

Revisiting the concept of Islamic financial literacy in a boundaryless context: cross-country comparison of Islamic financial literacy

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Abstract

Purpose – There is a growing body of literature that recognizes the importance of Islamic financial literacy (IFL) while it is at the heart of our understanding of the overall financial system. To date, insufficient attention has been paid to Turkey, the Balkans and other potential Islamic finance hubs like Suriname. In fact, there have been no attempts to examine IFL in those regions or economies. The purpose of this paper is to test and validate the IFL scale developed by Dinc *et al.* (2021) in an international setting. By doing so, this study elaborates on possible antecedents and levels of IFL across countries and economic systems.

Design/methodology/approach – The design of the questionnaire used is based on the principles of Islamic finance and covers all the segments. The total number of collected observations is 3,579. This study uses the confirmatory factor analysis (CFA) to ascertain the factor structure and test the revised scale fit with the original form. Besides, IBM AMOS 25 Graphics is used for calculating the fit indexes for the scale.

Findings – The results from the CFA revealed that the scale has a good fit for its original and kept the four-dimensional structure. In addition, it also indicates that the predeveloped IFL scale is valid for different cultures, countries and individuals either having conventional or Islamic financial institutions preferences. Furthermore, results of empirical tests demonstrate that Turkey is significantly higher in Islamic financial awareness, whereas other countries' group is higher on all other subdimensions of the scale. On the other hand, female respondents indicate significantly higher levels of Islamic financial awareness, and male respondents show significantly higher levels of Islamic financial knowledge. Finally, the most prominent finding to emerge from the analysis is that the principles of Islamic finance are well accepted, except for some liberal views on the concept of "interest" (riba).

Research limitations/implications – Because of the diverse demography of the collected sample observations, this revised scale has a homogeneous set of implications. This IFL scale can accurately measure



the level of IFL attained by an individual, group, society or nation, as well as suggest necessary actions based on its four-dimensional structure.

Originality/value – This study tests the IFL scale by considering two key elements: increased sample size and vast geographical coverage. To ensure that the developed scale is universal, this study took into account more than 3,000 observations from 28 different countries. These amendments ensure the uniqueness of this paper and its originality.

Keywords Islamic financial literacy, Financial literacy, Islamic finance, Islamic banking

Paper type Research paper

1. Introduction

Islamic financial literacy (IFL) stands out as a growing and developing research area across academia. Researchers in different world jurisdictions have conducted and reported a significant number of studies about IFL. [Abdullah *et al.* \(2015\)](#) discussed various factors or dimensions that affect the concept of IFL. They showed that literacy development is not just increasing people's general financial literacy (FL) but their IFL knowledge, which complies with the objective of *maqasid al-Shari'ah*. FL can be considered under preserving property backed by wisdom behind behaviors ([Auda, 2008](#)).

Previous studies have different approaches when it comes to the concept of IFL. Among them, the following are the major topics focused on by a significant number of researchers: the effect of literacy on Islamic banking, the relationship between FL and business performance and measuring literacy levels with a conceptual explanation ([Setyowati *et al.*, 2018](#); [Ganesan *et al.*, 2020](#); [Gunawan *et al.*, 2021](#); [Dewi and Ferdian, 2021](#); [Trianto *et al.*, 2021](#)). Those studies imply the need for further analysis of IFL. In addition, numerous research were conducted to develop the scale of IFL in various countries; however, enough attention has not yet been paid to high-potential economies like Turkey, the Balkans and other potential Islamic finance hubs such as Suriname. Aside from this, there is an insufficient number of studies covering segments of Islamic finance and various economies across the globe. Therefore, a detailed analysis of IFL is imperative for financial institutions, investors, regulators and third parties to create a solid and sustainable Islamic financial architecture. It will benefit the economies if developments are examined critically at the time.

Islamic finance, which foresees an economic paradigm based on cooperation and collaboration instead of competition, operates on principles aiming at the overall welfare of humanity. These principles include forbidding interest, unhealthy products, gambling and eliminating uncertainty. Another important principle should also be added to these four, that is, forbidding risk transfer, but not risk sharing. Along with this study, previous studies showed that these principles are well-accepted by people from different worldviews. However, the concept of interest is still shaping the behaviors of economic actors in emerging economies because of the effect of capital scarcity.

The main challenge in changing the paradigm is removing the concept of “interest” (*riba*) from the economy. And this can be considered the main reason why many jurisdictions use Islamic finance or interest-free finance as synonyms.

While IFL is a duty to Muslims, it is also a solution for humanity to better understand the economic environment. The concept of FL has gained a character that canalizes people's assets to the exploitation areas of capitalism. However, it has been recognized as an indicator of wisdom, knowledge and prestige. There are various factors that affect financial or IFL, for example, knowledge, education, attitude, gender, behavior and confidence ([Nidar and Sandi, 2012](#); [Abdullah *et al.*, 2015](#); [Antara *et al.*, 2016](#); [Ahmad *et al.*, 2020](#)). In fact, IFL depends on better skills for understanding the characteristics of financial activities and the

concept of interest (*riba*). Unfortunately, people are unaware of the concept of interest; even academia and professionals involved with the financial sector have an inconspicuous understanding of it. The majority of people know only a few Islamic financial contracts and how these work without realizing the philosophical aspect of these contracts. Therefore, people should know the answers to the following questions in the first place, that is, Why do we need Islamic finance in the first place? How devastating is the concept of “interest”? and What are the detrimental impacts of interest (*riba*) on an individual and social domain?

