proposed, we have controlled personal variables:

Table 3. Results of model using SEM.

			Unstandardized Solution			Standardized solution
Indicator		*Factors*	*Estimate*	*S. E.*	*C.R.*	*Estimate*
Controls						
Financial Planning	<—————————	Qualification	−.09	.07	−1.40	−.12
Financial Planning	<—————————	Income	.10	.07	1.56	.13
Financial Planning	<—————————	Civil Status	.07	.12	.60	.05
Financial Planning	<—————————	Age	.03	.10	.26	.03
Financial Planning	<—————————	Experience	.08	.04	−1.72	−.16
Financial Satisfaction	<—————————	Qualification	−.05	.05	−.97	−.05
Financial Satisfaction	<—————————	Income	.14	.06	2.56*	.15
Financial Satisfaction	<—————————	Civil Status	.06	.09	.65	.04
Financial Satisfaction	<—————————	Age	.07	.08	.85	.05
Financial Satisfaction	<—————————	Experience	.08	.04	2.19*	.13
Financial Planning	<—————————	Financial Literacy	.59	.22	2.67**	.21
Financial Satisfaction	<—————————	Financial Planning	.30	.06	4.85***	.24
Financial Satisfaction	<—————————	Financial Literacy	.29	.17	1.68	−.06
Financial Satisfaction	<—————————	Gender	.72	.10	7.62***	−.37
Financial Satisfaction	<—————————	Gender x Financial Planning	.31	.02	12.89***	.62

***Significant at the 0.001 level (two-tailed); **Significant at the 0.01 level (two-tailed); *Significant at the 0.05 level (two-tailed).

qualification, income, civil status, age, and experience on both financial planning and financial satisfaction.

As shown in Table 3, the controlled variables are not significantly related to financial planning ($p > .05$), nonetheless, income ($\beta = 0.14$, $t = 2.56$, $p < .05$) and experience ($\beta = 0.08$, $t = 2.19$, $p < .05$) show significant impact on financial satisfaction.

Hypothesis H_1 that surmised that financial literacy is positively related to financial planning was supported. The path coefficient between financial literacy and financial planning is significant ($\beta = 0.59$, $t = 2.67$, $p < .01$) implying that financial literacy has a positive impact on financial planning. Similarly, significant path coefficient between financial planning and financial satisfaction ($\beta = 0.30$, $t = 4.85$, $p < .001$) reveals a positive relationship between them. Our second hypothesis H_2 predicted that financial planning mediates the relationship between financial literacy and financial satisfaction. By and large, the mediating hypothesis is supported provided that the overall model fit would not be very well fitted by an additional direct path from financial literacy to financial satisfaction. As can be seen in the same Table, the direct path between financial literacy and financial satisfaction is not significant ($\beta = 0.29$, $t = 1.68$, $p > .05$). Further, for robustness, we employed mediation analysis with 1000 bootstrap samples, as advised by Cheung and Lau (2008). The results confirm the mediating relationship between financial literacy and financial satisfaction through financial planning: Financial Literacy – > Financial Planning – > Financial Satisfaction is β = .18, 95% *CI* (.01, .40), *SE* = .02, $p < .05$. Consequently, hypothesis H_2 was supported. Our third hypothesis H_3 which predicted that gender will moderate the relationship between financial planning and financial satisfaction. Specially, the positive effects of financial planning on financial satisfaction will be stronger for men than for women was supported. The significant interaction term (Gender x Financial Planning) β = 0.31, t = 12.89, $p > .001$ implies that gender moderates the relationship between financial planning and financial satisfaction (see Table 3). Additionally, we have employed a robust moderation analysis using the PROCESS macro for SPSS (model 14) with 1000 bootstrap sampling (Hayes, 2013). The analysis produces similar results (β = .31, 95% *CI* (.06, .57), t = 2.46, $p < .05$) that confirm that gender moderates the relationship between financial planning and financial satisfaction. We have further conducted a slope analysis to understand the nature of moderating effect. The results disclose two different regressions: the regression for financial planning as a predictor of financial satisfaction (1) when gender is male; and (2) female. When gender is male, there is a significant positive relationship between financial planning and financial satisfaction β = .93, 95% *CI* (.74, 1.12), t = 9.69, $p < .001$ while gender is female, the relationship between financial planning and financial satisfaction is also positive but lower the effect than male β = .62, 95% *CI* (.45, .79), t = 7.21, $p < .001$. Overall, the relationship between financial planning and financial satisfaction is positive but such the relationship is stronger for males than females.

