EFFECTS OF FINANCIAL INCLUSION ON FINANCIAL ATTITUDES, FINANCIAL BEHAVIOUR AND FINANCIAL LITERACY AMONG UNIVERSITY STUDENTS: EMPIRICAL EVIDENCFROM MALAYSIA AND TÜRKIYE

Dzuljastri Abdul Razak
International Institute for Halal Research and Training (INHART)
International Islamic University Malaysia (IIUM), Malaysia.
Email: dzuljastri@iium.edu.my

Ugur COBAN
Turkish Employment Agency, Türkiye
Email: ucoban@yahoo.com

Bile Abdisalan Nor*
Faculty of Management Science
SIMAD University, Somalia
Email: b.abdisalannor@simad.edu.so

Yavuz TURKAN
Bingol University
Email: yturkan@bingol.edu.tr

Zakaria Hassan Mohamed
IIUM Institute of Islamic Banking and Finance
International Islamic University Malaysia (IIUM), Malaysia
Email: zakaria.hassan5566@gmail.com

ABSTRACT

The issue of financial inclusion affecting university students is critical because it may lead to financial distress, which has a high impact on their daily lives. This, in turn, will have high consequences on the results of their studies. The purpose of this study is to investigate the relationship of three variables, namely financial attitudes, financial behaviour and financial literacy and financial inclusion among university students in Malaysia and Türkiye. A survey of 277 university students in the international Islamic University of Malaysia and 174 university students in the University of Bingöl was carried out. Data analysis were processed through SPSS. The correlation results that financial attitude, financial behaviour, and financial literacy significantly explained the financial inclusion response from the students in a university from both countries. Besides, the r2 also presented that all three variables explained the financial inclusion among the university students by 86.5%. Meanwhile, from the separate regression analysis, the correlation of financial attitude, financial behaviour and financial literacy with the financial inclusion were deemed higher among Turkish students compared to Malaysia students. Nevertheless, financial literacy was significantly explaining the financial inclusion among the students in both countries. Hence, the regulators should focus on increasing financial literacy knowledge and skills at universities to address the issue of financial inclusion.

Keywords: Financial Inclusion, University Students, Malaysia, Türkiye

1. INTRODUCTION

Financial inclusion, a crucial aspect of economic development has gained significant attention globally. The transition towards a more inclusive financial system involves understanding the multifaceted influences of financial attitudes, financial behaviour and financial literacy. In the context of university students, who represent the future workforce, studying these factors becomes pivotal. Malaysia and Türkiye provide interesting cases with their distinct socio-economic backgrounds and cultural contexts.

In the last two decades, researchers and policymakers were groups who consistently focused on financial inclusion since it can provide some benefits to their businesses (Barajas et al., 2020). The real definition of financial inclusion is access to reasonable and high-quality financial services for all segments of society. Furthermore, financial inclusion is among the important elements for 7 of the seventeen (17) Sustainable Development Goals (SDGs), and the goals will not be completed without access to financial services for society. The only way to reduce extreme poverty and create prosperity is by providing excellent financial inclusion to all of society thus, financial inclusion is clearly important to society and must be applied to everyone to achieve social well-being and a stable economy.

In recent years, the personal debt among Malaysians has risen, which may result in the situation whereby they have to suffer a huge debt and insufficient money for the repayment debt. Therefore, this situation can bring them into bankruptcy at young ages (Yuen, 2014), and this is a worrying situation. One of the causes of failure to pay the debt is a lack of skills in managing and balancing their income and personal debt. In addition, the momentum of debt rate and income growth are different whereby the accumulated debt rate increases quickly compared to their income growth. Therefore, they have to confront bankruptcy issues due to insufficient money for debt repayment.

Similarly in Türkiye, the household increased in their consumption level since 2003 higher than their income grew, thus lead to the usage of bank loans through consumers credit (Albayrak, 2020). It was likely due to the financial illiteracy thus, lack of knowledge on how to manage their financial (Çoşkun & Dalziel, 2020; Klapper et al., 2015). The financial education should be given to the Turkish household especially on younger adults so that it could improve the relationship between financial literacy, financial knowledge, with their financial behaviour (Çoşkun & Dalziel, 2020) thus, could reduce the number of household indebtedness.

