Article

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Financial well-being of working women: mediating effect of cashless financial experience and digital financial self- socialization

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Abstract

With increasing complexity of financial products and services, unprecedented volatility of financial markets, diffusion of pandemic related health and economic risks and limited policy tools to deal with the systemic crisis – the convergence of all these factors has increased the economic vulnerability of individuals, households, businesses and nations; heightening the need for financial safety nets and for financial literacy (Hastings & Mitchell, 2020; Lusardi & Mitchell, 2014). Despite higher female workforce participation, most from the expanding middle class, Indian women are still found deficient in financial knowledge only 1% of Indian women can be acknowledged as highly financially literate (NCFE, 2014). The motivation of this study is the emergence of new financial behaviour in pandemic times, namely increased cashless transactions, spurt in online learning and stock market trading, increased number of new investors and increased access to financial information – all of which can be channeled for the strategic well-being of Indian women. The study attempts to understand how three mediators – contribution to household budget, cashless financial experience and financial socialization through self-sought digital informational sources, can influence the relationship between women's financial literacy and financial well-being. Through statistical testing, the study found direct effect of financial literacy on financial well-being of working women. The study also found a significant indirect effect such that financial literacy leads to higher frequency of financial experience of cashless transactions, which in turn leads to greater digital financial self-socialization and this ultimately impacts financial well-being positively. Since there is poor literature showing that causality flow from financialliteracy to financial well-being, the dual evidence from this research that there is significant direct and indirect effect fills this gap. This insight can find immediate application as Govt. policy has already focused on all key dimensions – greater financial inclusion, more concerted efforts at financial education and greater digitization of financial services and products. The inter-relations between these dimensions are very significant and become more so crucial during the pandemic times.

Keywords: financial literacy; socialization; cashless financial experience; financial well-being; financial services

Introduction

Anette Mikes made a brilliant observation *"Risk is chemistry, it's not particle physics. You cannot separate the risks"* (Mikes, 2011). Though originally in the context of enterprise risk management, this quote ominously rings true today with the global contagion of Covid19 and its unfolding financial risks and economic repercussions. With increasing complexity of financial products and services, unprecedented volatility of financial markets, diffusion of pandemic related health and economic risks and limited policy tools to deal with the systemic crisis – the convergence of all these factors has increased the economic vulnerability of individuals, households, businesses and nations; heightening the need for financial safety nets and for financial literacy (Hastings & Mitchell, 2020; Lusardi & Mitchell, 2014).

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Financial stability has been a pertinent theme of Government's sustainable development policy, implemented through the national strategies for financial inclusion and financial literacy – NSFI and NSFE. However, a formidable proportion (75%) of Indians exhibit inadequate understanding of inflation, compounding, risk diversification and other such key financial concepts (Gunther & Ghosh, 2018; Rashid & Surisetti, 2018; Klapper et al., 2015). Indian women consistently score less than males in standardized financial literacy tests and only 1% of Indian women can be acknowledged as highly financially literate (NCFE, 2014). Despite higher female workforce participation, most from the expanding middle class, Indian women are still found deficient in financial knowledge (NCFE, 2014; Javalgi and Grossman, 2016; Kharas, 2017). This is problematic. Gausman and Langer (2020); Doepke et al. (2020) and Alon et al. (2020a) have studied Covid-19 period and compared it with other recessionary and crises periods through the gender lens and have reported that when the household faces macroeconomic shocks, it's the women who emerge as a strong source of additional income and savings, improved budget management and contribution to household resources. Covid-19 lockdowns have severely impacted construction and manufacturing (especially in MSME sector) as well as high-contact service industries such as hospitality and travel, all of which employ a high proportion of women in India. The situation has been further complicated by the additional care responsibilities that women have taken on in terms of familyhealth and educational needs of children. Despite their low financial literacy, women are currently facing greater responsibility to manage resources for valued health and economic outcomes for the household and for themselves. Augmented financial literacy leads to better financial well-being outcomes (Adam, Frimpong & Boadu, 2017; Chu et al., 2017). Hence, this study seeks to explore the pathway from financial literacy to financial well-being. The motivation of this study is the emergenceof new financial behaviour in pandemic times, namely increased cashless transactions, spurt in online learning and stock market trading, increased number of new investors and increased access to financial information – all of which can be channeled for the strategic well-being of Indian women. This study uses results from a survey conducted on working women, prior to the Covid-19 outbreak, and explores how cashless financial transactions and digital financial self-socialization operate as mediators between financial literacy and financial well-being. Though the pace of digitization was steadily increasing in India, it has quadrupled since March 2020 (Raj, 2020). The insights from such a study can be meaningful across varied population segments but more so to working women as they face constrainedmobility and increased pressure on their salary and some households face decreased incomes or loss oflivelihood due to the pandemic.

The study attempts to understand how three mediators – contribution to household budget, cashless financial experience and financial socialization through self-sought digital informational sources, can influence women's financial well-being and offer policy insights related to the strategic agenda of financial well-being of Indian women. The themes of financial inclusion and financial literacy of women are essentially broader and core to India's socio-economic stability. Abandonment and feminization of poverty among aged women, increasing rates of separation and divorce causing financial stress, deepening financialization and digitization of financial services are broader reasons why the current study seeks to understand the path between financial literacy and financial well-being in the context of Indian women (Blayney, 2010; Mader, 2014; Magnuson, 2018). The paper is structured as follows – section 2 contains a brief review of literature and rationale of this study; it is followed by the Methodology section, which gives detailed description of the key variablesof this study and the hypotheses to be tested in the

mediation model. Section 4 reveals the results of the Mediation model, tested using Hayes' Process macro and section 5 contains the discussion of the final model. The last section, 6, concludes with key insights, implications and limitations of the study.