Further, we have visualized the moderating effect of gender between financial planning and financial satisfaction. As can be seen in Figure 2, four conditions were generated: male/low financial planning, male/high financial literacy, female/low financial literacy, and female/high financial literacy. At each condition, financial satisfaction was assessed. As shown in the same Figure, the relationship between financial planning and financial satisfaction is stronger for males than for females.

We have depicted the results of the final model in Figure 3. The control variables are not shown in the path diagram. In overall, our model accounted for 64.3% of variance on financial satisfaction with a model fit indices: χ^2 (524) = 1058.21, $p < .05$; *CMIN/DF* = 2.02; *CFI* = .95; GFI = .96; *TLI* = .93; *RMSEA* = .08; *SRMR* = .04.

Discussion

First, we have found the nature and the level of financial literacy among the respondents. Our results show 58% of the respondents answered all basic

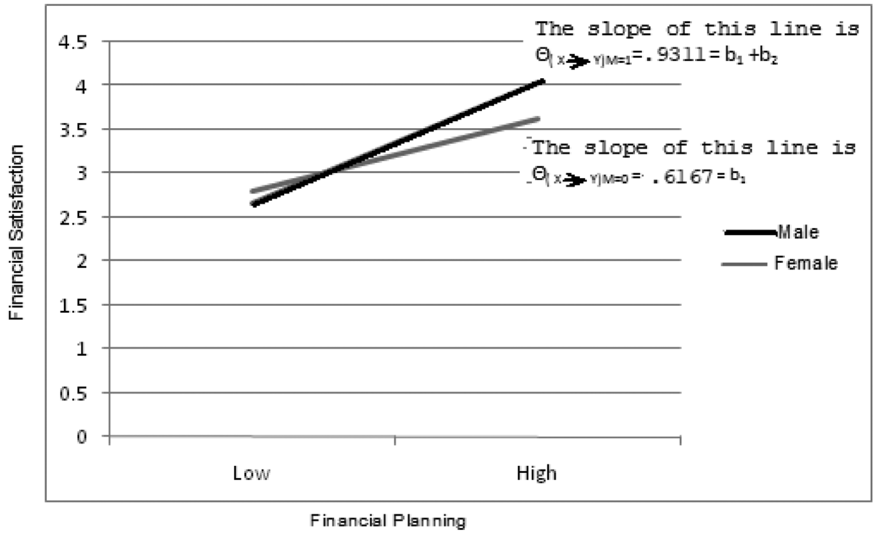

Figure 2. Moderating effect of gender between financial planning and financial satisfaction.

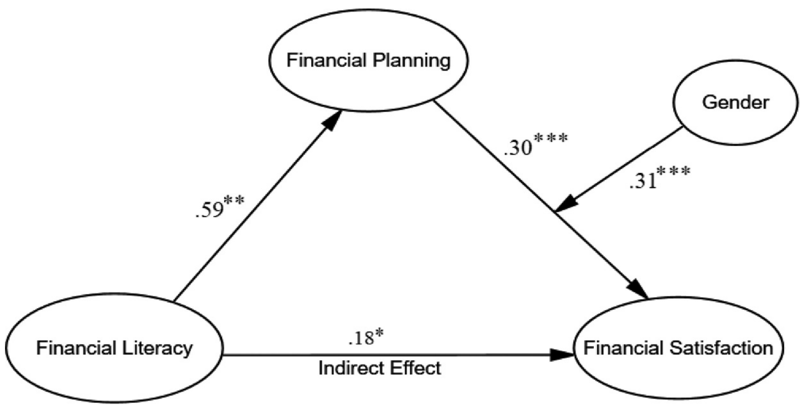

Figure 3. Result of the model.

financial literacy questions such as questions related to numeracy (simple calculation), interest compounding, inflation, the time value of money and money illusion, and advanced financial questions correctly implying that the respondents appear to be financially literate. Further, there is no significant variation between basic and advanced financial literacy among the respondents. Notwithstanding, a considerable amount of the respondents (42%) are not financially literate pressing a need for scrupulous attention on the ways financial literacy can be enhanced. Our country-specific new findings are in line with previous studies conducted in other countries (see Agnew & Szykman, 2005; Hiremath & Kumari, 2015; Lusardi & Mitchell, 2011a, 2011b; Van Rooij et al., 2011).