According to (Cheng et al., 2014), the reason for the rise in personal bankruptcy might be the high rate of no repayment debt by the debtors, insufficient skills in managing cash flow and a lack of financial knowledge. Besides, Kaviyarasu (2012) has reported that the main cause of cash flow management failure is a lack of financial literacy. In addition, according to the Malaysian Insolvency Department (2021), from 2016 to 2020, 60.73% of 25- to 44-year-old Malaysians were declared bankrupt, which implies that Malaysians, especially young people are at risk and struggling to repay their personal debts, which may lead to the worst scenario. Currently, there has been a 70% increase in the number of bankrupt borrowers, which has surpassed 46,000 people due to the inability to repay loans. Moreover, the outbreak of Covid-19 pandemic and the high cost of living are also contributed to this issue (Ahmad et al., 2022). This shows that people are still lack of financial literacy and did not spend their money wisely. Prevention can be accomplished through careful financial planning and an understanding of the economy. Above all, among the causes of the increase in bankruptcy rate among young Malaysian in Malaysia are include of financial attitude, behaviour and literacy.

Furthermore, the possibilities to maintain cash flow may be impacted by the rising cost of living, the price of reading material, and the necessity to purchase laptops. Apart from that, students frequently wind up wasting money on unnecessary items as they desire to be trendy and stay up with a favourable brand. (Wong et al., 2022) expressed that female students typically spend more on fashion-related items, such as clothing, footwear, handbags, cosmetics and other self-care items whilst male students have a high tendency to spend more money on devices and entertainment. The combination of this scenario and a lack of financial awareness indirectly contributes to poor management of money and irresponsible lifestyle. Hence, the inability to distinguish between necessities and demands and the lack of budgeting skills are directly related.

Despite the importance of financial inclusion, there is a lack of comprehensive studies exploring the combined impact of financial attitudes, behaviour, and literacy specifically among university students in Malaysia and Türkiye. The reasons for the comparison between the two countries are primarily Muslim- majority economies with strong Islamic finance sectors. Furthermore, both governments are strongly committed to financial inclusion and has developed a comprehensive financial inclusion framework that caters financial literacy for the society .This knowledge gap hinders the development of targeted strategies to enhance financial inclusion within their respective financial and educational environments.

Existing literature predominantly focuses on broader populations or specific elements such as financial literacy alone, leaving a research gap in understanding the interconnected effects of financial attitudes and behaviour on financial inclusion, especially among university students in Malaysia and Türkiye.

In order achieve this goal; the study has the following objectives:

1. To determine the relationship between financial attitude and financial inclusion

2. To establish the relationship between financial behavioural and financial inclusion

3. To determine the relationship between financial literacy and financial inclusion

The above objective will answer the main issue on financial inclusion of universities students in Malaysia and Türkiye by studying the relationship of the independent variables (financial attitude, financial behaviours and financial literacy and the dependent financial inclusion.

This study is structured in the following manner: initially, Section 1 provides an introductory overview. Subsequently, Section 2 presents a review of the relevant literature. Section 3 details the methodological approach employed. Following this, Section 4 outlines the data analysis and resulting findings. Finally, Section 5 offers concluding remarks.

2. LITERATURE REVIEW

According to the Rangarajan Committee's 2008 report, financial inclusion is understood as the methodology by which susceptible populations gain access to financial products and secure timely and adequate funding at reasonable expenses. Several key benchmarks are essential for a nation to realize comprehensive inclusion: first, universal access to a variety of financial resources is imperative; second, the standard of financial inclusion is best gauged by factors such as accessibility, product appropriateness, security, respectful treatment, affordability, and consumer safeguards. To facilitate financial inclusion, enterprises must initially extend a diverse suite of fundamental financial offerings to their clientele. These offerings should encompass vital monetary aid, including payment mechanisms, credit facilities, deposit options, and insurance coverage (Gardeva & Rhyne, 2011).

Financial inclusion makes it possible to utilize financial products very easily through technology, but rules and laws restrict it. Generally, Maqasid Shariah is the spirit of Islamic law for Muslims, where it can protect the public interest, if they uphold the Maqasid Sharia's five guiding principles. If these five principles are not taken care of and protected, there will be more fraud and human exploitation. The use of financial inclusion has applied the elements of Maqasid Shariah by offering the value of safety to oneself and property (Hifzul nafs and mal) through safeguarding the safety of personal information and financial flow of users from misappropriation by irresponsible parties. Besides, it also practiced the elements of taking care of life when it helps.

