Article

Demographic and socio-economic differences in financial information literacy among university students

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Abstract

Financial information literacy helps to manage earnings, especially among those students who study non-commerce subjects. Thus, this study attempts to explore the differences in such literacy through their demographic and socioeconomic characteristics. A well-structured instrument was used to gather data from 382 non-commerce students in universities in Pakistan using a multi stage sampling technique. Analyses were conducted through percentage of correct response technique and group comparisons. The findings indicate an average level of financial knowledge among university students. The demographic differences reveal that most of the students are male, graduate, with age above 26, enrolled in a private university, residing in dormitories, and score higher in academic subjects are more financially literate. While the socioeconomic differences indicate that those students who follow family advice, study minor finance courses, maintain a bank account, and have higher parental income are more knowledgeable about finance. The study recommends arranging awareness sessions to impart financial knowledge to students.

Keywords

information literacy, financial information literacy, university students, demographic characteristics, socio-economic characteristics

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Introduction

The end of the 20th century has witnessed renewed importance in the area of information literacy. Several aspects of information literacy are already available in academia, such as health literacy (e.g., Ayre et al., 2020; Balmer et al., 2020; Meyers et al., 2020), digital literacy (e.g., Lazonder et al., 2020; Porat, Blau and Barak, 2018), financial information literacy (e.g., Acheampong, 2015; Sarigul, 2014), credit card literacy (e.g., Limbu and Sato, 2019), and mobile literacy (e.g., Jere-Folotiya et al., 2014). Financial information literacy (FIL), highlighted as a potential research area by Faulkner (2015), is increasingly becoming a grave concern to cope with today's complicated financial environment (Arceo-Gómez and Villagómez, 2017; Belousova et al., 2019; Rodrigues et al., 2019). The strong need for FIL arose after the US financial crisis in 2008 (Miller et al., 2014). Individual financial information illiteracy may affect the whole of society (Wright, 2016).

The term 'financial information literacy' is relatively new in the literature and is often used interchangeably with the term, financial literacy. To date,

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the literature does not cover the difference between the two constructs (e.g., Ballestra and Cavaleri, 2016; Kelly et al., 2010). However, a distinction can be identified between financial information literacy and financial literacy after clarifying the definitional aspects of both. The term financial literacy was first coined in 1787 in the USA (Garg and Singh, 2018) and was proposed in academic literature during a survey conducted by Jump$tart Coalition in 1997. Financial literacy refers to one's capability to use skills for managing financial resources efficiently and effectively (Hastings, Madrian, and Skimmyhorn, 2013). To date, there is no consensus on a single definition of financial literacy due to its broader scope. The President's Advisory Council on Financial Literacy (PACFL) defines financial literacy as the requisite skills and abilities that individuals possess to utilize financial resources in an efficient way, which ultimately aims at economic welfare (President's Advisory Council on Financial Literacy (PACFL), 2008).

Financial information literacy is a critical component of information literacy (Spiranec, Zorica, and Simoncic, 2012). It refers to an the aptitude of individuals to seek out and use information about the financial products and services that may help them in their monetary well-being. The individuals who can seek and learn about financial information, its types, and associated issues are expected to have a higher level of financial information literacy (Potnis and Gala, 2019). Individuals who do not possess adequate prior financial knowledge can obtain financial information through various sources or channels (such as newspapers, books, and government publications). However, individuals seeking financial information may not necessarily be financially literate because they have financial knowledge but may not be able to apply that knowledge in their daily lives. Thus, financial information literacy is regarded as a prerequisite condition for an individual to be financially literate.