To answer these questions, acquiring IFL is imperative for all, especially people involved in economics and finance. Many studies have already focused on this issue and proposed and developed various indices and scales. However, the factors, sample size and geographic areas they considered are not sufficient to accept the scale as universal. Although a recently published IFL scale developed by [Dinc et al. \(2021\)](#) has resolved two of the three issues, that is, factors and sample size, the broad geographic coverage remains as a constraint for claiming the IFL scale as the universal one. The current study contributes to this gap by focusing on the vast geographic areas to develop the universal IFL scale.

We use a considerable amount of observations from a large number of countries and regions. The main objective of this paper is to develop a universal IFL scale by investigating global contexts, including different socioeconomic, cultural and religious backgrounds. Indeed, the widely used variables and a significant number of observations from different countries and continents differentiate this IFL scale from other scales. In this process, we adopt the IFL scale developed by [Dinc et al. \(2021\)](#) by using 3,579 observations from 28 countries (see [Table A1](#), [Appendix 2](#)) from different regions in the world – mostly the Balkan countries and some OIC member countries which have not collected enough attention yet in IFL related studies. We analyzed the findings of the sample study and strengthened the implication of the IFL scale by amending the increased observations

Authors	Definitions
Lusardi and Tufano (2015)	The ability to make simple decisions regarding debt contracts, in particular, how one applies basic knowledge about interest compounding, measured in the context of everyday financial choices
Lusardi and Mitchell (2008)	Knowledge of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk diversification
Mandell and Klein (2007)	The ability to evaluate the new and complex financial instruments and make informed judgments in both choice of instruments and extent of use that would be in their own best long-run interests
Worthington (2006) Moore (2003)	Mathematical ability and the understanding of financial terms Individuals are considered financially literate if they are competent and can demonstrate they have used knowledge they have learned. Financial literacy cannot be measured directly so proxies must be used. Literacy is obtained through practical experience and active integration of knowledge. As people become more literate they become increasingly more financially sophisticated and it is conjectured that this may also mean that an individual may be more competent
Anderson et al. (2000)	The ability to read, analyze, manage and communicate about the personal financial conditions that affect material well-being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future and respond competently to life events that affect everyday financial decisions, including events in the general economy

Table 1.
Definitions of
financial literacy

Source: [Hidajat and Hamdani \(2017\)](#)

and analyzing items (Figure A1, Appendix 1). Among the observations, 51.1% are female and the rest are male respondents. Considering the age of respondents, 1,702 of the respondents are between the 18 and 23 years age group, 809 of them are between the 24 and 30 years age group and 583 are from the 31–35 years age group.

The reminder parts of the study are arranged as follows. Section 2 reviews literature relating primarily to IFL. In Section 3, we describe the methods that were used to analyze the data collected. Section 4 represents and analyzes the findings of the study. Section 5 presents discussion. Finally, Section 6 concludes.

2. Literature review

The concept of FL is relatively new in the arena of financial knowledge. However, the FL history can be traced back to 1,787, when a letter mentioning the imperative of FL was written by John Adams to Thomas Jefferson (Hidajat and Hamdani, 2017). In this context, the concept of IFL is even newer than the conventional one; in other words, it is in its initial stage of development. However, a significant amount of literature has recently been carried out based on the concept of IFL. The conducted studies mainly concentrated on the micro aspect of IFL, that is, the IFL level of students, the factors that affect the IFL scale and the measurement of the IFL scale. For instance, Dinc *et al.* (2021) developed an IFL scale focusing on Islamic financial behavior, knowledge, awareness and attitude. This study is an amended version of the developed IFL scale by analyzing the scale from the macro or broad perspective based on the primary data stream from different countries and continents. Precisely, the amendments of this study primarily are the increased sample size and item analysis.

Although this study aims to strengthen the implication of the IFL scale developed by Dinc *et al.* (2021), familiarizing with the FL concept will provide a solid background to understand the scale properly. Table 1 shows some definitions of FL.

Considering the IFL scale developed by Dinc *et al.* (2021), the study collected 698 *a priori* items from 81 respondents as part of a scale development process to build the IFL measure or scale. Later, it created an item pool by analyzing the items with experts and delivering the final form (40 items) to 287 respondents along with another IFL measure often used in the literature and a religiosity scale. The scale revealed a four-component construct with 20 items using explanatory factor analysis. Along with this study, the statistical details of the IFL scale are also available in the research report conducted by Dinc *et al.* (2020). The following studies summarize various aspects of IFL.

As mentioned earlier, a considerable amount of studies have been conducted concentrating on the concept of IFL. To ensure clarity and preciseness of this study, we mainly discussed the literature, which focused on the factors that affect the FL scale. Ahmad *et al.* (2020) identified two potential underlying factors or dimensions of IFL, known as “subjective knowledge of Sharia compliance” and “subjective knowledge of *riba* and profit-sharing.” Similarly, Antara *et al.* (2016) recognized two dimensions of IFL, namely, “Islamic finance principle” and “Islamic finance methods.” Hidajat and Hamdani (2017) developed a questionnaire form consisting of some questions (True or False), reflecting “*riba*, *salam*, *murabahah*, *istishna'*, *ijarah*, *mudharabah* and *musyarakah*.” There have been studies arguing that IFL requires an understanding of non-Shariah compliant elements such as *riba*, *gharar* and *maysir* that are involved in transactions (Biplob and Abdullah, 2019; Sari *et al.* (2022). Rahim *et al.* (2016) discussed three dimensions or factors of IFL scale:

- (1) religiosity;
- (2) hopelessness; and
- (3) financial satisfaction.