Review of Literature

Basic financial well-being in modern times, has become as essential as food, clothing and shelter and deterioration of financial status is the most-frequently validated stressful life event experienced by older adults (Xiao *et al.*, 2016; Fiske et al. 2003). Economic hardship leads to low financial well-being, which in turn causes depression and inter-personal distress (Mojtabai & Olfson, 2004). On the other hand, high financial well-being leads to several positive outcomes such as sound mental and physical health, higher employee productivity and better academic performance (Solis & Durband, 2015; Joo & Garman, 1998). Financial well-being has been conceptualized as satisfaction, attitude, perception or quality of life in earlier studies (Brod et al., 1999; Ardelt, 1997) as observed by Brüggen et al. (2017). Financial literacy has a direct and positive impact on financial well-being (Adam, Frimpong & Boadu, 2017; Chu et al., 2017). The theoretical anchor of financial literacy and financial well-being relationship is developed from Paul Baltes' Lifespan Development Theory and Franco Modigliani's Lifecycle Hypothesis (Modigliani & Brumberg, 1954; Modigliani & Ando, 1957, 1963).

The two aforementioned theories postulate that financial literacy and financial well-being are directly, positively corelated and form inverted 'U' shaped curves across the human lifecycle (Lusardi, 2006; 2011). Financial literacy is low in adolescent/emergent adult phase and rises as a person embraces greater financial responsibilities and expands her financial experiences. It peaks around late 40s and then starts to fall. Thus, the decision-making context influences financial well-being (Goldfayn-Frank, 2018; Zurlo, 2009). Another factor often reported is the person's social and informational capital or the support system provided by friends, family members, community members and neighbors (Yeo & Lee, 2019; Muir et al, 2017). These socializing agents shape the person's financial knowledge and financial attitude. Furthermore, Hilgert et al., (2003) have emphasized that financial experience bridges the gap between knowledge and aptitude.Essentially financial knowledge and understanding get slowly shaped by dominant players within the context of the life-cycle experiences. Joo and Grabble (2004) have reported that parents who used credit cards regularly and responsibly, passed on sound credit card behavior by easing the children into such use along with the practical knowledge of how best it can serve their interest. Thus, experience or interface with a financial service or product leads to a learning-by-doing loop that builds ease and competencies, leading to better end results (Usher and Pajares, 2008; Ward & Lynch, 2019). This is often one of the main reasons why people in developed countries report higher financial literacy that those in developing countries with underdeveloped financial markets (Cole at al., 2011; Mathavathani and Velumani, 2014; Klapper et al., 2015). Also, within the same country financial literacy levels may differ, indicating a developmental divide between different federal states (Bumcrot et al., 2011).

Financial literacy studies reveal a prolific reporting of association based on demographic factors. Those mature in age, professionals, business persons and university/college graduates are reported to exhibit higher financial literacy, while financial literacy is reportedly lowest for the unemployed, for females, rural folk and for migrants with low level of education (Gerrans et al., 2009; Worthington, 2013). However, despite the off-reported gender gap, Çera & Tuzi (2019) have reported unique strengths to each sex. Women were found to be more knowledgeable in aspects of spending, saving, and personal financial

planning when compared to men but men, on the other hand, exhibited greater risk-taking and action-orientation other than actively improving their financial knowledge. According to Lusardi (2006), women exhibit excellent budgeting skills and are known to keep a close eye on their finances. It is financial knowledge that they lack and this affects their financial behavior (OECD, 2013). Rai, K., Dua, S., and Yadav, M. (2019) conducted a survey on 394 working women from various public and private organizations of Delhi and found, through structural equation modelling, that financial literacy of working women is closely associated with both financial attitude and financial behavior, but not much with financial knowledge.

Behavioural aspect of household decision-making is a recent addition to financial literacy – financial well-being research. Gausman and Langer (2020) found that spouses, of the person who dominantly takes on responsibility of financial decision-making, often voluntarily do not augment their financial knowledge and financial experiences, sticking firmly to a 'need-to - know' policy, unless death, divorce or separation causes them to build financial skills. Women are known to save more but erroneously prioritize cash savings and fixed return instruments. This excessive caution works against them in building a retirement corpus. Earlier, Chen & Volpe (2002) have linked risk taking and confidence as contributors to gender differences in financial literacy. Financial service providers especially are very keen to observe daily patterns of behavior and ease of use of services provided so that the clients' interests and decisions can be predicted. (Jenkins & McDonald, 1997; Harrison & Ansell, 2002).

Several surveys earlier have reported heterogeneity in financial behavior and showed that the typical household manages finances quite inefficiently (Lusardi & Mitchell, 2005, 2006, 2007; Atkinson et al, 2007; Van Rooij et al, 2007). Consequently, several Governments, emulating their American counterpart, recognized that financial literacy as a key life skill is required in increasingly complex & volatile financial markets and consequently launched financial literacy initiatives targeting the youth (FitzGerald, 2006; RBI, 2012; ASIC, 2013). Kim et al. (2017) have confirmed that though financial education and counselling is delivered to the individual, financial decisions are rarely individualistic – they are at household level and there is a need to study the power dynamics of household financial decision making. Earlier, Schaber (2004) has reported that most families are uninformed and ill- prepared for late life health care risks. Lusardi & Mitchell (2014) have raised the point that the research spot light is almost entirely on the economics of financial education and far less attention has been devoted to the question of how people acquire and deploy financial literacy.

Increased financial knowledge and broader financial experiences can augment financial literacy and therefore mediators between financial literacy and financial well-being are crucial. With the pandemic induced lockdowns, it has been reported that many new investors have taken demat accounts as they have used the free time to learn about stock market investing and use online resources to follow the market trends. Of the newly registered clients of brokerage houses, as reported to SEBI, 75% are young (18-35 years), most are millennials and women from tier-2 and tier-3 cities, using the internet to augment their financial awareness (Raj, 2020). This increased digitization trend is very significant and financial institutions that reacted late to creating digital experiences for their customers may have lost about 12.5% of their customer accounts or deposits (as per Kantar's CX+ India Retail Banking Report, 2019). Clients are seeking information and digital experiences which can act as value generators. On the one hand Indians are stressed about their incomes and savings with about 5000 salaried individuals surveyed in India in the month of May 2020 90% revealing that they are stressed about erosion in their financial savings (IBS

Intelligence, 2020). On the other hand, Indians are seekingout financial information and experiences online to both protect and build wealth. Households are recalibrating their financial positions and looking at strategies to ride out the current macroeconomics stress.