FIL is crucial among all segments of society, especially for youth, because they have to face higher risks than their parents to confront uncertain futures (Ansong and Gyensare, 2012). According to the National Human Development Report (2017), Pakistan is among the youngest countries, having 64% of its population under the age of 29 years. The National Youth Policy (2009) has defined youth as individuals under the age of 15-29 years; they constitute 30% of the total population (Najam and Bari, 2017). Global Financial Literacy Ranking reveals that, as compared to neighboring countries, 26% of youth in Pakistan is financially literate, based on numeracy, interest compounding, risk diversification and inflation-related knowledge (Klapper, Lusardi and Oudheusden, 2015), which is higher than India (24%), Bangladesh (19%), and Afghanistan (14%). Denmark and Norway are the highest financially literate nations of the world, each of them having a 71% score (Klapper et al., 2015). The enormous difference between the FIL level of developed and developing regions of the world calls for the need to improve the FIL level of youth in developing countries, especially Pakistan. However, a significant proportion of youth do not prepare themselves to cope with financial challenges related to life expectancy and unemployment (Ergün, 2018). As a result, they feel reluctant while making any financial decisions. The FIL level of every individual is affected by various demographic and socioeconomic characteristics, which vary among different categories of youth (Volpe, Chen and Pavlicko, 1996).

Extant literature reveals that the majority of scholars have fully focused on financial literacy and gauged its behavioral aspects (Aydin and Selcuk, 2019; Grohmann, 2018; Te'eni-Harari, 2016) overlooking financial knowledge in developing countries. In Pakistan, limited empirical evidence related to financial literacy is found (e.g., Ahmed, Kashif and Ali, 2016; Ghaffar and Sharif, 2016). Sparse empirical evidence is found to gauge any differences in FIL level based on various demographic and socioeconomic characteristics of students. Therefore, a cross-sectional survey is needed to measure the degree to which the FIL level of university students is affected by various demographic and socioeconomic characteristics.

In response to the identified gap, this study aims to broaden current knowledge of FIL by focusing on (a) the extent to which university students are financially literate, (b) examining any difference in their FIL level based on demographic characteristics and socioeconomic characteristics. The rest of this paper is organized as follows: the next section looks at pertinent literature, followed by research methods and data collection. Then, results are discussed, leading to the conclusion, implications, limitations, and future directions.

Literature review and hypotheses development

Remund (2010) operationalized the concept of financial literacy in five dimensions, including knowledge, ability, aptitude, and skills needed to manage finance

and make retirement plans. Lantara and Kartini (2015) measured an individual's level of financial literacy in terms of knowledge, behavior, and attitude towards financial products and services. Thus, financial knowledge, attitude, and behavior are three aspects of financial literacy (Santini et al., 2019). Among these, the knowledge and behavior of individuals regarding financial products are crucial in assessing the level of financial literacy. Financial knowledge of an individual is assessed by asking questions related to financial products and services such as interest, loan, inflation, saving, tax and inflation (Ergün, 2017), whereas the financial behavior of individuals is measured by various dimensions such as budgeting, saving, investing, and borrowing (Remund, 2010). The majority of existing studies have focused on the behavioral aspect of FIL, instead of financial knowledge (e.g., Aydin and Selcuk, 2019; Grohmann, 2018; Kiliyanni and Sivaraman, 2018). Measuring the behavioral aspects of financial literacy is sometimes problematic because respondents usually over-rate their financial competencies (Kiliyanni and Sivaraman, 2018).

A plethora of literature on financial literacy reveals that there are various demographic and socio-economic factors which affect the financial literacy of individuals, namely, age, level of education, gender, the discipline of the study, work experience, residential status, and parental income (Kiliyanni and Sivaraman, 2018; Potrich, Vieira and Kirch, 2018; Santini et al., 2019). Various studies have been conducted to gauge the variation in financial literacy by gender (e.g., Almenberg and Dreber, 2015; Cupák et al., 2018; Erner, Goedde-Menke, and Oberste, 2016; Kiliyanni and Sivaraman, 2018; Oseifuah, Gyekye, and Formadi, 2018). The findings of these studies suggest that females are less knowledgeable regarding financial literacy than their male counterparts (Driva, Lührmann, and Winter, 2016), because females have less interest in the area of personal finance (Agarwal et al., 2009). Males have to make financial decisions more frequently, therefore they understand the financial concepts much better than females (Ansong and Gyensare, 2012).