Furthermore, [Widityani et al. \(2020\)](#) proposed three factors or dimensions that help to develop the IFL of college students: “attitude,” “perception” and “knowledge and behavior.” Similar factors or variables such as “financial knowledge,” “financial behaviors” and “financial attitudes” are found that affect IFL ([Setyawati and Suroso, 2016](#); [Alfarisi et al., 2020](#)). [Abdullah et al. \(2015\)](#) documented “attitudes to personal financial management,” “gender” and “education level” as the variables that affect IFL.

It is worthwhile to discuss the factors or dimensions that affect the conventional FL scale to understand the scale comprehensively. For instance, [Huston \(2010\)](#) emphasized two dimensions of FL (not IFL), “knowledge” and “application.” [Remund \(2010\)](#) categorized five dimensions of FL, that is, “knowledge about financial concepts,” “ability to communicate about financial concepts,” “aptitude in managing personal finances,” “skill in making appropriate financial decisions” and “confidence in planning effectively for future financial needs.” [Nidar and Sandi \(2012\)](#) found variables or factors that have a significant association with the FL scale, for example, “level of education,” “faculty,” “personal income,” “knowledge from parents,” “parents’ income” and “ownership of insurance.” [Definit et al. \(2013\)](#) identified that gender, education level and income significantly correlate with FL.

Besides these studies, a significant number of other research have focused on the factors that affect FL. This study does not encompass the documentation of all available literature because it would only increase the likelihood of repetition of similar variables. Essentially, the purpose of articulating these studies is to identify the variables that are most frequently used in determining FL. There are some common variables or factors recognized in the aforementioned studies, including knowledge, education, attitude, gender, behavior and confidence. Studies are typically focused on a specific country (e.g. Malaysia) or a particular group of individuals (e.g. university students). There is no single study that covers the vast majority of the world’s demographics or observations. As a result, [Dinc et al. \(2021\)](#) developed the IFL scale taking into account the four most common variables that are found in FL studies, namely Islamic financial behavior, knowledge, awareness and attitudes.

3. Methodology

We used the confirmatory factor analysis (CFA) to reveal the factor structure and test its fit with the original form as well as the scale’s fit indexes. Factors were structured, and reliability statistics were calculated. Furthermore, zero-order relationships among the study variables were determined using Person correlation coefficients via correlation analysis. On the other hand, independent sample *T*-test and one way ANOVA are used to analyze the significance of the difference between categories for the factors of IFL.

3.1 Sample

In this study, the data were collected from 28 countries across the globe through online and written forms from November 2019 to February 2020. During the study, Suriname, Albania, Macedonia, Bosnia and Herzegovina, Serbia, Montenegro and Kosovo are visited to collect written forms from local respondents. The researchers traveled more than 10,000 km during the data collection period. The respondents were from diverse backgrounds, such as regulators, financial sector players, business professionals, households and university students. The size of the collected observations was 3,579 in total; particularly, 3,048 of the respondents were from Turkey and 531 respondents were from other countries. This higher number of respondents from Turkey is reasonable because its population is more than four times larger compared to the selected Balkan countries. In addition, the respondents from Turkey are homogeneously distributed to all provinces. Among these respondents, 1,830 respondents were female (51.1%), and the rest of the respondents were male. Considering the

age group, 1,702 respondents were from the 18–23 years age group, 809 respondents were from the 24–30 years age group and 583 respondents were from the 31–35 years age group (Table 2).

Following the aim of the study, we targeted a variety of countries to capture sufficient variability to reach a generalizable foundation for the scale as much as possible. The criteria for selecting the countries are shaped based on different levels of economic development, different structures and levels of Islamic finance in the market, various cultural characteristics, demography and religious distributions. As all the data are primary data that the authors collected personally, convenience sampling [1] is another critical determinant for the country selection. The steps of the analysis include:

- CFA;
- reliability analysis;

Particulars	Frequency	%	Valid (%)	Cumulative (%)
<i>Turkey and other countries</i>				
Valid				
Turkey	3,048	85.2	85.2	85.2
Other countries	531	14.8	14.8	100.0
Total	3,579	100.0	100.0	
<i>Gender</i>				
Valid				
Female	1,830	51.1	51.1	51.1
Male	1,749	48.9	48.9	100.0
Total	3,579	100.0	100.0	
<i>Age</i>				
Valid				
18–24	1,702	47.6	47.6	47.6
25–34	809	22.6	22.6	70.2
35–44	583	16.3	16.3	86.4
45–54	364	10.2	10.2	96.6
55 or older	121	3.4	3.4	100.0
Total	3,579	100.0	100.0	
<i>Education</i>				
Valid				
Elementary	260	7.3	7.3	7.3
High school or equivalent	517	14.4	14.4	21.7
Trade/technical/vocational training	574	16.0	16.0	37.7
Bachelor	1,796	50.2	50.2	87.9
Master's or PhD	432	12.1	12.1	100.0
Total	3,579	100.0	100.0	
<i>Occupation</i>				
Valid				
Employed for wages (private)	785	21.9	21.9	21.9
Employed for wages (public)	589	16.5	16.5	38.4
Self-employed	322	9.0	9.0	47.4
Business owner	269	7.5	7.5	54.9
Out of work and looking for work	602	16.8	16.8	71.7
Others	1,012	28.3	28.3	100.0
Total	3,579	100.0	100.0	

Source: Authors' own elaboration

Table 2.
Demographics
section of the survey

- correlation analysis;
- descriptive analysis; and
- difference tests.