While applying a gender lens to issues of care and transition of macroeconomic stress, Doepke et al. (2020) have urged researchers to capture pandemic related trends and dig deeper to inform policy measures as Govts. around the world fight the pandemic as well as pivot to new avenues of risk reduction and growth. This paper seeks to meet this need by understanding the role of mediating factors between financial literacy and its outcome – financial well-being. The study attempts to understand how three mediators – contribution to household budget, cashless experience and digital financial self-socialization, can influence women's financial well-being.

Methodology

Sampling and Research instrument

The current study is an empirical, quantitative analysis to test a mediation model of the relationship between financial literacy (FL) and financial well-being (FWB). The authors have incorporated questions from the standardized questionnaires developed by Lusardi and Mitchel (2006, 2008), OECD (2013) and NFLAT (2014); to these additional scales were added to measure the three mediating variables. The questionnaire for this study was developed in consultation with financial planning experts and financial education trainers in order to make it more meaningful and representative of the real experiences of people in developing countries and particularly women, within a largely patriarchal society such as India.

The data was collected prior to the outbreak of Covid-19 pandemic in the month of September 2019 and this study is a part of a larger, more comprehensive survey exploring the financial literacy of working women. The questionnaire was delivered in online mode via Google form, after validity testing through a pilot study. Conducting Reliability test, it was found that Cronbach's alpha was 0.774. The sample of the study consists of 251 working women selected through snowball sampling. Since the questionnaire was long and tedious, each respondent was requested to forward the questionnaire to 5 working women from their own social-professional networks. The inclusion criteria for the study were female gender and employed status. 10% of the entire sample was accessed through hard-copies of the questionnaire and translators have recorded the responses of self-employed women who may be semi-literate and/or unable to take the online questionnaire.

The study tests the statistical significance of intervening variable effect such that mediators transmit the impact of the independent variable to the dependent variable (Baron and Kenny, 1986). The analytical tool of the study is Model 6 of Hayes' Process macro (Hayes, 2013) applied in SPSS 27 for running a sequential mediation model, using three mediators: mediator 1: financial experience – cashless, mediator 2: digital financial self-socialization and mediator 3: contribution to household budget.Key variables of the study and key relationships

Financial Literacy

"Financial literacy is a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (OECD/INFE, 2005). The theoretical construct consists of both cognitive and behavioral dimensions and has financial well-being as its pronounced goal. In this study financial literacy of working women was measured using the OECD/INFE questionnaire as well Lusardi (2006)'s Big Three battery of questions.

Several studies have reported a gender gap in financial literacy across the globe (Bucher-Koenen et al. 2017; Stolper & Walter, 2017; Agnew and Harrison 2015,

Klapper et al. 2015) with men more likely to perform better than women on various financial literacy tests (Almenberg and SäveSöderbergh, 2011; Monticone, 2010). Other than gender, education is reported as a dominant factor of financial literacy and several studies have reported positive association based on number of years of education, level of education, education of parents, especially mother's education and all these have been found to be significant (Lusardi and Mitchell, 2006, 2008; Mandell, 2006, 2008; Cole et al., 2009; Almenberg and Säve-Söderbergh, 2011). Also, employment increases financial literacy as it provides valuable opportunities to process complex information negotiate better terms and foresee probable outcomes (Kim et al., 2017). Income exhibits high positive correlation with financial literacy (Atkinson and Messy, 2012). But age has a non-linear pattern peaking at mid-life, then slumping in later years (Almenberg and Säve-Söderbergh, 2011; Worthington, 2013). Research also discloses psychological factors such as personality, self-identity, impulsiveness and emotions (Bijleveld and Aarts, 2014) as factors shaping financial literacy.

As its factors, financial literacy outcomes too are varied and well-reported. Several studies have reported that high financial literacy leads to superior decision-making skills extracting higher personal or household savings, better debt management and repayment (credit card debt, education loans, mortgages, etc.), more lucrative financial investments and comprehensive financial planning, better retirement readiness and greater wealth over time. (Stolper & Walter, 2017; Christelis et al., 2015; Sevim et al., 2012; Van Rooij et al., 2012; Yoong, 2011; Temizel, 2010; Stango & Zinman, 2009; Lusardi and Mitchell, 2008; Hilgert et al., 2003).

Financial well-being

Consumer Financial Protection Bureau, US has described financial well-being as "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow enjoyment of life" (CFPB, 2015). In the current study, financial well-being was measured using CFPB's subjective scale.

Jere et al (2010) as well as Lusardi and Mitchell (2007a and b) have hypothesized that financial well- being graph is shaped as an 'inverted U' across a person's life and this is based on ontogenetic evidence that financial well-being is positively correlated with income, responds to increased schooling and augmented savings and is influenced by improved financial literacy. A ten-year study conducted between 2008 and 2018 at University of Arizona (NEFE, 2018) has found that financial self-efficacy is a better predictor of financial well-being than race, socio-economic background, first-generation-of- college goer status or even gender. Financial knowledge, financial behavior and financial attitude are all highly associated with financial wellbeing of the individual (Shim et. al., 2009; Sorhaindo et al., 2006). Personal traits, decision - making context, the individual's support system as provided by friends, family members, community members and neighbors - all impact financial well-being (Goldfayn-Frank, 2018; Zurlo, 2009; Muir et all, 2017; Yeo & Lee, 2019). Based on the prior discussions, the following hypothesis which will be tested:

H1: Financial literacy has a positive impact on financial well-being

Financial Experience – Cashless (FEC)

"First you borrow, then you beg," "never spend your money before you have it" – such is the intuitive, generational, reproductive linkage of money and management of finances that it permeates daily life and most human experience. We learn by doing and repeated acts enable ease and competence, as well as insight and confidence. Chang (2004) and Wang & Dowding (2010) found that people with financial experience and knowledge tend to use credit cards judiciously. Experience and interface with a financial service or product leads to a learning-by-doing loop that builds ease and competencies, leading to better end results (Usher & Pajares, 2008). Joo and

Grable (2004) have reported that parents who used credit cards regularly and responsibly passed on sound credit card behavior by easing them into such use along with the practical knowledge of how best it can serve their interest. Thus, financial literacy leads to varied financial experiences and with greater ease and comfort, the individual builds stronger financial competencies which in turn lead to greater financial well-being (Limbu & Sato, 2019).

Béres & Huzdik (2012) have listed macroeconomic indicators of financial literacy as disposable income, savings, external funds and cash demand of the economy. Generally, lower the cash dependency in an economy (and greater digitization of financial transactions) the more formalized is people's financial experience, greater market participation by households and more sophisticated is the overall financial experience. People respond intuitively to macro-economic signals such as changes in prices, interest rates, etc. and appropriately tweak their daily practices in response to their understanding of emerging opportunities and threats. Example, based on the disruptive announcement of demonetization most Indians resolved to use digital formats of payment and over a period of time that has enabled them to be more comfortable to use it across a slew of services. This study defines financial experience – cashless as the real-life practice or lived aspects of managing financial resources to accomplish planned/unplanned financial outcomes and this was measured through the frequency of making cashless transactions through four modes – internet banking/mobile app, credit cards, debit card/ATM and e-wallets, measured at four levels – never, occasionally, frequently and always. The more people experience cashless transactions that require direct interface of the account holder with the technology, greater their ease, comfort, understanding and competency to deal with finances, leading to higher financial well-being. Therefore, the hypothesis to be tested is:

H2: Financial experience–cashless positively impacts financial well-being

Digital Financial Self-Socialization (DFS)

Financial decision-making is recognized as being influenced by one's social and economic circumstances, family and peers that shape a person's general disposition towards financial decision- making and financial well-being. (Sohn et al, 2012). Financial Socialization is postulated under the consumer socialization model and is defined as "the process by which young people acquire skills, knowledge, and attitudes relevant to their functioning in the marketplace" (Ward, 1980, p.380). Grohmann et al. (2015) name family, school and work as strong socialization agents of an adult's financial literacy, and Smith and Barboza (2014) have reported the transference of transgenerational knowledge as a key input to the younger generation's debt and credit card behavior. Earlier, Van Rooij,Lusardi, and Alessie (2007) as well as Calvet, Campbell, and Sodini (2008) have used the phrasing "respondents who are more *financially sophisticated* are more likely to invest in stocks" alluding to people who have probably been socialized to participate in market related investment options or 'read' market trends– meaning their experience with money and finance has developed some perceptiveness or practical ability that adds to their overall financial literacy.

Information transfer through group thinking over a sustained period can be understood as a type of financial socialization, be it family or a group of peers or a social media group (Seghieri et al., 2006). Internet sources are emerging as critical socializing agents, despite validity and credibility issues. Florendo & Estelami (2019) have enquired into the rising phenomenon of consumer reliance on social media for financial decision making. The authors found this behaviour to evolve from being gullible and at-risk of fraud to developing the ability to discern fraudulent financial contracts or products and service leading to higher financial well-being outcomes.

Earlier, Livingstone and Helsper (2007) had highlighted that digital resources offer valuable opportunities to learn from prior usage experience and offer a wider range of experiences to learn from. Loibl and Hira (2005) have endorsed media sources (including print and digital media) as significant platforms for financial engagement that effected financial fulfillment. The study mesaured frequency of using digital resources such as mobile trading and investment apps, blogs, podcasts, news alerts and such to learn about and update on financial matters. The measurement was at four levels – never, occasionally, frequently and always. The hypothesis is set up as:

H3: Digital financial self-socialization positively impacts financial well-being

Contribution to Household Budget

Being an easy site for public policy, household financial decision-making has been a popular canvas for financial literacy and financial well-being research. However, according to Nayak and Mahanta (2008), a formidable proportion of women do not enjoy agency over their own earnings – this being 39% in their teens & 13% in their 40s. In fact, this is also true for 8% of the women within the group of the wealthiest. This lack of control over one's financial earnings and financial well-being is observed to be the result of one's contribution (or lack of contribution) to household income and of asset ownership, creating gendered experiences of power imbalance and domestic violence (Thomas, 1990). Resource availability and use, power structures within households and family financial decision-making process have been reported as factors impacting the financial literacy – financial well-being relationship (Schaber, 2004; Agarwalla et al., 2013; Kim et al., 2017). Khan et al. (2006) have studied the factors that link to working women's contribution to household budgets, by studying 937 informally employed urban working women between the ages 16 to 60 years in US and the study threw up several useful insights. Being the single head of household, being a part of a large family with fewer male members or having a shared loan with family member/s are some of the factors that positively relate with women's increasing contribution to household budgets. The authors also report that married women and women from nuclear families end up contributing larger proportions to household budget. Age-wise contribution to household budget forms an inverted u-shape increasing with youth and middle age, then dropping with progression towards retirement age. Economic vulnerability due to poverty or unemployment of husband causes women to struggle even more for the survival of the family, working tirelessly towards the economic stability of the family.