Some scholars have highlighted variation in the financial literacy level of different age groups (e.g., Ansong and Gyensare, 2012; Farrar et al., 2019). Their findings suggest that the financial literacy level improves with age (Kiliyanni and Sivaraman, 2018), and financial knowledge accumulates over time (Agarwal et al., 2009). Students learn financial knowledge from public and private sector universities. Therefore, it is crucial to gauge any difference in the FIL level based on the sector of the university. A study conducted by Cordero, Gil-Izquierdo, and Pedraja-Chaparro (2020) has found that students enrolled in private institutions and non-governmental organizations (NGOs) have more financial knowledge than others. The nexus between the level of education (qualification) and financial literacy is found significant and positive, as evidenced by existing literature (e.g., Albeerdy and Gharleghi, 2015; Kiliyanni and Sivaraman, 2018). A higher level of schooling leads to a higher level of financial literacy (Ergün, 2018; Lusardi and Mitchell, 2011), which implies that those with less education are less likely to answer questions correctly (Chen and Volpe, 1998).

Besides the level of education, their fields of study also influence the financial literacy level of students. Existing literature has confirmed that the students from business and economics schools are more financially literate than others (Kiliyanni and Sivaraman, 2018; Lantara and Kartini, 2015); because they learn various financial concepts in their courses (Chen and Volpe, 1998). Additionally, the Cumulative Grade Points Average (CGPA) also influences the financial literacy level of university students. However, Nidar and Bestari (2012) explored this relationship and found no significant influence of CGPA on the FIL level of students studying at the Padjadjaran University of Indonesia. The place of residence matters a lot in determining the financial literacy level of students. Extant literature reveals that students residing in hostels are more literate than day scholars because they face financial issues during hostel life (Ergün, 2018); which make them more financially literate than day scholars. The review of extant literature related to demographic characteristics reveals inconclusive findings due to the dearth of empirical evidences related to FIL especially in the Pakistani context. Therefore, the following hypothesis is proposed:

> $H_{\circ 1}$: There is no significant difference in the FIL level of university students based on demographic characteristics.

Besides demographic factors, the existing literature covers various socio-economic characteristics, including advice on financial matters, sources of financial information, parental income, family investment in shares, having a bank account, and taking finance courses. Financial advice from mother, father,

or friends influences the literacy level of students. A study conducted by Ergün (2018) reveals that students who follow the advice of their friends on financial matters are found more literate than other students. The latter followed the advice of their parents. According to the family financial socialization theory, financial literacy among youth is influenced by the child's family (Te'eni-Harari, 2016). Within a family, parents remain the most important source of knowledge about managing personal finances (Nidar and Bestari, 2012). An individual can obtain financial information from various sources, notably, newspapers, books, social media sites, or university education (Ergün, 2018). The findings of Ergun (2018) suggest university education as a valid and reliable source of financial information that influences the literacy level of students. The family background of students also has a crucial role in accessing their financial literacy level. Higher parental income facilitates the students in achieving a higher level of financial literacy (Erner et al., 2016).

The FIL level of university students is also based on the choice of taking a finance course. Students who took a finance course are more knowledgeable than others (Ergün, 2018). This is confirmed by Cordero, Gil-Izquierdo, and Pedraja-Chaparro (2020), who employed a difference-in-differences approach and found that students who received a finance course are more literate than others. Nidar and Bestari (2012) suggested that Indonesian universities introduced finance courses as a minor in all disciplines to improve the financial knowledge of students. Based on having a bank account, Nidar and Bestari (2012) examined the difference in the financial literacy level of students and found that students having a bank account were more financially literate than others. Family investment in shares is also an essential factor affecting the financial literacy level of students. However, no empirical evidence is found to support this relationship. A review of the pertinent literature reveals inconclusive findings on various socio-economic characterizes in developing countries. Thus, the following hypothesis is postulated:

