Analyzing the Demographic Differences in Context of Financial Literacy: Evidence from Quetta City

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**ABSTRACT**

Purpose: This paper is aimed to analyze a set of demographic variables in the context of financial literacy. A person possessing the knowledge, skills, and abilities on financial matters can be considered financial literate. It is imperative to have such skills for efficient management of financial resources. Numerous demographic and socio-economic factors jointly determine the extent of financial literacy.

Design/Methodology/Approach: The study is based on the analysis of primary data collected from the residents of Quetta city. Demographic and socio-economic factors are considered independent variables, while financial literacy is dependent. The Analysis of Variance (ANOVA) tests the hypotheses formulated to test demographic differences.

Findings: The salient findings of this research are that Age, personal education, and monthly earnings have a significant difference in the context of financial literacy. However, parents' education and the monthly income of households have an insignificant association with financial literacy.

Implications/Originality/Value: Financial literacy is crucial for financial inclusion, but it has a broad-spectrum impact on enhancing personal financial decisions to society's economic wellbeing of society. This research is significant to the government for forming policies for financial inclusion, financial consumer protection, and financial education. It is also of significance to learning institutions in assessing the discrepancies in the education system and building strong money management skills. And will be of assistance for researchers for a further detailed study on this phenomenon and its impact on other factors.

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Introduction
One can narrowly define financial literacy as knowledge, skills, and abilities in financial matters. Financial literacy is considered a fundamental skill for people working in a complex environment, as the management of financial resources is significantly related to the financial wellbeing of any individual. Schagen and Lines (1996) defined financial literacy as the ability of an individual to manage money by making informed and effective decisions. Generally, financial literacy has been measured by using only the items related to financial knowledge or financial education (Huston, 2010). Presently, there is a consensus among the researchers that financial literacy is not confined merely to financial knowledge only. It has a broader perspective on the present situation (Faulkner, 2015; Hung, Parker, & Yoong, 2009; OECD/INFE, 2015). The Organization for Economic Cooperation and Development (OECD/INFE) and International Network on Financial Education (OECD/INFE) defined financial literacy as "a combination of awareness, knowledge, skills, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing" (OECD/INFE, 2015, p. 5).

Financial literacy is essential for financial inclusion, but it has a broad-spectrum impact on enhancing personal financial decisions and ultimately improving society’s economic wellbeing of society. Financial literacy is a prime component for bridging the gap of financial inclusion, as it assists individuals in understanding and making fundamental financial decisions.

In Pakistan, people lack basic financial knowledge and have a poor understanding of the operation of financial markets (Bashir, Arshad, Nazir, & Afzal, 2013). As a result, young people cannot even manage their expenses (Ahmed, Kashif, & Ali, 2016).

This study aims to explore the impact of demographic and socio-economic factors on financial literacy in the city of Quetta. The primary motivation behind this research is the relative scarcity of literature on this topic in Pakistan generally and Balochistan specifically. This paper is organized in the following pattern. After the introductory section, the second section is dedicated to the literature review, adopted methodology and estimation techniques are presented in the third section, and results and findings are presented in the fourth section. In contrast, the last section of the paper is dedicated to the conclusion.

Literature Review and Hypotheses
Reifner and Herwig (2003) stated that due to globalization, many consumers could not manage their finances properly due to the increasing complexity of financial services, causing social delinquency of over-indebtedness. To understand the short-term and long-term financial affairs and at the same time accomplish financial stability and financial security, one needs to depend on the basics of financial knowledge, which intensifies the urge for financial education as a political and economic agenda for government and policymakers. Financial literacy is required for almost all activities, including daily transactions via credit card, evaluating investment alternatives, and saving for future retirement.

The National Council on Economic Education (NCEE) gave the first definition of financial literacy in 1999 via a survey in the United States. According to NCEE, a financially literate person is acquainted with basic economic principles and knowledge about the economy (cited in Oanea & Dornean, 2012). Later, Lusardi (2008) stated that for an individual to be financially literate, one must know some essential economic terms, like compounding interest, real and nominal value, and have knowledge about risk diversification. Hilgert, Hogarth, and Beverly (2003) defined financial literacy in the context of the financial aspects of daily life by households.