In the light of the research insights, this study has incorporated financial decision-making context as animportant dimension in the FL-FWB relationship and this is captured through the construct of Contribution to household budget. It is measured as the percentage of personal income that the research participant contributes towards household expenses or budget. It has four levels: greater than 90%, between 90% and 50%, less than 50% and Independent (wherein the individual makes no fixed contribution to the household). Based on the review of literature discussed here, it can be inferred that greater the contribution to household budget, lower will be the financial well-being of women. Hence,this study tests the hypothesis:

H4: Contribution from personal salary to household budget inversely impacts financial well-being

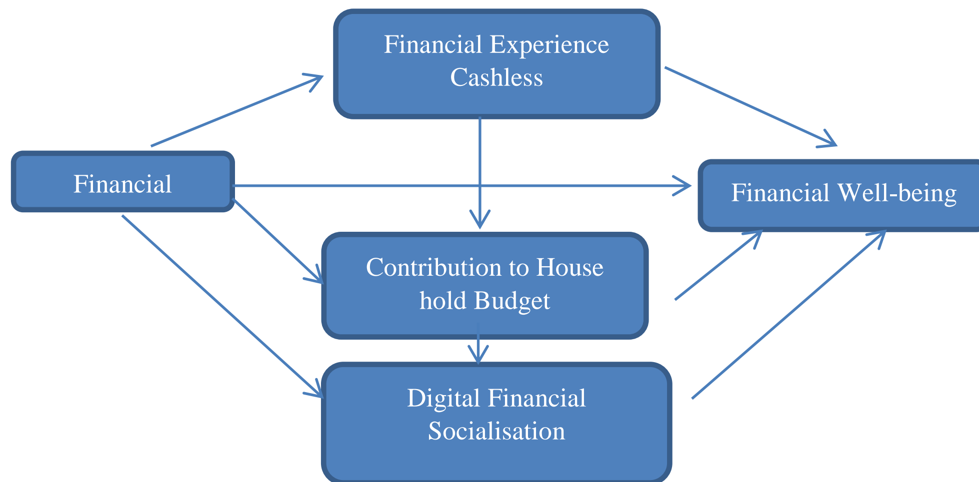


Figure-1 Hypothesized mediation model of fl-fwb

Thus, based on the review of literature, it is observed that financial literacy leads to sound financial behaviour such as budgeting, better financial experiences such as cashless transactions and understanding financial transactions – these in turn lead to better control and use of own financial resources and consequent financial well-being (Hilgert et al., 2003; Lusardi and Mitchell, 2007; Boon et al., 2011). The current study proposes a mediation framework for three mediating variables – cashless financial experience, digital financial socialization and contribution to household budget, as depicted in diagram 1. Serial mediation model proposed here is a claim that a working woman with moderate to high financial literacy will frequently conduct cashless financial transactions and this comfort with technology and experience about her own financial resources will lead to greater financial self-socialization through digital sources of information and this will lead to women having greater control over their personal income and this finally would lead to greater financial well-being.

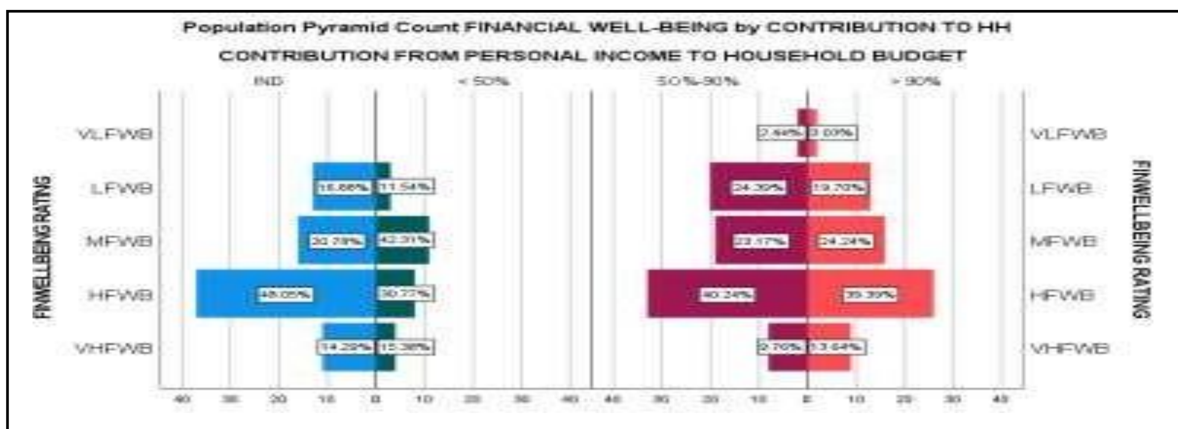
Data analysis and results

Descriptive results Of the 251 working women, 52% and 28% were graduates. The average age of the sample was 35 years with 32% in the age group 25-34 years and only 5% above 55 years. Overall, the sample was a younger demographic with 55% being less than 35 years old. Only 5% of the married segment was less than 25 years old and only 9% of those above age 34 years were single. Of the 251 respondents, 48% were married and 38% were single/never married. 7% were widowed, while 6% were divorced or separated. 51% of the sample had stated that they had 1-2 dependents to look after, 22% had 3-4 dependents. 58% of the working women were in full-time private sector jobs but only 8% were in public sector, full time jobs. 20% were self-employed, 10% worked from their home and 5% were professionals who did freelance or part-time work. As regards, cumulative work experience, 28% had experience up to 10 years while 26% had less than 3 years of work experience. See Table 1 for details. Also, see graph 1 to observe financial well-being levels based on the contribution working women make compulsorily from their personal income to the household budget