$H_{\circ 2}$: Based on socio-economic characteristics. there is no significant difference in FIL level of university students

In the Pakistani context, two studies have been found (e.g., Ahmed et al., 2016; Ghaffar and Sharif, 2016). Ghaffar and Sharif (2016) gauged the financial behavior of individuals in Karachi. Another study conducted by Ahmed et al. (2016) examined the financial literacy of non-business students of Karachi through the application of financial management in their daily lives. A review of the limited empirical evidence from Pakistan reveals that no study has been conducted to test the financial knowledge of students and its inter-relationship with various demographic and socio-economic characteristics. Therefore, the present study aims to broaden existing literature by assessing the FIL level of non-commerce students enrolled in various universities of Lahore.

Research methods and data collection

The population for this study was comprised of students enrolled in various HEC recognized universities of Pakistan. For selecting a sample, this study has followed a multi-stage sampling design. Initially, this study considered only those Pakistani universities included in the list of QS Asia Ranking 2019[1]. Using area sampling, only Lahore based universities were chosen because it is the hub of major Pakistani universities. Then the sample was categorized into public and private sector universities[2]. We sent consent letters to the concerned authorities of universities to seek their permission to collect data. Among those universities, four universities from each sector who consented to participate in this survey were chosen. Finally, data was gathered only from conveniently available non-commerce students. The rationale behind the exclusion of commerce students is that they have enough financial knowledge because they go through courses related to accountancy and finance.

This study is conducted to examine various demographic and socio-economic characteristics and their inter-relationship with the FIL level of university students. The demographic characteristics include gender, age, sector (either public or private), level and discipline of study, and residence. The socio-economic characteristics include information relating to advice on financial matters, family's investment in shares, monthly income of parents, the possibility of having a bank account, and finance course. Based on item response theory, FIL has been operationalized by the total score obtained by each student in the test comprising multiple-choice questions (see also Kiliyanni and Sivaraman, 2018).

To gather data, we developed an instrument based on guidelines from the existing literature (e.g. Aydin and Selcuk, 2019; Potrich, Vieira, and Mendes-Da-Silva, 2016) and modified to suit the research needs

Table 1. Percentage of correct responses

		Level of Financial Information Literacy		
Question No.	Subject of Questions	Low Below 60%	Median 60%-79%	High 80% or Above
1	Sharing of ATM password		61.78	
2	Usage of ATM		65.18	
3	The safest place for keeping money			86.65
Mean	Banking Knowledge		71.20	
4	10 K in figure			89.01
5	Ratio			85.34
6	Economic activity		71.73	
7	Amount of loan			89.53
8	Owner of rental property	54.71		
Mean	General Financial and Mathematical Knowledge		75.33	
9	Wealth distribution	41.1		
10	Money Illusion		71.47	
11	Relationship between profits and inflation		64.92	
Mean	Time Value of Money	59.16		
12	Compound interest	43.98		
13	Topic to discuss with an investment advisor	56.28		
14	Spending		65.18	
15	Relationship between return and risk	45.29		
Mean	Knowledge regarding Interest, Investment, Spending, and Risk-Return	52.68		
	Overall Mean Percentage		66.14	

in the context of Pakistan. Farrar et al. (2019) and Lantara and Kartini (2015) have also developed local scales based on their country's context. To record the FIL level of students, we carefully reviewed pertinent literature and, in line with item response theory (Knoll and Houts, 2012), initially generated 20 multiple choice questions covering the areas of general financial and mathematical knowledge, banking, interest, spending, time value of money, and risk-return relationship. Sections A and B of the instrument were related to demographical and socio-economic characteristics. After development of a questionnaire, we launched a pilot study of 80 responses to testify the functionality of the survey instrument. Then items were modified and reduced to 15, as per the feedback received from non-commerce students. The validity of the instrument was also evaluated by experts having knowledge of FIL (e.g., Chen and Volpe, 2002).