In most previous studies, financial literacy was measured as financial education or financial knowledge only (Huston, 2010; Lusardi & Mitchell, 2014; Robb & Sharpe, 2009). Several
Researchers consider this description as a narrow definition of financial literacy. Later, Huston (2009, 2010) stated that financial literacy should consist of two essential facets: know-how of personal finance that is possessing financial knowledge, and use of personal finance, which is the application of financial knowledge. Ghaffar and Sharif (2016) used financial knowledge as a proxy for financial literacy to study the impact on personal saving or personal wellbeing in Karachi, Pakistan. Oanea and Dornean (2012) viewed financial literacy as the amalgamation of financial knowledge about critical economic terms, interest, real and nominal value, ability to understand information, use the knowledge for proper financial planning, and awareness of financial consequences. In another study by Sucuahi (2013), financial literacy of micro-entrepreneur was measured by mean of four fundamental facets such as skills necessary for record keeping, saving behaviours, budgeting and the ability to obtain capital from outside internal sources.

The problem with these definitions was that financial literacy was not operative for comparing different countries. Thus, proceeding studies evaluated the term financial literacy borrowing to the definition of financial literacy provided by the OECD. According to OECD, financial literacy comprises three constructs: financial attitude, financial behavior, and financial knowledge. But on a general level, the Organization of Economic Co-operation and Development (OECD/INFE) and the International Network on Financial Education (OECD/INFE) explored the variables by which the financial literacy of different countries or cultures could be evaluated. The variables considered to measure financial literacy were financial knowledge, financial skills, and financial attitude (Atkinson & Messy, 2012). Later, Gupta and Madan (2016) adopted the same constructs for determining India's level of financial literacy. Potrich, Vieira, and Mendes-Da-Silva (2016) used it in the Brazilian context.

Financial literacy is considered very important and beneficial as it is not meant to make people financial experts. Instead, such a literacy program aims to enhance individuals' financial decision-making. Prior researchers explored that those financially illiterate individuals save less and borrow more money. They can also not understand mortgage costs and usually borrow money at higher rates (Kefela, 2011). They are also incapable of saving correctly for their retirement plan (Van Rooij, Lusardi, & Alessie, 2011).

Thus, Financial literacy is vital for making an informed choice. It helps people manage personal budgets, savings, debt management, financial negotiations, proper knowledge, and bank services and investment decisions (Lusardi, 2008). Atkinson and Messy (2012) emphasized that by improving the level of financial literacy, the financial system could be more efficient, and the development of the economy would be smooth.

Awais, Laber, Rasheed, and Khursheed (2016) analyzed the determinants affecting individuals' investment decisions in the context of Pakistan. According to their study, investment decisions are influenced by the level of financial literacy of the individuals. Ghaffar and Sharif (2016) state that by enhancing financial literacy level, personal savings by the individuals could be increased, which in turn at the macro level leads to benefit the economy of a nation and the wellbeing of society.

Ahmed et al. (2016) analyzed the determinants of students' financial literacy living in a hostel. The study's focus was on non-business students who are not even familiar with the basic concepts of financial management. The results showed that non-business students from higher education institutions did not even know credit cards, ATMs, etc. While discussing the same financial management questions from the focus group students, it was observed that each group had different views about financial literacy. Groups that had minimum knowledge about finances learned from their parents and siblings to properly manage their finances. Those who had friends and family working for another organization or had their businesses could manage finances.
Naeem (2016) investigated the level of financial literacy among bachelor students in Islamabad-Pakistan. It was observed that there was a very slight difference between the level of financial literacy of 1st-semester students and final semester students, which depicted that there is a need for proper impartment of knowledge about managing finance to students. On the contrary, females were better regarding financial literacy.

Atkinson and Messy (2012) collected data from fourteen countries within 4 continents. The variation in the level of financial literacy due to socio-demographic variables were analyzed. Demographic factors that are education level, work status, income, attitudes towards risk, and income stability were assessed. The study results showed varied results of different countries among these variables. Further, the results represented a lack of financial knowledge among these countries. Although financial attitude and financial behavior showed promising results, there was scope for improvement. Further, it was concluded that a low level of education and income were associated with a low level of financial literacy.