Table 1: Sample attributes and research variables

Variable	Frequency	Percent	Variable	Frequency	Percent
AGE			**EMPLOYMENT TYPE**		
18-24	59	23.5	SE	49	19.5
25-34	80	31.9	FT-PUB	20	8
35-44	56	22.3	FT-PVT	146	58.2
45-54	43	17.1	HMR-FLR	24	9.6
= / > 55	13	5.2	PF-PT-FRL	12	4.8
MARITAL STATUS			**EDUCATION**		
Sgl/Nvr married	95	37.8	< Grad	38	15.1
Married	121	48.2	Grad	71	28.3
Widowed	17	6.8	PG	130	51.8
Separated, Divorced	18	7.2	PhD, & such	12	4.8
CUMULATIVE WORK EXP			**INCOME**		
< 3 yrs	64	25.5	</= Rs.250,000	77	30.7
3 to < 5 yrs	28	11.2	Rs.250,001 - Rs.500,000	64	25.5
5 to < 10 yrs	69	27.5	Rs.500,001 - Rs.700,000	44	17.5
10 to < 15 yrs	47	18.7	Rs.700,001 - Rs.1000,000	29	11.6
15 to < 20 yrs	23	9.2	Rs.1000,001 - Rs.1500,000	16	6.4
> 20 yrs	20	7.9	> Rs.1500,000	21	8.4
DIGITAL FIN. SOCIALIZATION			**FIN. EXPERIENCE - CASHLESS**		
Absent Digital Soc.	73	29.1	Never_FEC	10	4.0
Some Digital Soc.	95	37.8	Occasionally_FEC	70	27.9
Visible Digital Soc.	63	25.1	Frequently_FEC	127	50.6
Dominant Digital Soc.	20	8.0	Always_FEC	44	17.5

GRAPH 1: FINANCIAL WELL-BEING BASED ON CONTRIBUTION TO HOUSEHOLD



Of the 251 working women surveyed, most working women (59% of the sample) contributed heavily towards household expenses (more than 50%), with more than 1/4th of the sample contributing more than 90% of their personal income towards household expenses. Of those who contributed more than 90% to the household, about 20% report low financial well-being, but twice that proportion reported high financial well-being. The results depicted that at higher income levels the reported well-being is high and vice-versa. Also, though the working women who used their income independently reported high FWB, they also exhibited low financial well-being, especially if they are living in hostels or PGs away from their family and running their own mini-household. Those who used digital resources to financially self-socialize, they tended to report higher financial well-being. Doing cashless transactions seemed to have an impact on FWB, but for those who always do cashless transactions there did not seem to be much influence on FWB.

Results regarding the hypothesized serial mediation model

The study used Hayes Process Macro Model 6 to set up a serial mediation model for testing 7 paths (Hayes, 2013). The dependent variable was Financial Well-being and the independent variable was Financial Literacy. Three mediators were tested in the following order – financial experience of cashless transactions, digital financial self-socialization and contribution from personal income to household budget. Table 2 contains the results of the stated paths in this model.

Table 2: Main results of serial mediation model

OUTCOME VARIABLE: FEC						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1321	.0175	.5744	4.4256	1.0000	249.0000	.0364
Model:	coeff	se	t	p	LLCI	ULCI
constant	1.3691	.2181	6.2772	.0000	.9395	1.7986
FLR	.2256	.1073	2.1037	.0364	.0144	.4369
OUTCOME VARIABLE: DFS						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
.2481	.0615	.8038	8.1303	2.0000	248.0000	.0004
Model:	coeff	se	t	p	LLCI	ULCI
constant	.6476	.2777	2.3323	.0205	.1007	1.1945
FLR	-.0385	.1280	-.3007	.7639	-.2906	.2136
FEC	.3018	.0750	4.0257	.0001	.1541	.4494
OUTCOME VARIABLE: CON						

Model Summary							
R	R-sq	MSE	F	df1	df2	p	
.0258	.0007	1.4089	.0547	3.0000	247.0000		.9831
Model:	coeff	se	t	p	LLCI	ULCI	
constant		2.4458	.3716	6.5814	.0000	1.7138	3.1777
FLR	-.0315	.1695	-.1857	.8528	-.3653	.3023	
FEC	.0333	.1024	.3248	.7456	-.1685	.2350	
DFS	.0093	.0841	.1105	.9121	-.1563	.1749	
OUTCOME VARIABLE: FWB							
Model Summary							
R	R-sq	MSE	F	df1	df2	p	
.3393	.1151	.8917	8.0021	4.0000	246.0000	.0000	
Model:	coeff	se	t	p	LLCI	ULCI	
constant		2.1856	.3205	6.8188	.0000	1.5543	2.8170
FLR	.3693	.1348	2.7383	.0066	.1036	.6349	
FEC	-.0021	.0815	-.0258	.9794	-.1627	.1585	
DFS	.3014	.0669	4.5059	.0000	.1696	.4331	
CON	.0776	.0506	1.5326	.1267	-.0221	.1773	
TOTAL EFFECT MODEL							
OUTCOME VARIABLE: FWB							
Model Summary							
R	R-sq	MSE	F	df1	df2	p	
.1687	.0285	.9673	7.2929	1.0000	249.0000		.0074
Model:		coeff		se		t	p LLCI
		ULCIconstant		2.6965	.2830	9.5272	.0000 2.1391 3.2539
FLR	.3759	.1392	2.7005	.0074	.1017	.6500	

The results showed that financial literacy was a significant predictor of financial experience – cashless (FEC), digital financial self-socialization (DFS) and financial well-being (FWB), but not a predictor of contribution to household budget (CON). FEC was a significant predictor of DFS and FWB, not of CON. DFS was a significant predictor of FWB, but not of CON. Hence, contribution to household budget did not hold true as a mediator between financial literacy and financial well-being, nor as predictor of financial well-being. Next step was to understand table 3, which depicted the total, direct and indirect effects of this serial mediation model.

Of the 7 paths explored (as depicted in Table 3), path 4 only was found to be significant. Other paths were rejected based on the upper and lower limit bounds. The results have been reported using the criteria of effect size and confidence intervals as proposed by Cumming (2012).