2.1. FINANCIAL ATTITUDE AND FINANCIAL INCLUSION

Humaira & Sagoro (2018) conceptualize financial attitudes as an individual's mental framework, encompassing their opinions and judgments regarding financial matters. Djou's (2019) research highlights that financial attitudes significantly influence personal financial conduct, underscoring their pivotal role in shaping an individual's financial behavior. Baptista (2021) further substantiates this, demonstrating a positive correlation between financial attitudes and effective financial management practices. This implies that individuals' awareness of their financial behaviors, including future planning and savings, is crucial. Moreover, the study revealed that working-age individuals in Semarang City prioritize future planning as a key financial strategy.

Klontz et al. (2011) define financial attitude as the knowledge, perspectives, and decisions individuals make concerning their financial situation. Their findings indicate that a majority of employed young adults exhibit positive financial attitudes, particularly in relation to financial planning, and demonstrate a low propensity for excessive spending. Financial attitudes are instrumental in determining the success or failure of financial management, especially in fostering long-term savings. Students, for example, leverage personal budgets for effective financial planning and management. Nurdian, Lyne, and Jariyah (2017) explored students' confidence in enhancing their financial well-being, noting their belief that sound investment strategies yield substantial future returns when executed correctly.

Yong et al. (2018) advocate for educating working adults on the importance of long-term financial goal setting and attainment, citing the financial challenges faced by Malaysian youth due to high-cost loans and overspending (Loke, 2015). Additionally, Stella's (2022) study on financial inclusion among working women in Chennai found a positive and significant relationship between financial attitude, financial literacy, and financial inclusion, emphasizing the importance of a positive mindset and financial literacy in promoting economic inclusivity for women.

2.2. FINANCIAL BEHAVIOURAL AND FINANCIAL INCLUSION

Financial behaviour corresponding with the management of a person's savings, expenses and budget that derive in financial well-being. This behaviour emphasizes competent planning and preparation in line with the financial attitude and knowledge (Rahman et al. 2021). In general, cash flow management, saving, investment and credit are the variables of financial behaviour. When a person seeking to achieve financial well-being needs and understands how their emotions and behaviours influence their financial decisions for this reason it is a sign of good financial behaviour. Study has proven that a person's positive financial behaviour can be attributed to their parents. Therefore, higher education students' financial behaviour is practiced earlier, approximately by learning financial skills when observing parents' financial behaviour that influences spending, budgeting and savings practices.

This hypothesis supported by (Bhatia et al., 2021) defines that children become more knowledgeable regarding these skills when grown-ups as small talk with their parents on every side of money matters may broaden the financial knowledge while enhancing the right attitude and behaviour concerning financial management. Apart from that, research indicates that saving behaviour among Malaysian university students correlates with several factors not only financial literacy but also self-control. Being financially literate is vital to effectively manage their allowance and expenses, which are associated with spending behaviour eventually (Looi, Y.H et al. 2022). Besides, psychological behaviour, which is self-control, is a necessary element as study demonstrated that strong self-control accounted for powerful financial behaviour. Looi, Y.H et al. (2022) emphasizes high self-control positively creates better results of financial management such as accomplishing goals and managing circumstances that incur cost whilst the absence of this psychological behaviour indirectly drives impulsive tendencies and in the long run.

Meanwhile, (Asyik et al., 2022) delved into the intricate dynamics of financial inclusion, exploring the nexus between intellectual capital, financial behaviour, financial literacy, and their collective impact. With a substantial sample size of 500 respondents, the study employed the rigorous Partial Least Squares (PLS) method and Structural Equation Model (SEM) for analysis. The results revealed that a significant and positive influence of financial behaviour and financial literacy on achieving greater financial inclusion, shedding light on crucial aspects of economic participation and empowerment.

2.3. Financial literacy and financial inclusion

Financial literacy defines the capacity to make educated decisions and to execute successful choices about the use and management of monetary resources. It is considered an essential requirement for efficient functioning in contemporary society. It facilitates an individual's comprehension of the significance of savings (Ramakrishnan, 2012). Moreover, financial literacy is becoming increasingly vital for people in making choices about wealth investment and borrowing in financial markets. More research indicates that those with lower financial literacy are more prone to debt issues, less inclined to save, more likely to use high-cost borrowing, and less able to participate in future planning.

Conversely, the deficiency of financial inclusion remains a widespread challenge. Global Findex data from 2014 indicated that 2 billion adults were without access to banking services; although this figure decreased to 1.7 billion by 2017, it still constitutes nearly 40 percent of the world's adult population (Demirguc-Kunt et al., 2015, 2018). Consequently, financial inclusion, defined as the accessibility and utilization of financial services, is recognized as a critical objective for economic and, specifically, financial advancement. Consequently, it has been proposed as a significant policy instrument capable of contributing to the realization of the Sustainable Development Goals (SDGs) (Klapper et al., 2016). Therefore, it is of substantial importance for policymakers to understand the factors driving financial inclusion and how these factors can be influenced through national policy initiatives.