The process of the analysis is explained in the results and discussion section.

3.2 Measures

We used the IFL scale developed by [Dinc et al. \(2021\)](#). The original scale has four dimensions, that is, Islamic financial behavior, Islamic financial knowledge, Islamic financial attitude and Islamic financial awareness. [Dinc et al. \(2021\)](#) reported high-reliability scores ranging from 0.695 to 0.870 (Cronbach's alpha). Besides, fit indexes for the scale indicate adequate to a good fit. Along with the primary questions, the sample questionnaire also includes demographic variables such as gender, age, education level and information regarding the country.

4. Results and discussion

4.1 Confirmatory factor analysis

CFA is conducted to analyze the factor structure of the scale. To ensure the universality of the previous IFL scale developed by [Dinc et al. \(2021\)](#), all observations collected from the various countries are included in the data stream for the analysis. Evidently, despite the inclusion, the scale is found to be valid for different cultures, countries and individuals having conventional and Islamic institution preferences, which ultimately justifies the universality of the developed scale.

In the current study, the items are loaded in four factors as in the original form of the scale, and the fit indexes are calculated. The fit indexes for the scale indicate a good fit. However, only two items in the Islamic financial knowledge factor are excluded to increase the reliability of the factor. It is worth mentioning that the four-factor structure of the original scale is kept with no other exceptions. [Table 3](#) depicts the cut points for commonly used fit indexes ([Meydan and Şeşen, 2011](#)). The indices are interpreted in accordance with these cut points.

Fit indexes calculated for the IFL scale are given in [Table 4](#). The indexes are calculated as goodness of fit index (GFI) which indicates good fit; root mean square error of approximation (RMSEA) which indicates good fit; comparative fit index (CFI) which indicates acceptable fit; and adjusted goodness of fit (AGFI) which indicates a perfect fit. χ^2/df (12.68) is not within acceptable limits, but it should be considered with the high number of data ($N = 3,579$). Multiple indexes taken together can better explain the fit of a scale ([Hair et al., 2010](#)). Indexes together indicate an acceptable fit; the original form and dimension structure of the scale remained the same.

Fit indexes	Perfect fit	Good fit	Acceptable fit
χ^2/df	$0 \leq \chi^2/df \leq 2$	$2 < \chi^2/df \leq 3$	$3 < \chi^2/df \leq 5$
RMSEA	$0 < RMSEA < 0.05$	$0.05 \leq RMSEA < 0.08$	$0.08 \leq RMSEA < 0.10$
CFI	$0.97 \leq CFI \leq 1$	$0.95 \leq CFI < 0.97$	$0.90 \leq CFI < 0.95$
GFI	$0.95 \leq GFI \leq 1$	$0.90 \leq GFI < 0.95$	$0.85 \leq GFI < 0.90$
AGFI	$0.90 \leq AGFI \leq 1$	$0.85 \leq AGFI < 0.90$	$0.80 \leq AGFI < 0.85$

Table 3.
Fit indexes and cut points

Source: [Meydan and Şeşen \(2011\)](#)

4.2 Reliability analysis

Reliability statistics calculated for the IFL scale and its dimensions indicate acceptable reliabilities as all the scores are higher than 0.60 (Cronbach’s alpha). Table 5 depicts the Cronbach’s alpha scores for the scale and its dimensions.

4.3 Correlation analysis

4.3.1 Zero-order correlations among the variables. Correlation analysis is conducted to investigate the associations among variables. Results of the correlation analysis show the associations among subdimensions of IFL and demographic variables. Besides, correlation coefficients between the subdimensions of the concepts indicate preliminary evidence for discriminant validity and no multicollinearity issues as they are not higher than 0.60.

Table 6 shows the correlation coefficients of dimensions and demographic variables. When data are sorted for Turkey and other countries, the correlation coefficients demonstrate significant positive results for Islamic financial behavior, Islamic financial knowledge and Islamic financial attitude dimensions for other countries, except Islamic

Fit indexes	Perfect fit	Good fit	Acceptable fit
RMSEA		0.057	
CFI			0.93
GFI		0.95	
AGFI	0.93		

Table 4. Results of the confirmatory factor analysis for the Islamic financial literacy scale

Source: Authors’ own elaboration

Islamic Financial Literacy Scale	0.812
F1: Islamic Financial Behavior	0.856
F2: Islamic Financial Knowledge	0.698
F3: Islamic Financial Attitude	0.616
F4: Islamic Financial Awareness	0.673

Table 5. Reliability statistics for the Islamic financial literacy scale

Source: Authors’ own elaboration

Variables	1	2	3	4	5	6	7
1. IF behavior	1						
2. IF knowledge	0.401**	1					
3. IF attitude	0.329**	0.485**	1				
4. IF awareness	-0.041*	0.105**	0.137**	1			
5. Turkey/other countries	0.277**	0.095**	0.094**	-0.177**	1		
6. Gender	0.004	0.053**	-0.018	-0.128**	0.006	1	
7. Age	0.012	-0.009	-0.019	-0.021	0.068**	0.185**	1
8. Education	0.041*	-0.081**	-0.098**	-0.129**	0.274**	0.047**	-0.164**

Notes: Turkey coded = 1; other countries coded = 2; female coded = 1; male coded = 2. **Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed)

Source: Authors’ own elaboration

Table 6. Correlations among variables of the study

financial awareness dimension, which is negatively correlated with other countries. These provide preliminary evidence for possible significant differences between these groups. On the other hand, gender is negatively related to Islamic financial awareness and positively related to Islamic financial knowledge. Besides, the level of education is positively and significantly associated with Islamic financial behavior and negatively and significantly correlated to other subdimensions of the Islamic literacy scale. Although all subdimensions are positively and significantly correlated, only Islamic financial awareness is slightly and negatively correlated with Islamic financial behavior.