The determinants of financial literacy level among the employees of Kenya port authority were analyzed by Mbarire and Ali (2014). The authors' objective was to analyze how well equipped the employees were to make financial decisions. It was concluded that gender influences the financial literacy level, and interestingly their research suggested that females are more financially literate than males. Also, people aged between 30-40 years were considered to possess a higher financial literacy level than others. As supported by previous studies, there was a positive correlation between education and financial literacy. Further, socio-economic factors such as occupation type and personal income were not related to financial literacy.

Another study in India analyzed the socio-demographic determinants of financial literacy among young urban workers. It showed that both men and women have a low level of financial knowledge in India. The study further elaborated that woman tend to possess poor financial behavior than men. In contrast, men were perceived to have a poor financial attitude (Agarwalla, Barua, Jacob, & Varma, 2015).

Potrich, Vieira, and Kirch (2015) investigated the impact of socio-economic and demographic variables on financial literacy in the Brazilian context. The analysis revealed a relationship of financial literacy with educational level, mother's educational level, individual income, and family income. It was also concluded that the parental educational level and occupation do not significantly correlate with financial literacy. It was observed that women, less education, and family income possessed a low level of financial literacy.

Sarigül (2014) investigated the level of financial literacy and its relationship with the personal characteristics of university students in the Konya-Turkey. It was concluded that financial literacy is low among university students of Konya. It was also observed that female students possessed less knowledge than male students.

Tóth, Lančarič, and Savov (2015) researched the students of different departments (Economics major and non-Economics major) studying at Slovakia university. The data was collected from 608 students through a questionnaire related to interest, risk management, financial market, and personal finance. The results show that students with a higher level of education scored higher in financial literacy, and departments that were economics focused also possessed a higher level of financial literacy. However, among the four areas of financial literacy, only personal finance did not change with the change in the level of education and significance they selected.

In Japan, Kadoya and Khan (2016) researched to investigate the factors that affect the level of financial literacy. Their analysis was based on three theories, i.e., social learning theory, consumer socialization theory, and psychological theory. Linear regression was applied, and it was concluded that males were observed to be more financially literate. Age, education, and spouse education also
positively affected financial literacy, while parents' education was insignificant in determining financial literacy. Among socio-economic factors, income, assets, and respondents with working experience in finance positively impacted financial literacy. However, employment status did not impact, but occupation slightly impacted financial literacy.

The following hypotheses are postulated based on our research questions:
H1: There is a significant difference between age and financial literacy.
H2: There is a significant difference between an individual's education level and financial literacy.
H3: There is a significant difference between individual fathers' education level and financial literacy.
H4: There is a significant difference between an individual mother's education level and financial literacy.
H5: There is a significant difference between personal income level and financial literacy.
H6: There is a significant difference between family income level and financial literacy.

**Theoretical Background**

**Life Cycle Theory**
The life cycle hypothesis by Modigliani and Brumberg (1954) assumes that individuals tend to maximize their wellbeing by making decisions related to consumption and saving. There is a steady dispersal of consumption over the life cycle. It is stated that people save more when they earn more than their basic need for future consumption in old age when they will not be able to earn money. Based on this theory, financial literacy is supposed to be increasing with age up to a certain level. As a person reaches retirement age, it is believed to diminish (Agarwalla et al., 2015). Similarly, the income level also has a direct association with financial literacy. Individuals with higher incomes have higher financial literacy. To smoothen future spending, individuals try to save or invest it for post-retirement requirements (Agarwalla et al., 2015; Brown & Graf, 2013; Lusardi & Mitchell, 2014; Potrich et al., 2015).

**Social Learning Theory**
Social learning theory is the amalgamation of cognitive and behaviorist learning theories. It states that an individual's behavior is influenced by the social context, i.e., people learn from observing the behavior of others (Kadoya & Khan, 2016). The financial attitudes and values are influenced by the company people have and the environment they are surrounded by (Mbarire & Ali, 2014).