After modifying the questionnaire and satisfying its validity, we distributed 400 self-administrated questionnaires[3] among students, and 382 students completed and returned the questionnaire[4]. The data were analyzed by descriptive and inferential statistical techniques using SPSS 21 Software. Under descriptive statistics, we have examined the characteristics of the sample using frequency table and percentage of correct response technique (e.g., Ergun, 2017; Farrar et al., 2019; Kiliyanni and Sivaraman, 2018), to check the percentage of correct answers to each of the questions asked. We have also characterized the percentage of correct responses in three categories, namely, low, medium, and high levels of FIL, consistent with existing studies (Ergun, 2018; Sarigul, 2014). Under inferential statistics, we have compared various groups based on FIL, in line with existing literature (e.g., Shaari et al., 2013; Wright, 2016).

Results and discussion

Table 1 represents the percentage of correct responses obtained from 382 students. The overall mean rate of correct answers is 66.14%, which represents a medium level of FIL, thus implies that students from universities included in the sample have a moderate level of overall financial knowledge. The mean percentage of banking knowledge is 71.20%, which represents an average level of knowledge regarding banking products and services. Sarigul (2014) also found moderate knowledge about banking among 1099 students from three universities in Kenya. The average percentage of general financial and mathematical knowledge is 75.33%, which also demonstrates a moderate level of knowledge; which is confirmed by the study of Acheampong (2015), who gauged the FIL level of 140 students enrolled in Christian Service University College, Ghana.

The mean percentage of the time value of money is 59.16%, which represents a low level of knowledge, thus implies that non-commerce students have little financial knowledge related to the time value of money. This finding is consistent with Nidar and Bestari (2012), who also observed low financial knowledge of university students related to the time value of money. Knowledge regarding various finance areas like interest, investment, spending, and risk-return relationship is 52.58%, which shows low financial knowledge of non-commerce students. This finding is also in agreement with the study of Nidar and Bestari (2012). The overall statistics of correct responses show that weak areas of non-commerce students include the time value of money, interest, investment, spending, and risk-return relationship.

Table 2 represents the difference in the FIL level of university students based on various demographic and socio-economic characteristics. Before gauging the differences, this study tested the normality of FIL scores using one sample KS test and found the non-normality of the data. Thus we applied non-parametric tests to gauge the differences in the FIL level, such as Mann Whitney U test (for two groups) and Kruskal Wallis Test (for more than two groups).

There is a significant difference in gender based on the level of FIL. The mean ranks of the male students are significantly higher than their female counterparts, which implies that males are more financially literate than females, as confirmed by existing literature (e.g., Garg and Singh, 2018; Gramaţki, 2017; Shimizutani and Yamada, 2019). The lower FIL levels of females are due to their less eagerness, practical exposure, and readiness to learn about finance (Chen and Volpe, 1998). This study has also found a significant difference in the FIL level based on age groups. The mean ranks of the age group above 26 (represent 3.93% of the total sample) are significantly higher than other age groups (i.e.,18-22 and 23-26). This substantiates previous findings in the literature (e.g., Ansong and Gyensare, 2012; Kiliyanni and Sivaraman, 2016). The reason behind the higher FIL level of age group above 26 is that knowledge accumulates over time (Kiliyanni and Sivaraman, 2016).

Based on the sector (public or private university), there is a significant difference in the FIL level of university students. Mean ranks of private sector universities are higher than those of public sector universities, which is further confirmed by the study of Cordero, Gil-Izquierdo, and Pedraja-Chaparro (2020). This finding implies that, despite having limited resources, private universities in Pakistan are better in providing practical exposure and financial education to their students than public sector universities. Based on the level of education, this study has found a significant difference in FIL. The mean ranks of post-graduates are higher than undergraduates, which confirms that higher qualifications are associated with a higher level of FIL. The findings are in agreement with existing literature (e.g., Sarigul, 2014).