4.4 Descriptive analysis and difference tests

To investigate the means and standard deviations for the Islamic FL scale subscales, we consider descriptive analysis. The results from this analysis indicate that Islamic financial awareness is the highest dimension when all data are taken together (mean = 2.96), followed by Islamic financial behavior (mean = 2.26); Islamic financial attitude (mean = 2.09); and Islamic financial knowledge (mean = 2.03) (Table 7).

We also conducted independent samples *T*-test to investigate the difference between categorical variables. The results of the *T*-test analysis demonstrate that when data are categorized for Turkey and other countries, Turkey is significantly higher in Islamic financial awareness. In contrast, the group of other countries is higher on all other subdimensions of the scale. All differences are significant at the 0.01 level. Table 8 demonstrates the statistics regarding the different test results.

Results for independent samples *T*-test analysis for gender are given in Table 9, demonstrating no significant difference between male and female respondents for Islamic

Table 7.
Results of descriptive analysis

Variables	Islamic financial behavior	Islamic financial awareness	Islamic financial knowledge	Islamic financial attitude
Valid (N)	3,579	3,579	3,579	3,579
Missing (N)	0	0	0	0
Mean	2.2638	2.9619	2.0334	2.0925
Std. deviation	0.93780	1.03550	0.66361	0.72238
Minimum	1.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00

Source: Authors' own elaboration

Table 8.
Results of independent samples *T*-test analysis for countries

Factors	Country	N	Mean	SD	T	Sig.
Islamic financial behavior	Turkey	3,048	2.1556	0.91831	-17.21	0.000
	Other countries	531	2.8854	0.79661		
Islamic financial awareness	Turkey	3,048	3.0384	1.05929	10.76	0.000
	Other countries	531	2.5226	0.74887		
Islamic financial knowledge	Turkey	3,048	2.0070	0.67224	-5.72	0.000
	Other countries	531	2.1849	0.58979		
Islamic financial attitude	Turkey	3,048	2.0641	0.73008	-5.64	0.000
	Other countries	531	2.2552	0.65380		

Source: Authors' own elaboration

financial behavior and Islamic financial attitude. However, female respondents demonstrate significantly higher levels of Islamic financial awareness, and male respondents demonstrate significantly higher levels of Islamic financial knowledge.

As mentioned earlier, the IFL scale developed by [Dinc et al. \(2021\)](#) was based on the analysis of 20 items or questionnaires that were asked to the respondents of 28 countries across the globe. From the item analysis (illustrated in [Figure A1, Appendix 1](#)), along with the statistical outcomes, the study ascertained some noticeable findings regarding the behavior and attitude of respondents toward the concept of interest, especially on respondents' interest taking and paying behavior. After evaluating the following items: 10, 11, 12, 13, 14 and 15, it is noticed that approximately 8% discrepancy exists between "Agree" (including "Strongly Agree") and "Disagree" (including "Strongly Disagree") responses of respondents toward interest. In other words, almost 8% of respondents' behavior with regard to interest is ambiguous – they are quite flexible with paying interest but not taking it. This ambivalent attitude of respondents indicates two spectrums: first, lack of clear understating of interest and interest rate, and second, absence of much efficient and effective Islamic financial models and products.

5. Discussion

Several studies have been conducted to address and develop the IFL scale; however, none of them cover all segments of Islamic finance, and almost all studies are either centered on a specific country, a specific industry or a single group. In other words, no study selected a significant number of countries to develop an IFL scale in a holistic manner. Even though the recently developed four-factor IFL scale developed by [Dinc et al. \(2021\)](#) considers all segments of Islamic finance, it is based on observations that are specific to a single country. Because of this concern, this study revisited the developed scale by analyzing data collected from 28 countries to verify its universality.

One of the unique features of this scale is the four-dimensional structure. In most cases, other developed scales lack the awareness dimension. There are studies that used only two dimensions ([Antara et al., 2016](#); [Ahmad et al., 2020](#)), whereas others considered three dimensions, just like the commonly used conventional scales ([Abdullah et al., 2015](#); [Rahim et al., 2016](#); [Setyawati and Suroso, 2016](#); [Widityani et al., 2020](#)).

An analysis of the scale factor structure is carried out using the CFA technique. All observations collected from various countries are included in the data stream for analysis to ensure the universality of the previous IFL scale developed by [Dinc et al. \(2021\)](#). It is evident that the developed scale was valid across cultures, countries and individuals with

Factor	Gender	N	Mean	SD	T	Sig.
Islamic financial behavior	Female	1,830	2.2598	0.90129	-0.264	0.792
	Male	1,749	2.2681	0.97477		
Islamic financial awareness	Female	1,830	3.0915	0.99326	7.726	0.000
	Male	1,749	2.8262	1.06138		
Islamic financial knowledge	Female	1,830	1.9989	0.63387	-3.181	0.001
	Male	1,749	2.0694	0.69170		
Islamic financial attitude	Female	1,830	2.1053	0.65644	1.625	0.277
	Male	1,749	2.0790	0.78545		

Table 9.
Results of
independent samples
T-test analysis for
gender

Source: Authors' own elaboration

conventional and Islamic preferences for institutions, which ultimately supports its universality.