Table-3 Total direct and indirect effects of X on Y

TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y							
Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.3759	.1392	2.7005	.0074	.1017	.6500	.3774	.1687
Direct effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs
.3693	.1348	2.7383	.0066	.1036	.6349	.3708	.1657
Indirect effect(s) of X on Y:							
	Effect	BootSE	BootLLCI	BootULCI			
TOTAL	.0066	.0479	-.0884	.1012			
Ind1	-.0005	.0216	-.0436	.0457			
Ind2	-.0116	.0384	-.0897	.0633			
Ind3	- .0024	.0148	-.0377	.0235			
Ind4	.0205	.0134	.0012	.0517			
Ind5	.0006	.0025	-.0041	.0067			
Ind6	.0000	.0011	-.0024	.0021			
Ind7	.0000	.0007	-.0013	.0016			
Indirect effect key:							
Ind1	FLR	->	FEC	->	FWB		
Ind2	FLR	->	DFS	->	FWB		
Ind3	FLR	->	CON	->	FWB		
Ind4	**FLR**	**->**	**FEC**	**->**	**DFS**	**->**	**FWB**
Ind5	FLR	->	FEC	->	CON	->	FWB
Ind6	FLR	->	DFS	->	CON	->	FWB
Ind7	FLR	->	FEC	->	DFS	->	CON -> FWB

Hence the final model was concluded to be:

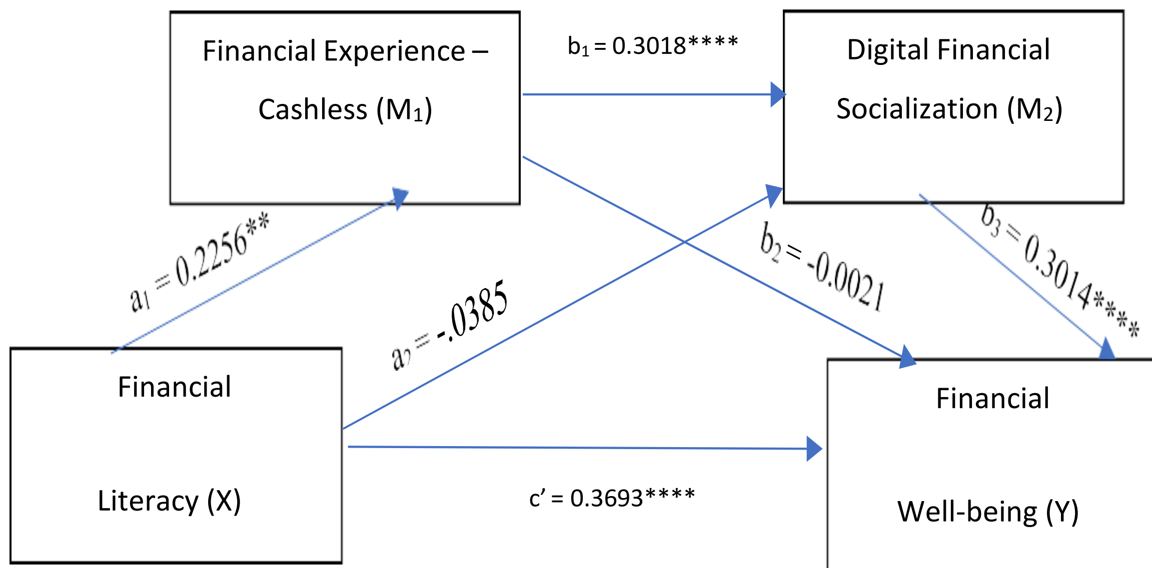


Figure 2: Final model of FL & FWB with 2 Serial mediators

Results from the serial mediation analysis indicated that financial literacy was indirectly related to financial well-being through its relationship with cashless financial experience, which in turn influenced digital financial self-socialization, as revealed by path 4 or indirect effect 4.

First, as can be seen in diagram 2, financial literacy resulted in greater cashless financial experiences (a1 = 0.2256, p = 0.0364), and greater financial experiences through cashless mode resulted in more digital financial self-socialization (b1 = 0.3018, p=0.0001). Finally, with greater digital financial self- socialization working women tend to report greater financial well-being (b2 = 0.3014, p=0.000). A 95% bias-corrected confidence interval based on 1000 bootstrap samples indicated that there was an indirect effect through cashless financial experience and digital financial self-socialization (a1*b1 and b1*b2 and b2*b3= 0.0205), while holding all other possible mediators as constant. This was entirely above zero (0.0012 to 0.0517). In contrast, the indirect effects as expressed through the other six paths were not different than zero (as seen in Table 3). Hence all the other paths got rejected. Moreover, working women with greater financial literacy positively correlated with cashless experience and digital socialization. However, outside this serial mediation effect, the regressor financial literacy's influence on digital financial socialization and the regressor cashless financial experience's influence on financial well-being, each is low in magnitude and inverse (-0.0385 and -0.0021 respectively). Since each of these paths is not significant these are not relevant to the discussion. The total effect of financial literacy on financial well-being even when taking into account financial literacy's indirect effect through the two serial mediators FEC and DFS, is found to be significant (c= 0.3759, p = 0.0074). The total effect results from the sum of indirect effects and a potential direct effect. The results showed an improvement in the total effects from the reported direct effect which was found to be significant (c'= 0.3693, p = 0.0066). Though the reported indirect effect (a1*b1 and b1*b2 and b2*b3= 0.0205) may seem small, it is significant. The results showed that the hypothesized model was found to be differentiated from noise and when aggregated across larger samples it will become more meaningful (Agler & De Boeck, 2017). The direct, indirect and total effects were all found to be significant based on criterion of confidence intervals. The path tested and found significant by this study is as follows: **Financial literacy → Cashless financial experience → Digital financial self- socialization → Financial well-being**

Discussion

Financial literacy is an integral aspect of the global developmental agenda, having the explicit objective of finding the appropriate tools to equip people to take responsibility for their own financial well-being. However, Mandell and Klein (2009) have reported that there is no correlation between financial education and subsequent sound financial behaviour. Research provides poor evidence about the efficacy of financial education. The results of the serial mediation model show a direct as well as an indirect effect. The latter bolsters the former's claim; according to Agler & De Boeck (2017) a causal interpretation is valid especially when there is evidence through intermediation and indirect effect. The indirect effect is especially important as the two mediators have become important in a world of social distancing and increased financial risk, when face-to-face financial education or financial advice may be difficult to access.