The theory proposes that people acquire skills, knowledge, and attitudes from the behavior of others such as parents, peers, schools, etc. (Moschis & Churchill Jr, 1978), which significantly affects our financial literacy (Kadoya & Khan, 2016, p. 3). Lachance and Choquette-Bernier (2004) stated that young people learn basic financial knowledge through observation, parental communication, and trial and error.

Martin and Bush (2000) used social learning theory to analyze financial behavior. They state that it plays an essential role in explaining the behavior modeling used in training programs like financial literacy to yield desired behavior (Kimunduu, Erick, & Shisia, 2016). Thus, social learning theory is based on the concept of cognitive and social surroundings impacts on the behavior and attitude of individuals.
Methodology
The study is based on the analysis of primary data collected from the residents of Quetta city. The Analysis of Variance (ANOVA) is used to explore the significance of the demographic variables used in the study.

This study aims to observe the general phenomenon in a local context; therefore, convenience sampling was an appropriate technique. Convenience sampling is a category of nonprobability sampling. This sampling method collects data from easily accessible individuals (Dörnyei, 2007).

Respondents of the current study were adults residing in the Quetta district, and a sample of 390 participants was approached to explore the research questions of the present study. The study was quantitative, so primary data was collected through a self-administered questionnaire. In this study, to measure financial literacy, each construct is measured by using a Likert scale to find the proper results for the tests to be applied.

Financial attitude and behavior constructs are measured using a Likert scale (Agarwalla et al., 2015; Atkinson & Messy, 2012; Kadoya & Khan, 2016; Mbarire & Ali, 2014; Potrich et al., 2015; Potrich et al., 2016).

Results and Discussion
The data collected consisted of variant information of the respondents. A measure is reliable if the value of Cronbach's alpha is more than 0.70. Another essential consideration in reliability is to check the correlation among variables, which is depicted by the item-total correlation value by being higher than 0.30 (Field, 2009; Hair, Black, Babin, & Anderson, 2010).

The normality test is based on two critical factors are Skewness and Kurtosis. In behavioral studies, it is suggested to estimate the skewness and kurtosis of data. The range of value for Skewness and Kurtosis is from +2 till -2 (George & Mallory, 2008; Weisstein, 2002a, 2002b). The reliability and normality assumption are satisfied, as all values are within an acceptable range.

The mean values of financial literacy for each variable category and the F value and significance for the ANOVA test are given in Table 1.

The results of Analysis of Variance illustration that financial literacy is significantly different among the age groups [F = 7.909, p = .000]. A review of the mean plot stipulates that financial literacy is higher among respondents age less than 34 years than other age groups.

Further, Post-hoc comparisons using the Tukey HSD test showed that the mean score for respondents aged less than 34 years was significantly higher for age groups 35-54. The respondent's age group, 35-54 years, was found to have an insignificantly lower mean score than less than 34 years. Lastly, respondents aged 35-54 years had an insignificantly lower mean score than respondents of less than 34 years.

Financial literacy was significantly different based on the level of education [F = 3.905, p = .009]. Financial literacy was observed to be highest amongst those who were highly educated.

The Post-hoc comparisons showed that an individual's education level above 18 years mean score was significantly higher than those who had done only middle schooling, intermediate, and bachelor.
The results for father’s educational level and financial literacy were not significantly different, \( F = 1.779, p = .151 \). Also, financial literacy was not significantly different among the mother's educational levels. As the results for analysis of Variance were \( F = 0.306, p = .821 \).

The results for financial literacy showed significant difference among various levels of personal monthly income, \( F = 22.943, p = .000 \). The mean plot depicts that financial literacy increases with personal monthly income.

The Post-hoc test further unveils that the financial literacy, the mean score was significantly higher at income level (Rs. 50,001-100,000) and (Above Rs. 100,000) alongside those who do not have personal income.

The mean score for financial literacy was lowest for those who do not possess any source for family income. Whereas the results for financial literacy were not found to be significantly different among family monthly income levels, \( F = 0.468, p = .705 \).