Based on the field (discipline) of the study, the findings suggest no difference in the FIL level of university students, which is consistent with the findings of Kiliyanni and Sivaraman (2018) and Oseifuah et al. (2018). This finding implies that financial education, in any discipline, may have little influence on the practical lives of students (Kiliyanni and Sivaraman, 2018). The difference in the FIL level of students is also assessed based on their CGPA. The findings reveal a significant difference in mean ranks of students' CGPAs, showing that higher CGPA leads to a higher tendency of being financially literate. However, this finding significantly differs from the study of Nidar and Bestari (2012). They found no difference in financial knowledge based on CGPAs of university students in Indonesia. Based on residential status, findings reveal a significant difference in FIL of those students who

Table 2. Demographic and socio-economic differences in financial information literacy

Variable	Chi-Square/Z	Category	Proportion	Mean Ranks
Gender	-2.204**	Male	51.57	203.50
		Female	48.43	178.72
Age	8.521**	18-22	73.30	182.96
		23-26	22.77	208.29
		Above 26	3.93	253.57
Sector	-1.808*	Public University	51.57	181.66
		Private University	48.43	201.98
Level of Education	-1.884*	Undergrad	74.87	185.37
		Postgrad	25.13	209.77
Field of the study	0.498	Natural Sciences	26.44	191.54
		Arts And Humanities	23.30	186.28
		Engineering	23.82	197.68
		Social Sciences	26.44	190.50
CGPA	7.184*	2-2.5	9.16	180.89
		2.51-3.0	21.20	167.03
		3.01-3.50	42.67	194.72
		3.51-4	26.96	209.26
Hostel	-3.442***	Yes	34.03	218.42
		No	65.97	177.61
Advice on Financial Matters	18.342***	Father	45.03	205.44
		Mother	24.61	164.31
		Friends	6.02	129.09
		Other Family Members	8.38	213.81
		Does not Follow	15.97	205.93
Source of Financial Information	5.961	TV	13.61	201.97
		Newspapers	17.02	216.06
		Books	3.40	187.96
		Finance Sites	14.40	189.95
		Social Media Apps	47.91	179.75
		Government Publications	3.66	201.50
Parental Monthly Income (in PKR)	25.294***	Upto 30,000	15.49	176.80
		30,001 To 60,000	21.78	151.73
		60,001-90,000	24.15	183.17
		Above 90,000	38.58	223.77
Finance Course	-8.303***	Minor	33.20	257.59
		Not Attended	66.80	158.58
Family Investment in Shares	0.315	Yes	25.13	200.78
		No	74.87	187.75
Bank account	-2.431**	Yes	48.68	204.49
		No	51.32	177.23

Note: ***, **, and * denotes significance at 1%, 5%, and 10% levels respectively.

reside in hostels, which is confirmed by Ergün (2018). In light of the discussion above, $H_{\circ 1}$ is partially rejected.

Based on financial advice taken by students, findings show a significant difference in FIL. The mean ranks of those students who follow the financial advice of other family members like elder siblings and grandparents are higher than those of others. However, this finding is contradictory with Ergün (2018), who has gauged the FIL level of university students belonging to eight European countries. The contradicting outcome is due to differences in the context of European countries from Pakistan, where students live with their parents,

sometimes in a joint family. Therefore, financial advice taken from other family members and fathers has a significant influence on the financial knowledge of students.

The study has found no significant difference in the FIL level based on the source(s) from which students obtains financial information. The mean ranks of newspapers, as a source of financial information, are slightly higher than those of other sources. Our findings are not consistent with those of Ergün (2018), who found a higher FIL level of those students obtaining financial information from the university as compared to social media apps. A significant majority of Pakistani students included in the sample use social media as a source of financial information.