Our study made several contributions that push back to the frontiers of extant literature. Anchored in dominant theoretical ground, we confirm a completely novel model describing a chain of relationships between financial literacy and financial satisfaction. First, the results of our study found a strong positive relationship between financial literacy and financial planning explaining that financial literacy is unequivocally crucial in making sound financial planning. Therefore, our findings are corroborated by previous studies that have found similar pattern of relationship between financial literacy and retirement planning (e.g. Lusardi & Mitchell, 2011b; Prast & Van Soest, 2016) and financial decision-making (e.g. Agarwal et al., 2015; Fonseca et al., 2012). Financial literacy, therefore, should not be taken for granted (Van Rooij et al., 2011) and expostulating underestimation on the effect of financial literacy could be dangerous. There is enough evidence that financial education boosts financial literacy (e.g. Lusardi & Mitchell, 2011b). The onus of burnishing financially unsophisticated individuals is on financial organizations, higher education institutions and the government where the entities should focus on effective designing and implementing the educational program to promote financial literacy (see Van Rooij et al., 2011).

Second, our results of the study averred the mediating effect of financial planning between financial literacy and financial satisfaction that has supported the utility theory that claims that a sense of satisfaction of an individual can be maximized by various means (see Kalra Sahi, 2013). Our study further has expanded many previous studies that have been conducted in the sphere of financial literacy (see Ali et al., 2015). Since financial dissatisfaction can be detrimental to the well-being of people in many ways such as marital dissatisfaction, marital stress, and divorce (Archuleta et al., 2011; Garman et al., 1996; Kalra Sahi, 2013), individuals and investors should know the immense importance of financial planning on financial satisfaction. Therefore, practitioners and policymakers should devise plans to promote sound financial planning.

Third, our study made another unique contribution by exploring the moderating effect of gender of the relationship between financial planning and financial satisfaction that has been expensively neglected in previous studies. Succinctly, the positive relationship between financial planning and financial satisfaction is stronger for males than that of females. Therefore, our finding has extended earlier studies that have focused on gender difference in financial satisfaction (see Hira & Mugenda, 2000; Kirbiš et al., 2017; Power & Hira, 2004). The finding behooves the practitioners and the policymakers to digest the cause of gender for improved financial satisfaction and strategic means for extenuating circumstances thereupon. In addition, financial planning should be tailored to incorporate the male/female difference in attaining financial satisfaction.

We have validated the measures of financial literacy, financial planning, and financial satisfaction that have been developed and widely applied in diverse countries (Ali et al., 2015; Van Rooij et al., 2012). In our study, we have overcome serious concerns about the applicability of the measures and consequently, the measures validated can be used in emerging economies without any caveats. Further, our study has uniquely focused on an emerging country, Sri Lanka and country-specific studies can be treated as a parametric contribution that advances extant literature.

Even though our study is anchored in strong theoretical and methodological rigor, certain limitations need to be acknowledged. Our research design is a cross-sectional and thus concerns about making causal relationships. We strongly recommend a time-lagged approach for future researchers for confirming causal relationships. Further, we have analyzed single-source data using a questionnaire that might portent of CMV, but we have not evidenced of CMV in our study, considering a multisource method would be better in arriving at conclusion. Next, our respondents chosen at the 15 events (7 public seminars, 4 workshops, and 4 seminars on current market) do not represent general folks rather focusing on a specific group and consequently, drawing broad conclusion may be dangerous.