Access and availability constraints are insidious and culturally endemic in India. Chowbey (2017) and Singh and Bhandari

(2012) have raised the issue of gendered financial flow within generational hierarchies with tacit approval of economic abuse of the female members of the household, through denial of access to own earnings, denial of right to own property and even denial of use of own debit/credit card. Lusardi (2010) has conceded that financial literacy is associated with demographic attributes and financial complexities within the household. Earlier, Allen & Hayhoe (2007) have observed differential parental expectations from a son vs. a daughter, since the former is socialized to play the lifelong role of breadwinner and shoulder family responsibilities but the daughter is 'protected' often leading to financial naiveté and economic abuse in later life. In this light, access to own funds via cashless mode and digital financial socialization via the internet can mitigate cultural patriarchal hurdles to financial socialization and lead to greater access to resources and information, ultimately impacting financial well-being.

The current study confirms the observations made by Wang and Dowding (2010) and Usher and Pajares (2008) that financial literacy leads to better financial experience and interface with a financial service or product, which in turn leads to a learning-by -doing loop as expressed and augmented by self- socialization for financial matters. Here the digital medium proves cost-effective, timely and self-driven. Women who are receptive to financial advice, tend to especially seek it out and are disciplined enough to stay engaged with the financial advisor (Ackerman, 2012). They also seek a collaborative approach to understanding financial products and services, preferring long-term engagement and involvement. Consequently, digital medium can prove useful.

Systemically, denying women the opportunity to engage with financial products and services in the name of safety, protection, mobility or complexity and restricting access to a collaborative learning may well be one of the reasons why women develop lower financial literacy. As regards access to and use of own financial resources, despite the evidence in research literature and despite 59% of women contributing more than 50% from their personal income, the mediator of contribution to household budget was found neither to be a regressand of financial literacy, nor of digital financial self-socialization; nor was it found to influence financial well-being. This may be because the serial mediation model may have been unable to fully capture the reality and complexity of financial decision- making by working women. Edwards (2013) have pointed out that irrespective of the complexity of the model, statistical models are just that and consequently some aspects of the interrelationships may inadvertently escape the keen eye of the researcher.

Conclusion

The current study was conducted to statistically test a serial mediation model, with the transmission between independent variable (X) financial literacy and dependent variable (Y) financial well-being mediated by three sequential variables – financial experience of cashless transactions (M1), digital financial self-socialization (M2) and contribution from personal income to household budget (M3). The results revealed that contribution was not a significant variable and this reduced the model to two serial mediators. Through statistical testing, the study found direct effect of financial literacy on financial well-being of working women. The study also found a significant indirect effect such that financial literacy leads to higher frequency of financial experience of cashless transactions, which in turn leads to greater digital financial self-socialization and this ultimately impacts financial well-being positively. The results of this study

are pertinent as they provide evidence that financial literacy does impact financial wellbeing, both directly and indirectly. Since there is poor literature showing that causality flow from financial literacy to financial well-being, the dual evidence of significant direct and indirect effect is very important. This insight can find immediate application as Govt. policy has already focused on all key dimensions – greater financial inclusion, more concerted efforts at financial education and greater digitization of financial services and products. The inter-relations between these dimensions are very significant and become more so crucial during the pandemic times. Digital resources can augment the transmission of financial literacy through chatbots on websites and apps of financial service provides, periodic reports of their financial status, daily financial literacy capsules and tips to enable better financial resilience. This will help working women face the additional pressure of managing resources with salary cuts or loss of livelihood of family members during these unprecedented times. Earlier studies have revealed that timely intervention yields positive outcomes such as increased savings, better investment choices, lower indebtedness and improved credit scores (Jappelli et al., 2011; Behrman et al., 2012). Since changing habitual behaviour is difficult later, Clark et al. (2012) have recommended that reaching those who are low in financial literacy or financially unskilled at "teachable moments" across their life cycle is pertinent.

Relationship managers, financial planners or wealth managers targeting working women should focus on the digital experience to attract, retain and nurture clientele. Since there is a clear serial correlation, the end-to-end client experience should be designed keeping in mind key socio-economic and psychographic profiling. Apps that go beyond payment, enabling bargain search, curated discounts and monthly financial analysis will gain favour with this segment of the working population. Govt. policy should redouble its focus on financial inclusion and financial literacy of women, exploring digital media to deliver training programs.

Despite the application of some objective criteria to select the best approach, essentially all research has some element of subjectivity. This study has adopted self-rating for financial well-being. Also the study results emerge from a cross-sectional sample, creating a limited claim to causality. Longitudinal studies are therefore proposed by the authors. Human behaviour emerges from highly dynamic, complex, systemic factors that are difficult to explore, yet the attempt is important. Hence, other researchers could further develop the model through qualitative approaches such as diary jotting or video diaries. Further research can explore other mediators such as cultural financial preferences, choice making process and household decision-making style, etc. with the core objective to incorporate lived experience of women within multi-locational social-cultural realities.

Finally, the authors conclude by reiterating that observations from the Great Financial Crisis of 2008, Demonetization of Indian rupee in 2016 and the current global pandemic of Covid19 in 2020, have made it clear that financial literacy is always exercised within the wider ethical, legal-socio-political dimensions of a financial system and mediators can accelerate positive or negative outcomes of financial well-being. With global economic activity on hold, increased uncertainty in Indian capital markets and burgeoning fiscal debt, the focus is back on linkages and contagion - truly today's risk is Chemistry, not particle Physics but digitization can offer real solutions.

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