There is a significant difference in the FIL level of students based on parental monthly income, which is consistent with Oseifuah et al. (2018). The mean ranks of students whose parents have monthly income above 90,000 rupees are significantly higher than other groups. The higher level of parental monthly income is positively associated with the FIL of students. This study has found a significant difference in the FIL level of those students who have taken a finance course as a minor, which is in agreement with existing literature (e.g., Ergun, 2018). Based on the possession of a bank account, there is a significant difference in students' FIL scores. The mean ranks of students having bank accounts are higher than those of other students who don't have a bank account, which is consistent with Nidar and Bestari (2012). Based on family investment in shares, this study has not found any difference in the FIL scores of students. This may be because of less interest among non-commerce students in matters related to investment in shares. To the researchers' knowledge, this aspect of socio-economic characteristics has not yet been investigated, thus making it a novel element of the study. As per the above discussion related to socio-economic characteristics, H_{o2} is partially rejected.

Conclusion, implications, limitations, and future recommendations

Financial information literacy (FIL) is the degree to which individuals are knowledgeable about financial products and services, and they are better able to handle their financial issues. The review of existing literature revealed limited empirical evidence of attempts to gauge FIL in the context of Pakistan (e.g., Ahmed et al., 2016; Ghaffar and Sharif, 2016). However, these studies examined FIL in terms of financial behavior instead of financial knowledge. Therefore, in response to the identified gap, this cross-sectional survey was conducted to explore the role of FIL and its inter-relationships with demographic and socio-economic characteristics. We have gathered data from 382 non-commerce students of eight universities found in QS Asia ranking 2019. The data collected have been analyzed by the mean percentage of a correct response analysis technique and group comparisons.

To achieve the first objective regarding the extent of the FIL level of university students, we employed the mean percentage of correct response technique. The findings reveal that university students had a moderate level of financial knowledge regarding banking, general finance, and mathematics. However, regarding core financial concepts like the time value of money, interest, investment, spending, and risk-return relationship, they had low levels of financial knowledge. The second underlying objective was related to examining any difference in the FIL level of students based on demographic and socio-economic characteristics. The findings revealed that male students who had graduated, were aged above 26, admitted to a private university, residing in a hostel, and scoring higher CGPA were more financially literate than others. The study observed that those students who followed the advice of other family members, took finance courses as minor, had a bank account and higher parental income were more knowledgeable about finance than others.

The findings have important implications for various stakeholders like students, universities, and society at large. Regarding students, our results highlight that FIL plays a crucial role in their lives. A higher level of financial knowledge not only helps them in terms of controlling their unwanted expenses, but also guides them in better decision making, thus minimizing the risk of bankruptcy in the future. To cope with an uncertain future, university students should follow the advice of others on financial matters. Our findings are also of crucial importance for policymakers. They suggest that universities should introduce finance courses regardless of the discipline, covering the areas of basic and core financial concepts.

Universities should also develop a mechanism (like a test) to regularly assess the financial understanding of their students and arrange seminars, workshops, and training sessions to impart updated financial knowledge. Such extracurricular activities should aim at enhancing the financial knowledge of university students, which ultimately helps them in making better financial decisions. The State Bank of Pakistan should also play a role by conducting awareness sessions on FIL at the university level.

Despite best efforts, we observed certain deficiencies, including a small sample size as the data have been collected from 382 students from eight universities. Therefore, the findings may only not be generalizable to other universities of Pakistan. It is recommended to potential scholars to enlarge the sample size covering all HEC recognized universities. Moreover, FIL has been measured using only 15 multiple choice questions; future researches should further refine and enlarge the items of the questionnaire. Another limitation is related to FIL, as we have operationalized it in terms of financial knowledge, thus ignored other associated aspects such as perceived financial behavior and attitude. Potential scholars can examine the nexus between financial knowledge and financial attitude through the interactive role of financial behavior. This study is confined to demographic and socio-economic factors; potential researchers are recommended to consider other factors like cognitive ability, financial socialization, and their interrelationship with FIL. Finally, this study has covered only one aspect of FIL, i.e., financial knowledge; potential scholars may consider other elements like credit card literacy, mobile literacy, Islamic finance literacy, and microfinance literacy.

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Notes

1. See list of universities at https://www.topuniversities.com/university-rankings/asian-university-rankings/2019
2. See distribution of sample from Appendix B.
3. See Appendix A for complete questionnaire.
4. We discarded 18 responses which were found incomplete.