We also observed the correlation coefficients between the subdimensions of the concepts, which denotes preliminary evidence for discriminant validity and no multicollinearity issues, that is, no strong correlation between independent variables. In addition, correlation coefficients also demonstrated significant positive results for Islamic financial behavior, attitude and awareness dimensions for other countries, except the Islamic financial knowledge dimension. Interestingly, the correlations between subdimensions are not too strong, they are distinct. For instance, a person with a high point on Islamic financial behavior might have a low point on Islamic financial attitude, meaning that even if a person knows about IFL, they may not act on it. The weak but significant negative relationship between Islamic financial awareness and Islamic financial behavior also indicates that awareness does not turn into behavior in all cases. Possible mechanisms (moderator variables) governing this relationship can extend our knowledge on the matter and deserve a thorough study on it. On the other hand, the correlation also showed the relationship among the subdimensions of the scale and association with other concepts, for example, gender, age and education.

In terms of descriptive analysis, Islamic financial awareness has the highest mean, indicating that people have a good awareness of IFL than Islamic financial behavior, knowledge and attitude. On the other hand, *T*-test analysis showed that IFL dimensions, except awareness, are significantly higher in all other countries than Turkey. Regarding gender, Islamic financial awareness is significantly higher in females than males. In contrast, knowledge is significantly higher in males compared to females.

As in the original form of the scale, the items have been loaded into four factors in this study, and the fit indexes have been calculated based on the factors. There seems to be a good fit for the scale, as indicated by the fit indexes. For the purpose of increasing the reliability of the factor, only two items from the Islamic financial knowledge factor were excluded from the study. In spite of this, the original four-factor structure of the original scale remains unchanged. This study concludes that the sample IFL scale provides consistent readings across a large number of countries, thus it can be considered universal.

6. Conclusion

FL is crucial for every individual to understand daily financial activities to lead a confident and comfortable economic life. People are indeed more financially literate compared to the last century. According to Standard and Poor's Ratings Services Global Financial Literacy Survey, "33% of adults worldwide are financially literate" (Klapper *et al.*, 2015). Therefore, the devastating impact of the financial crisis on people's life should be proportionately reduced. However, should we observe the nature and degree of destruction of each crisis, the recent crisis seems more detrimental than previous ones. It means that there is a fundamental problem in the current FL domain. Indeed, interest or *riba* is one of the primary reasons for this. The current financial system or FL is predominantly based on the interest (*riba*) concept, whereas IFL excludes interest or *riba*.

There are a significant number of studies that focused on IFL and endeavored to develop an FL scale. However, none of the IFL scales is considered universal. The reason is the lack of considerable sample size and a reasonable number of countries from where the data are collected. We considered a substantial number of observations (3,579) from 28 countries and applied them to the IFL scale developed by Dinc *et al.* (2021). It is also worth mentioning that other scales are developed based on Arabic terminologies, for example, "Do you know *murabahah*?"; however, this scale does not focus on terminologies but

their actual meaning, which allows all types of respondents to understand and answer the questions.

Considering the CFA and other analyses, we found that the IFL scale developed by [Dinc et al. \(2021\)](#) works for all selected 28 countries; the scale is valid and reliable for different cultures across the globe. In this regard, it appears the developed IFL is potentially universal, because it covers all segments of Islamic finance and considers a significant number of data from vast demographic areas. Despite the IFL scale's broad coverage of demographic areas, future researchers may contribute to its further development by taking into account additional countries and observations.

The diverse demography of the collected sample observations and its significant supportive results lead to a homogeneous set of implications for this revised scale. As the interest in Islamic financial sectors has grown significantly, it is crucial to have a solid understanding of Islamic finance to make ethical and Shari'ah-compliant financial decisions. This scale can accurately measure the IFL level of an individual, community, society or nation and suggest necessary required actions based on its four-dimensional structure. The IFL scale can be found in a variety of forms across academia according to the jurisdiction in question. This sample IFL scale may be regarded as a comprehensive assessment for most countries because it takes into account a large demographic area and an extensive range of observations.

It can be said that there is a gap between awareness and other dimensions in Turkey. It has comparatively more awareness than the Balkans; however, behavior, knowledge and attitude dimensions are low. To match the level of awareness, the current Islamic financial institutions should comply with the theory and establish the connection between people's knowledge of real economic literacy and IFL. On the other hand, the Balkan countries have low awareness compared to the other dimensions. Increasing awareness can play an important role in developing a market regarding Islamic finance in that region.

In summary, the original IFL scale has been proven to be statistically valid and reliable across a wide range of cultures throughout the world. It should be noted that neither the conventional nor the Islamic scales can be described as perfect scales. The development of a scale can always be enhanced by applying new methods, variables or dimensions. However, considering the substantial amount of observations from different countries and regions around the world and its statistical justification, the IFL scale developed by [Dinc et al. \(2021\)](#) should be considered the most updated, valid and reliable universal scale in the IFL domain.

Note

1. "Convenience sampling (also known as Haphazard Sampling or Accidental Sampling) is a type of nonprobability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time or the willingness to participate are included for the purpose of the study" ([Dörnyei, 2007](#)). As well as this, it refers to the researchers who are able to have easy access to the populations in which they are researching within a specific time frame ([Etikan, 2016](#)).