A cross-country analysis focusing on institutional variation, (Grohmann et al., 2018) explore the dynamics of "access to finance" and "use of financial services." Notably, they find that in the context of access, financial infrastructure and financial literacy act as substitutes. However, when delving into the utilization of financial services, the influence of higher financial literacy amplifies the impact of increased financial depth. These findings, substantiated by IV-regressions, underscore a causal relationship. Importantly, the positive correlation between financial literacy and favourable outcomes persists across diverse income levels and various subgroups within countries.

In one study, Stella (2022) examined financial inclusion within the context of working women in Chennai, revealing a substantial positive relationship between financial attitude, financial literacy, and the attainment of financial inclusion. This finding emphasizes the necessity of incorporating these variables into strategies designed to enhance financial inclusion for this specific population. Conversely, Asyik et al. (2022) delved into the multifaceted nature of financial inclusion by exploring the interdependencies among intellectual capital, financial behaviour, and financial literacy, as well as their combined impact. Employing the robust Partial Least Squares (PLS) method and Structural Equation Modeling (SEM) for their analysis, they reported a considerable positive effect of both financial behaviours and financial literacy on the advancement of financial inclusion, thereby illuminating key determinants of economic engagement and empowerment. Aside from that, (Adetunji & David-West, 2019) study underscores the substantial influence of financial literacy on shaping savings patterns within both formal and informal financial institutions. In contrast, income emerges as a key factor solely dictating the frequency of informal savings. The findings further pinpoint specific demographic groups that stand to benefit from targeted interventions, emphasizing the pivotal role of financial literacy in enhancing overall financial access.

3. METHODOLOGY

A quantitative survey was deployed involving a total of 451 students comprised 277 from International Islamic University of Malaysia and 174 from University of Bingöl. Five-point Likert scale was used for the survey. to measure agreement or disagreement with statements, providing respondents with a range of options from strongly disagree to strongly agree, including a neutral option. Data were collected by means of online and face to face methods. Data analysis was carried out using SPSS. The data derived from the conducted survey underwent in a systematic organization and subsequent migration into the IBM SPSS statistical software. Subsequently, an initial assessment was undertaken to ascertain the reliability of the measurement. Following this, an examination involving frequency analyses was conducted to scrutinize responses provided for demographic inquiries featured within the scale. Next, an exploration was undertaken through the application of multiple linear regression analysis to investigate whether variables pertaining to financial attitude, financial behaviour and financial literacy exerted an influence on the financial inclusion variable. Lastly, given that data were collected from both Malaysia and Türkiye, a comparative analysis ensued through the utilization of a t-test to assess the means of respondents' responses to scale statements across the two countries. Throughout these examinations, a significance level of 0.05 was employed to determine statistical significance.

3.1. Definition of Variables and Regression Model

In the regression model created within the scope of the research, there are three independent variables and one dependent variable. The variables are defined below.

FIO: Average of Financial Inclusion Responses (Dependent Variable)

FAO: Average of Financial Attitude Responses (Independent Variable)

FBO: Average of Financial Behaviours Responses (Independent Variable)

FLO: Average of Financial Literacy Responses (Independent Variable)

Considering the number of variables in the research, the regression model was established as follows and the components in the equation were defined as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Y=Dependent variable,

®$_0$= Constant value

®$_1$, β_2 and β_3: Regression coefficients of independent variables

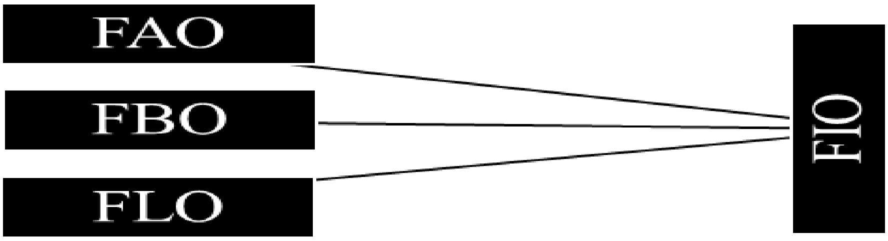
X_1, X_2, X_3= Independent variables,

ε= Error term

When the defined variables are integrated into the regression model, the final version of the model will be as follows:

$Y = \beta_0 + \beta_1 FAO + \beta_2 FBO + \beta_3 FLO$

Figure 1. Relationship between Variables



4. DATA ANALYSIS AND FINDINGS

This section presented the findings from the analysis of the data collected through questionnaire surveys. The data were descriptively analysed prior to proceed with regression

4.1. Frequency

Table 1 Frequencies

		Frequency	Percent
Country	Türkiye	174	38.6
	Malaysia	277	61.4
Gender	Female	146	32.4
	Male	305	67.6
Age	Less than 18 years	25	5.5
	18-22	252	55.9
	23-30	147	32.6
	31 and above	27	6.0
Faculty	Arts and Sciences	26	5.8
	Communication	43	9.5
	Economics and Administrative Sciences	156	34.6
	Education	14	3.1
	Engineering	15	3.3
	Law	11	2.4
	Foreign Languages	24	5.3
	Islamic Sciences	84	18.6
	Agriculture	52	11.5
	Other	26	5.8
Year	1	113	25.1
	2	98	21.7
	3	114	25.3
	4	113	25.1
	5	13	2.9
Accommodation	University dormitory	273	60.5
	Private dormitory	15	3.3
	House for rent	50	11.1
	With my family	99	22.0
	Other	14	3.1

EduExp	Scholarship	102	22.6
	Support from my family	171	37.9
	Working	35	7.8
	Scholarship and support of my family	113	25.1
	Scholarship and working	12	2.7
	Family support and work	18	4.0
EduLoan	Yes	259	57.4
	No	192	42.6
Scholarship	No answer	102	22.6
	Non-refundable state scholarship	102	22.6
	Non-refundable private scholarship	34	7.5
	Non-refundable university scholarship	23	5.1
	State education loan	139	30.8
	Education loan from private banks	51	11.3

Table 1 summarized the frequency of the respondents for both Malaysia and Türkiye. The total of the respondents were 451, where 61.4% were from Malaysia and 38.6% from Türkiye. Among all respondents, 67.6% of them were male, while 32.4% were female. For age group, 88.5% of the participants were within 18 to 30 years old age group. Apparently, in terms of education department, 34.6% of the participants were from Economics and Management Sciences field, followed by Islamic Sciences (18.6%), Agriculture (11.5%), and Law (2.4%). When the participants are evaluated in terms of education year, there is a balanced distribution of around 20% between the first four years, but the least participation is among the students who are in their fifth year with 2.9%. While 60.5% of the participants answered that they stayed in university dormitories, 22% of them stayed with their families, 11.1% of those who stayed in a rented house and 3.3% of those who stayed in private dormitories. Meanwhile, 37.9% of the participants cover their education expenses with family support, 25.1% receive both scholarship and family support. 2.6% of them cover their education expenses only with scholarships. The answer given by the students to the question of whether they have received education credits is remarkable. Because more than half of the participants, 57.4%, answered that, they received education credits. The rate of non-credit users was 42.6%. According to the answers given by the participants in terms of the type of scholarships they received, the rate of those who received state education loans is at the highest level with 30.8%. This rate seems to be compatible with the rate of people who cover their education expenses with loans. The group with the lowest rate is the participants who received non-refundable university scholarships with 5.1%.

4.2. Regression Analysis

Regression analysis of the data for this study segregated into two; (1) regression for all data and; (2) regression analysis for country data

4.2.1. Regression Analysis For All Data

Descriptive statistics for the dependent variable FIO and the independent variables FAO, FBO, and FLO are summarized in Table 2.

Table 2 Descriptive Statistics

	Mean	Std. Deviation	N
FIO	2.4823	1.18827	451
FAO	2.4058	1.18268	451
FBO	2.5385	1.01267	451
FLO	2.4789	1.30938	451

The average of the responses given to the expressions consisting of one to five Likert-type responses were quite close to each other in all groups.

For the correlation analysis performed to measure the relationship between two or more variables, the coefficient of the relationship between the variables takes a value between +1 and -1. As it gets closer to +1, there is a strong positive relationship, and as it gets closer to -1, there is a negative relationship. The most commonly used coefficient in correlation analysis is the Pearson coefficient (Akbulut, 2010).

Table 3 Correlations

		FIO	FAO	FBO	FLO
Pearson Correlation	FIO	1.000	.886	.768	.928
	FAO	.886	1.000	.859	.932
	FBO	.768	.859	1.000	.806
	FLO	.928	.932	.806	1.000
Sig. (1-tailed)	FIO	.	.001	.001	.001
	FAO	.000	.	.000	.000
	FBO	.000	.000	.	.000
	FLO	.000	.000	.000	.