Our research has stressed the importance of financial literacy in reaping financial satisfaction through financial planning. Nonetheless, there is no consensus on how financial literacy can be improved and mandatory financial education has been severely criticized (see Prast & Van Soest, 2016). Further, financial illiteracy is widespread around the world (see Lusardi & Mitchell, 2011a). Future studies, therefore, should be noteworthy finding means for improving financial literacy in general. As our findings evidence the financial satisfaction can be achieved through a channel of variables; however, we have not explored any factors that hampering the participation of financial markets (see Calvet, Campbell, & Sodini, 2007). Therefore, future studies should focus on the whys and the wherefores of individual investors' market participation puzzle for maximizing their wealth. In addition, as some other research studies suggest, we also highlight the need for the studies on managerial effectiveness and cultural differences in accounting and financial practice in developing countries (see Islam, Quazi, & Rahman, 2011). Studies looking at the difference between financial literacy and information literacy and their relationship are crucial and remaining agnostic in the extant literature leading to being a prime area for future discussion.

On balance, drawing on the behavioral life-cycle model and the life cycle consumption model, the paper provides a completely new framework emphasizing the importance of financial literacy on financial planning for improving financial satisfaction with gender variance.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Appendix A
Basic Literacy measure

1. **Numeracy: -** Suppose you had LKR100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
   - More than LKR102 ☐
   - Exactly LKR102 ☐
   - Less than LKR102 ☐
   - Do not know ☐
   - Prefer not to say ☐
2. **Interest compounding: -** Suppose you had LKR100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?
   - More than LKR 200 ☐
   - Exactly LKR 200 ☐
   - Less than LKR 200 ☐
   - Do not know ☐
   - Prefer not to say ☐
3. **Inflation: -** Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
   - More than today ☐
   - Exactly the same ☐
   - Less than today ☐
   - Do not know ☐
   - Prefer not to say ☐
4. **Time value of money: -** Assume a friend inherits LKR10, 000 today and his sibling inherits LKR10, 000 3 years from now. Who is richer because of the inheritance?
   - My Friend ☐
   - His Sibling ☐
   - They are equally rich ☐
   - Do not know ☐
   - Prefer not to say ☐
5. **Money illusion: -** Suppose that in the year 2017, your income has doubled and prices of all goods have doubled too. In 2017, how much will you be able to buy with your income?

Advanced Literacy measure

1. Which of the following statements describes the main function of the stock market?
   - The stock market helps to predict stock earnings. ☐
   - The stock market results in an increase in the price of stocks. ☐
   - The stock market brings people who want to buy stocks together with those who want to sell stocks. ☐
   - None of the above. ☐
   - Do not know. ☐

2. Which of the following statements is correct? If somebody buys the stock of firm B in the stock market:
   - He owns a part of firm B ☐
   - He has lent money to firm B ☐
   - He is liable for firm B's debts ☐
   - None of the above ☐
   - Do not know ☐

3. Which of the following statements is correct?
   - Once one invests in a mutual fund, one cannot withdraw the money in the first year ☐
   - Mutual funds can invest in several assets, for example invest in both stocks and bonds ☐
   - Mutual funds pay a guaranteed rate of return which depends on their past performance ☐
   - None of the above. ☐
   - Do not know. ☐

4. Which of the following statements is correct? If somebody buys a bond of firm B:
   - He owns a part of firm B ☐
   - He has lent money to firm B ☐
   - He is liable for firm B's debts ☐
   - None of the above ☐
   - Do not know ☐

5. Considering a long time period (for example 10 or 20 years), which asset normally gives the highest return?
   - Savings Accounts ☐
   - Bonds ☐
   - Stocks ☐
   - None of the above ☐
   - Do not know ☐

6. Normally, which asset displays the highest fluctuations over time?
   - Savings Accounts ☐
   - Bonds ☐
   - Stocks ☐
   - None of the above ☐
   - Prefer not to say ☐

7. When an investor spreads his money among different assets, does the risk of losing money?
   - Increase ☐
   - Decrease ☐
   - Stay the same ☐
   - Do not know ☐
   - Prefer not to say ☐

8. Stocks are normally riskier than bonds.
   - True ☐
   - False ☐
   - Do not know ☐
   - Prefer not to say ☐

9. Buying a company stock usually provides a safer return than a stock mutual fund.
   - True ☐
   - False ☐
   - Do not know ☐
   - Prefer not to say ☐

10. If the interest rate falls, what should happen to bond prices?
    - Rise ☐
    - Fall ☐
    - Stay the same ☐
    - Do not know ☐
    - Prefer not to say ☐