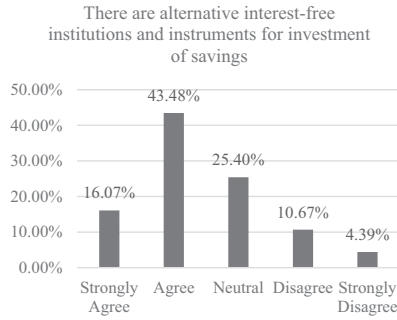
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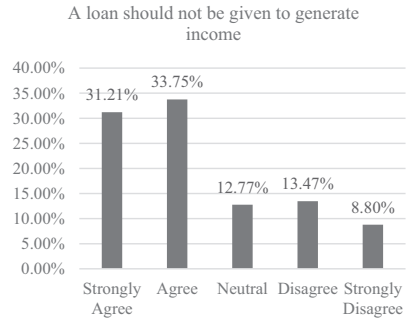
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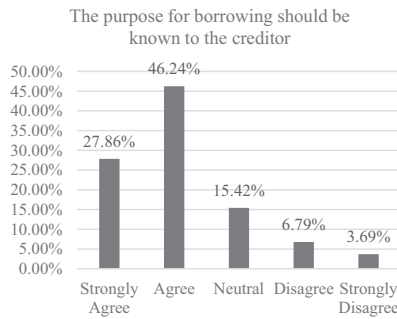
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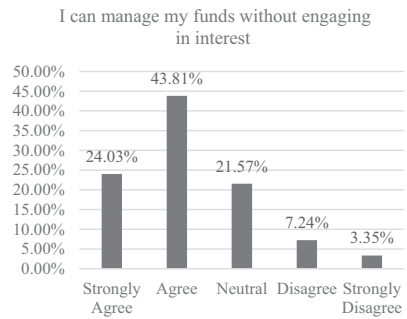
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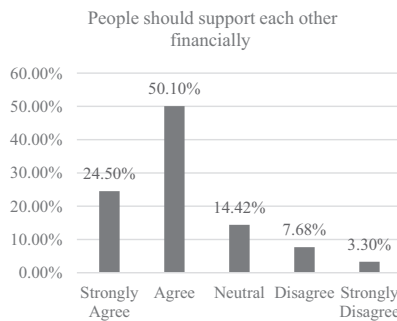
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Item 04



Item 05



Item 06

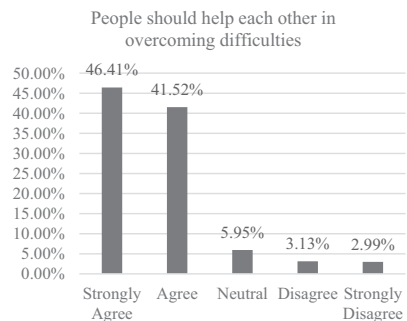
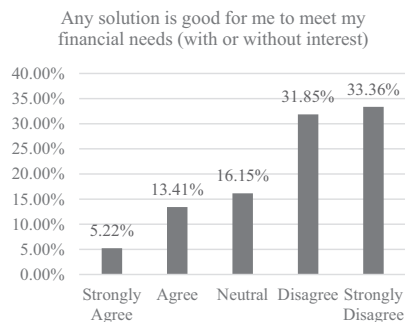


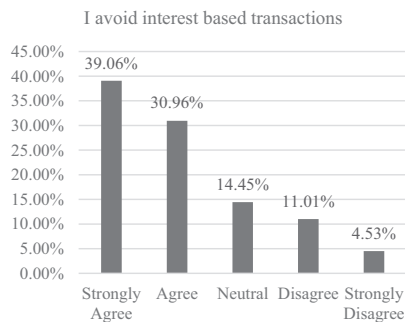
Figure A1.
Illustration of item analysis

(continued)

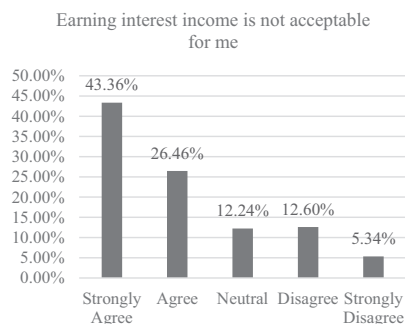
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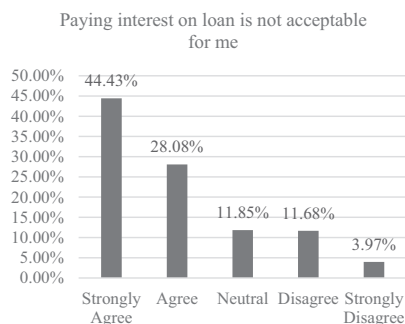
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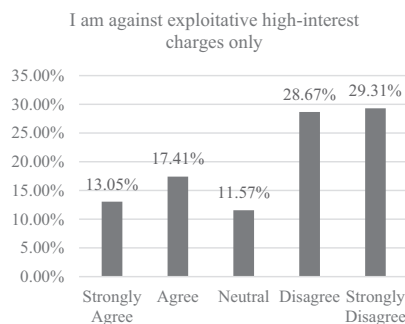
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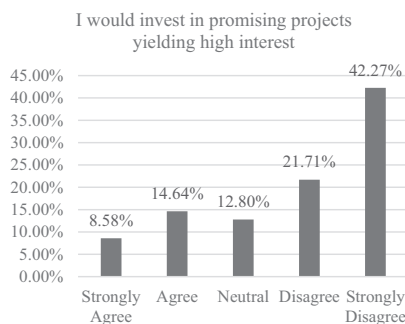
Item10