The correlation coefficients showing the relationship between the variables are summarized in Table 3. Results above 0.70 indicate that the level of correlation between the variables is high. When examined Table 3 it was observed that there was a high-level relationship between the dependent variable FIO and the independent variables.

Table 4 Regression Model

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.930[a]	.865	.864	.43754	1.959

a. Predictors: (Constant), FLO, FBO, FAO

b. Dependent Variable: FIO

The data on the regression model are summarized in Table 4. The R^2 value was 0.865. This value describes the relationship between the variables as a percentage. Accordingly, the variables of financial attitude, financial behaviours and financial literacy explain the variable of financial inclusion by 86.5%. As can be seen in the table, the Durbin-Watson value is 1.959. Since this result is between 1-3, it shows that the error values of the answers are independent.

Table 5 ANOVA Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	549.817	3	183.272	957.349	.001[b]
	Residual	85.572	447	.191		
	Total	635.389	450			

a. Dependent Variable: FIO

b. Predictors: (Constant), FLO, FBO, FAO

The ANOVA table presents the results of whether the regression model is statistically significant. According to these results, the regression model is statistically significant since the value is below 0.05. In other words, the independent variables' explanation of the dependent variable is statistically significant.

Table 6 Coefficients

Coefficients[a]				
Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	.332	.056		5.940	.001
	FAO	.149	.056	.148	2.674	.008
	FBO	.014	.040	.012	.363	.717
	FLO	.708	.044	.780	16.280	.001

Table 6 presented the coefficients, which explained the contribution of the independent variables in explaining the dependent variable, that is, the outcome variable. The t statistic in the table, FLO variable is significant with the sig. value is less than 0.05, which it explains the dependent variable FIO. However, the variable FBO did not significantly explain the FIO, which can be seen from the sig. value that was higher than 0.05. In fact, the □ coefficient of the FBO variable is closer to zero can explain this situation. In other words, a one-unit change in the FBO variable affects the FIO at very low levels. In this case, the regression model can be established as follows, based on the data in Table 6:

$$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2$$

$$Y= 0.332 + 0.708*FLO$$

According to this model, a one-unit change in financial literacy affects financial inclusion by 0.708 units. These independent variables positively affect the dependent variable.

As mentioned before, the data used in this study were collected through a questionnaire conducted among students from one university in Malaysia and one in Türkiye. For this reason, independent samples t-test was applied to the expressions of the dependent variable and independent variables in order to compare the scores given by the students in both countries. The test results are summarized in Tables 10 and 11.

4.2.2. Regression Analysis for Country Data

Above, regression analyses were performed by taking into account the entire survey data. In this section, the data collected from two universities in Türkiye and Malaysia are analysed and interpreted separately by multiple linear regression analysis.

The descriptive statistics for the dependent variable FIO and independent variables FAO, FBO and FLO are summarised in Table 12.

Table 7 Descriptive Staticties

		Mean	Std. Dev.	N
Türkiye	FIO	2.8299	1.3078	277
	FAO	2.8199	1.2742	277
	FBO	2.8452	1.02456	277
	FLO	2.8502	1.47599	277
Malaysia	FIO	1.9289	.67780	174
	FAO	1.7464	.57940	174
	FBO	2.0503	.77615	174
	FLO	1.8879	.64191	174

As can be seen in Table 7, the average of the responses to the statements consisting of Likert-type responses between 1-5 is higher in Malaysia than in Türkiye.

The data regarding the correlation analysis performed to measure the relationship between two or more variables are summarised below.

Table 8 Correlations

		FIO	FAO	FBO	FLO
Pearson Correlations	FIO	1.000	.580	.526	.718
	FAO	.580	1.000	.776	.765
	FBO	.526	.776	1.000	.700
	FLO	.718	.765	.700	1.000

Sig. (1-tailed)	FIO	.	.001	.001	.001
	FAO	.000	.	.000	.000
	FBO	.000	.000	.	.000
	FLO	.000	.000	.000	.
Pearson Correlations	FIO	1.000	.911	.791	.948
	FAO	.911	1.000	.864	.944
	FBO	.791	.864	1.000	.812
	FLO	.948	.944	.812	1.000
Sig. (1-tailed)	FIO	.	.001	.001	.001
	FAO	.000	.	.000	.000
	FBO	.000	.000	.	.000
	FLO	.000	.000	.000	.