From the present study's findings, it could be analyzed that the mean score for variable age is highest for age group less than 34 years. However, age and financial literacy are opposite in other age groups, i.e., as the age of individuals increases, their financial literacy decreases. The results were observed were not similar to previous studies (Lusardi & Mitchell, 2011; Potrich et al., 2015; Van Rooij et al., 2011), in which evidence displayed that Financial Literacy increases as age increase up to a certain age and after that, it starts to diminish. Although in this study, financial literacy was observed to be increasing with age till 34, whereas it is supposed in prior studies that mid-aged individuals up to age 30-40 are more financially literate than all other age groups (Atkinson & Messy, 2012; Lusardi & Mitchell, 2011).

Hence, it was alleged that young and older adults tend to have a low level of financial literacy. In contrast, middle-aged people were considered to possess a high level of financial literacy. This phenomenon was reliant on the Life cycle theory, which reveals that individuals tend to smooth their spending patterns throughout their lives (Friedman, 1957; Modigliani & Brumberg, 1954).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>F Value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – 34</td>
<td>10.346</td>
<td>1.382</td>
<td>7.909</td>
<td>.000</td>
</tr>
<tr>
<td>35 – 54</td>
<td>9.647</td>
<td>1.682</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 – or above</td>
<td>10.183</td>
<td>1.294</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 10</td>
<td>9.568</td>
<td>1.622</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 – 12</td>
<td>9.586</td>
<td>1.091</td>
<td>3.905</td>
<td>.009</td>
</tr>
<tr>
<td>13 – 16</td>
<td>10.118</td>
<td>1.486</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – onwards</td>
<td>10.401</td>
<td>1.485</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 10</td>
<td>10.163</td>
<td>1.395</td>
<td></td>
<td></td>
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<tr>
<td>Father's Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 – 12</td>
<td>9.777</td>
<td>1.507</td>
<td>1.779</td>
<td>.151</td>
</tr>
<tr>
<td>13 – 16</td>
<td>10.170</td>
<td>1.581</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 – onwards</td>
<td>10.374</td>
<td>1.476</td>
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</tbody>
</table>
Whereas, one cause that the results of this study do not comply with the previous research might be that age is considered the only determinant of financial literacy that does not have a linear relationship with financial literacy (Potrich et al., 2015). Another reason might be that the young respondents were more familiar with the terms used for evaluating financial literacy than the older respondents.

The results of this study regarding the effect of personal education on financial literacy follow the prior studies (Atkinson & Messy, 2012; Isomidinova & Singh, 2017; Lusardi & Mitchell, 2011; Potrich et al., 2015).

However, parents' education did not turn to have a significant impact on the level of finances, which Jorgensen (2007) portrayed to have a significant impact on an individual's financial literacy.

For this study, the influence of personal monthly income on the level of financial literacy was strong among three significant variables. That signifies that financial literacy increases as income increases, which is again backed by life cycle theory. When people earn more, they invest or save it for future spending (Mwathi, Kubasu, & Akuno, 2017).

The results for personal monthly income and financial literacy were in line with the prior studies (Atkinson & Messy, 2012; Potrich et al., 2015), but contrary to the results of (Mbarire & Ali, 2014), which portrayed no significant relationship among personal monthly income on financial literacy level. Finally, the family income was insignificant to the level of financial literacy.
Conclusion
The structure of the financial system of a country depends on the level of financial literacy. Which grounds a dire need for studying various aspects of this phenomenon. 5.1 The mean score of financial literacy appeared to be increasing with an increase in personal education and personal monthly income. However, the mean score for financial literacy decreased by increasing the age above 30 years of respondents.

Limitation and Future Recommendations
There are several limitations to this study. Firstly, the data was collected through convenience sampling, which might limit the expanded results of the study. Second, most people were reluctant to fill out the questionnaire as no such research background was available. Moreover, uneducated respondents could not fill out the questionnaire, which restricted their prevalence in the study.

This study helps identify the critical factors that affect financial literacy. However, more in-depth research could be conducted to determine the reason for such effects so that good policies could be established to educate those who are low in financial literacy.
References
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