Item 11



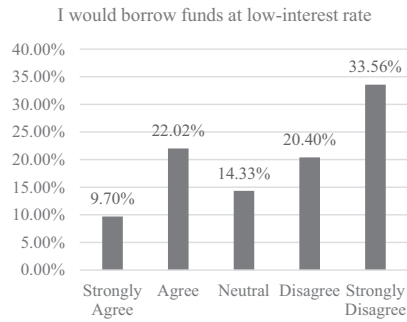
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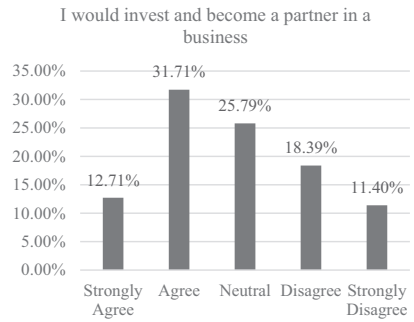
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Figure A1.

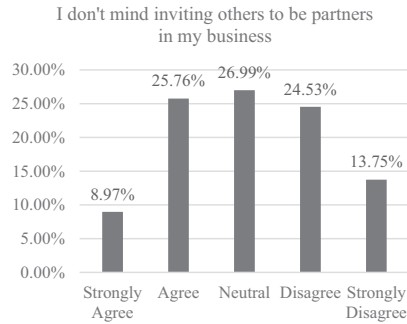
Item 13



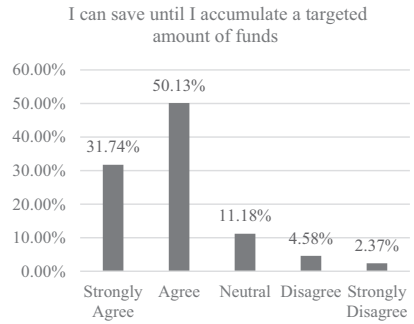
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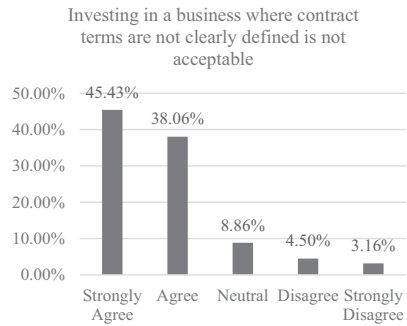
Item 15



Item 16



Item 17



Item 18

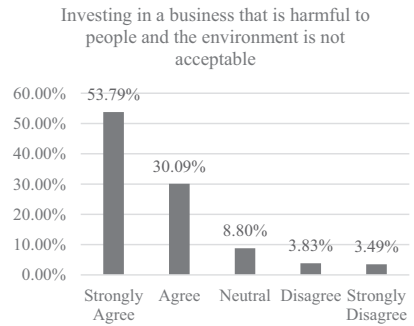
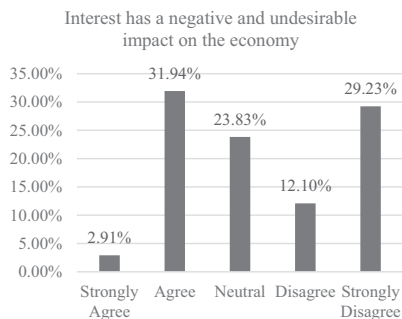


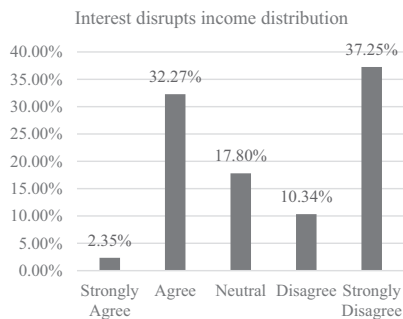
Figure A1.

(continued)

Item 19



Item 20



Source: Authors' own elaboration

Figure A1.

Appendix 2

Serial no.	Country name
1	Bosnia and Herzegovina
2	Australia
3	Ethiopia
4	Falkland Island (Islas Malvinas)
5	Mali
6	Syria
7	Nigeria
8	Djibouti
9	Suriname
10	Swaziland
11	Canada
12	Yemen
13	Macedonia
14	Somalia
15	Albania
16	Algeria
17	Egypt
18	United States
19	Turkey
20	Sudan
21	Poland
22	Serbia and Montenegro
23	Tanzania
24	Kyrgyzstan
25	Azerbaijan
26	Croatia
27	Cuba
28	Kosovo

Source: Authors' own elaboration

Table A1.
List of countries
names

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Yusuf Dinc, PhD, started his banking career at Albarakatürk Katılım Bank in 2007. He joined Duke University as a visiting scholar in 2015. Later, he served as an Assistant Professor at the University of Trakya from 2016 to 2017. Since then, he has been a faculty member (Associate Professor) at the Department of Islamic Economics and Finance in Istanbul Sabahattin Zaim University. He is also the Director of the Management, Entrepreneurship, and Leadership Research Center. Yusuf Dinc is the corresponding author and can be contacted at: yusuf.dinc@izu.edu.tr

Mehmet Çetin completed his degrees in management and economics. He has a PhD in the field of organizational behavior. Dr Çetin has worked as a Manager and Management Consultant. Currently, he is an academic at Istanbul Sabahattin Zaim University.

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