When Table 8 is analysed, the relationship between the variables is positive in both countries. However, the relationship between the variables in Türkiye is stronger than in Malaysia. For example, in Malaysia, the relationship between the dependent variable FIO and the independent variables FAO and FBO is below 0.60, i.e. at a medium level, while the relationship between these variables in Türkiye is above 0.70, i.e. at a high level.

Table 9 Regression Model

	Model Summary					
	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Malaysia	1	.949[a]	.901	.900	.41300	1.968
Türkiye	1	.720[a]	.518	.510	.47458	1.939

a. Predictors: (Constant), FLO, FBO, FAO

b. Dependent Variable: FIO

The regression model for each country data is summarised in Table 9. The R^2 value for Malaysia is 0.901. This value expresses the relationship between the variables as a percentage. Accordingly, financial attitude, financial behaviour and financial literacy variables explain 90% of the financial participation variable. As seen in the table, the Durbin-Watson value is 1.968. The fact that this result is between 1-3 shows that the error values of the answers are independent. The R^2 value for Türkiye is 0.518. This value expresses the relationship between the variables as a percentage. Accordingly, financial attitude, financial behaviour and financial literacy variables explain the financial participation variable by approximately 52%. As seen in the table, the Durbin-Watson value for Türkiye is 1.939. The fact that this result is between 1-3 shows that the error values of the answers are independent.

Table 10 ANOVA Results

Model			Sum of Squares	df	Mean Square	F	Sig.
Malaysia	1	Regression	422.589	3	140.863	825.841	.001[b]
		Residual	46.565	273	.171		
		Total	469.155	276			
Türkiye	1	Regression	41.191	3	13.730	60.963	.001[b]
		Residual	38.288	170	.225		

Total	79.479	173	

a. Dependent Variable: FIO

b. Predictors: (Constant), FLO, FBO, FAO

Table 10 tabulated the results for ANOVA analysis of which reported a significant value of lower that 0.05 for both countries. Therefore, the independent variables significantly explained the dependent variable.

Table 11 Coefficients Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Malaysia	(Constant)	.335	.075		4.488	.001
	FAO	.127	.068	.124	1.862	.064
	FBO	.036	.048	.029	.758	.449
	FLO	.713	.051	.807	13.996	.001
Türkiye	(Constant)	.458	.120		3.806	.001
	FAO	.075	.113	.064	.662	.509
	FBO	.014	.076	.016	.178	.859
	FLO	.695	.090	.658	7.681	.001

Table 11 reported the coefficients table of which presented the contribution of the independent variables in explaining the dependent variable, which is the outcome variable. The contribution of independent variables will be statistically significant if the significant value is less than 0.05. The table showed the variable FLO obtain a significant result, which means that this variable explains the dependent variable FIO. Meanwhile, the other two variables, FAO and FBO acquired significance value of higher that 0.05 indicating an insignificant result. The fact that the coefficient (□) of FAO and FBO variables for both countries is close to zero may explain this situation. In other words, a one-unit change in FAO and FBO variables affects FLO at a very low level for both countries. In this case, based on the data in Table 11, the regression model can be constructed for each country as follows:

Y (Malaysia)= $\beta 0 + \beta 1$ X1, Y= 0.335 + 0.713*FLO

Y (Türkiye)= $\beta 0 + \beta 1$ X1, Y= 0.458 + 0.695*FLO

According to these models, a one-unit change in financial literacy among the independent variables for Malaysia affects financial inclusion by 0.713 units, while a one-unit change in financial literacy for Türkiye affects financial inclusion by 0.695 units. In other words, financial literacy positively affects financial inclusion for both countries**.** However, the effect is higher in Malaysia.

4.3. T Test

As mentioned earlier, the data used in this study were collected through a survey conducted among the students of a university in Malaysia and a university in Türkiye. Therefore, independent sample t-test was applied to the dependent variable and independent variable statements in order to compare the scores given by the students in both countries. The test results are summarised in Tables 17 and 18.

Table 12 Group Statistics

	Country	N	Mean	Std. Deviation	Std. Error Mean
FAO	Türkiye	174	1.7464	0.57940	0.04392
	Malaysia	277	2.8199	1.27432	0.07657

FBO	Türkiye	174	2.0503	0.77615	0.05884
	Malaysia	277	2.8452	1.02456	0.06156
FLO	Türkiye	174	1.8879	0.64191	0.04866
	Malaysia	277	2.8502	1.47599	0.08868
FIO	Türkiye	174	1.9289	0.67780	0.05138
	Malaysia	277	2.8299	1.30378	0.07834

Table 12 shows the averages of the groups' responses to the variables. The average of the Malaysian group was higher than Türkiye in all the variables given.