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Appendix A

Questionnaire

Dear Participant, this questionnaire is designed to assess the relationship between demographical characteristics and financial literacy of university students. All responses are kept confidential.
Many Thanks for your participation.

Section A: Demographic Information

1. Gender:
   a) Male b) Female
2. Age:
   a) 18-22 b) 23 to 26 c) Above 26
3. Sector:
   a) Public University b) Private University
4. Program of the study:
   a) Undergraduate b) Post Graduate
5. Department _____
6. CGPA _____
7. Reside in hostel:
   a) Yes b) No

Section B: Socio-Economic Information

8. Mostly follow advice on financial matters:
   a) Father b) Mother c) Friends d) Other family members e) Does not follow
9. Major source of financial information:
   a) TV b) Newspapers c) Books d) Finance sites e) Social Media apps f) Government publication
10. Parental monthly income:
    a) Upto 30,000 b) 30,001 to 60,000 c) 60,001 to 90,000 d) Above 90,000
11. Family's investment in Shares:
    a) Yes b) No
12. Do you have a bank account:
    a) Yes b) No
13. Attended Finance Course as:
    a) Major b) Minor c) Not attended

Section C: Financial Information Literacy

1. ATM password should be shared only with:
   a) Spouse/husband b) Obedient son/daughter c) Friend d) None of them
2. ATM can be used for:
   a) Cash withdrawal b) Amount enquiry c) Statement of account d) All of them
3. Safest place for keeping money:
   a) A put dug in the ground b) Iron box c) Bank d) Money lender
4. 10 K means
   a) 100 b) 1000 c) 10,000 d) 100,000

5. Imagine that five brothers are given a gift of Rs.1000. If the brothers have to share the money equally how much does each one get?

a) Rs. 100 b) Rs. 200 c) Rs. 300 d) Rs. 400

6. Ali gets up, dresses, brushes his teeth, eat breakfast, goes to college, buys gum at the school store and reports to his first class. Which of these would be considered as an economic activity?
   a) Brushing teeth b) Eating breakfast c) Buying gum d) Going to class
7. If you have amount of loan, is it good?
   a) True b) False
8. In regard to rental property, the person who owns and rents the property is known as:
   a) Landlord b) Investor c) Broker d) Tenant
9. Assume Osama inherits Rs. 100,000 today and his sibling will inherit Rs 100,000 but after 3 years from now. Who is richer today because of the inheritance?
   a) Osama b) His sibling c) Both are
10. Suppose in year 2020, your income has doubled and prices of all goods have doubled too. In 2020, will you be able to buy more, the same or less than today with your income?
    a) Buy more than today b) Buy the same as today c) Buy less than today
11. Imagine that the rate of profit on your savings account was 1% per year and inflation was 3% per year. After one year, would you be able to buy more, the same or less than today with the money in account?
    a) Buy more than today b) Buy less than today c) Buy the same as today
12. Suppose you put money in the bank for two years and bank agrees to add 15% per year to your account. Will the bank add more money to your account in the second year than it did in the first year, or will it add the same amount of money both years (assuming compound interest)?
    a) More b) The same c) The less
13. Which of the following is an important topic to discuss with a potential investment advisor?
    a) Marital status b) Hometown c) Educational expenditures d) Personal wealth equally rich
14. Which of the following is not usually associated with spending?
    a) Debit card b) credit card c) savings account d) cash
15. An investment with high return is likely to be high risk.
    a) True b) False c) Don't know

Appendix B

Distribution of Sample

University	Sample Distribution	Responses Received
Lahore University of Management Sciences (LUMS)	50	48
University of Central Punjab (UCP)	50	46
University of Management and Technology (UMT)	50	49
University of Lahore (UOL)	50	43
COMSATS Institute of IT (COMSATS)	50	49
Lahore College for Women University (LCWU)	50	50
Government College University (GCU)	50	47
Punjab University (PU)	50	50
Total	400	382