Table 13 Independent Samples Test

		Levene's Test for Equality of Variances		**t-test for Equality of Means 95% Confidence Interval of the Difference**							
						Significance					
		F	Sig.	T	Df	One-Sided p	Two-Sided p	Std. Error Difference	95% Confidence Interval of the Difference	Lower	Upper
FAO	Equal variances assumed	299.13	0.001	-10.45	449	0.001	0.001	-1.074	0.10272	-1.275	-0.872
	Equal variances not assumed			-12.16	415.72	0.001	0.001	-1.074	0.08827	-1.247	-0.900
FBO	Equal variances assumed	32.64	0.001	-8.773	449	0.001	0.001	-0.79493	0.09061	-0.973	-0.617
	Equal variances not assumed			-9.335	433.47	0.001	0.001	-0.79493	0.08516	-0.962	-0.628
FLO	Equal variances assumed	434.26	0.001	-8.128	449	0.001	0.001	-0.96225	0.11839	-1.195	-0.730
	Equal variances not assumed			-9.512	408.19	0.001	0.001	-0.96225	0.10116	-1.161	-0.763
FIO	Equal variances assumed	194.54	0.001	-8.426	449	0.001	0.001	-0.90099	0.10693	-1.111	-0.691
	Equal variances not assumed			-9.617	435.87	0.001	0.001	-0.90099	0.09369	-1.08513	-0.717

In Table 13, firstly, Levene's test results were examined to determine whether the population variances were equal. From the test results, the prerequisite for equal variance is not met as it can be seen from the F-statistic for all variables in the Equal Variance Assumed row is below 0.05. For this reason, the Equal Variances Not Assumed lines have been examined. Accordingly, ignoring the equal variance assumption, the results were significant that it can be seen from sig. value that less than 0.05 for 2-tailed. Apparently, the average of the answers given to the variables among the country groups differs significantly from each other. While this difference is small in the FBO variable, it is high in the other three variables. The averages of financial attitude, financial behaviour, financial literacy and financial inclusion responses of students in Malaysia are higher than those of students in Türkiye. This may be due to the financial education and practices differences between the two countries.

5. CONCLUSION

The result for this research has shown that financial inclusion is influenced by financial attitude, financial behaviour and financial literacy. In addition, each of these concepts has close relationship with each other. Thus, the three independent variables are indeed related to the dependent variable. There are not many studies on these relationships involving students. Thus, this study can be considered as the pioneering study on the effects of financial attitudes, financial behaviours and financial literacy on financial inclusion among university students in Malaysia and Türkiye.

The results revealed that there is a highly correlated relationship between financial attitude, financial behaviour and financial literacy and financial inclusion among university students in both countries. The regression model constructed to explain the relationship between the dependent (FIO) and independent variables (FAO, FBO and FLO) was statistically significant.

The findings further revealed that while financial literacy exhibited a statistically significant association with financial inclusion, neither financial attitude nor financial behavior demonstrated such a relationship. This observed correlation between financial literacy and financial inclusion aligns with existing scholarly work. Conversely, the relationship between financial behavior and financial inclusion deviated from established literature. Furthermore, a separate analysis, employing multiple regression, was conducted on data from each country. The analysis of student responses from Malaysia indicated a moderate correlation between financial inclusion and financial attitude, and a strong correlation with financial literacy. In contrast, the analysis of Turkish student responses showed a weak correlation between financial inclusion and financial attitude, but again, a strong correlation with financial literacy.

In addition, the result t-test results conducted to compare the average of the responses of both countries, showed that the average of the responses given by Malaysian students was higher than Türkiye. This could be due to the differences in financial education and practices between the two countries. The limitation of the study is that the data were obtained from a sample covering only the students of two universities from two countries. Future study should include data of more countries. It is also concluded that the regression model is statistically significant for both countries. However, only financial literacy is significant and explains financial inclusion for both countries.

As financial literacy was found to be statistically significant in explaining financial inclusion in both countries, the regulators should intake measure on increasing more knowledge and skills to universities students. This would facilitate the participation of "under-the-mattress savings" in the financial system. In addition, financial literacy should be prevented from being a factor limiting financial inclusion through various educational models. Planning this problem in a way to cover especially university students who continue their education life and are financially vulnerable.

The findings of this study are supported by (Abdul Razak & Mohamed, 2024), who found that financial literacy, financial behaviour, and financial attitude have a positive relationship with financial inclusion in Somalia, facilitating people's access to financial institutions to enhance their income status.

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