

Peer influence, personality traits, and financial literacy as predictors of Saudi students' spending behaviour



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ABSTRACT

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This study aims to examine the relationship between peer influence, personality traits, financial literacy, and spending behavior among 279 students from the College of Business Administration in Saudi Arabia. Using a combination of purposive and simple random sampling techniques, data were collected and analyzed through SPSS and Partial Least Squares Structural Equation Modeling (PLS-SEM). The results reveal that personality traits have a significant influence on financial literacy ($\beta = 0.144$, $p < 0.01$), while peer influence shows a positive but non-significant effect ($\beta = 0.109$, $p = 0.157$). Personality traits, peer influence, and financial literacy all had significant positive impacts on spending behavior ($\beta = 0.530$, 0.185 , and 0.128 , $p < 0.05$), respectively. Furthermore, financial literacy mediates the relationship between personality traits and spending behavior ($\beta = 0.076$, $p < 0.05$), but not between peer influence and spending behavior. These findings clarify the mediating role of financial literacy in shaping students' financial habits and decision-making. Practically, the findings highlight the need for universities to strengthen financial literacy programs, as these initiatives can enhance students' financial competence and foster more responsible spending behavior.

Contribution/ Originality: This paper contributes to the existing literature by integrating the Theory of Planned Behaviour, Social Learning Theory, and the personality traits framework to explain students' spending behaviour in Saudi Arabia. It is one of the few studies that investigate the mediating role of financial literacy on spending behaviour.

1. INTRODUCTION

Sound financial management is crucial for personal success and societal well-being. Saudi Arabia's Vision 2030 recognizes the critical role of its youth, who constitute about 67% of the population [1]. As young people transition into adulthood, particularly during their university years, they face increased financial independence and decision-making responsibilities that shape their long-term financial well-being. Developing responsible spending habits is therefore crucial for ensuring personal financial stability and contributing positively to the national economy [2].

Financial literacy, encompassing knowledge and practical money management skills, is a critical predictor of responsible financial behavior [3]. Yet, spending patterns are not only determined by knowledge. Individual differences, such as personality traits, affect self-control and openness to new experiences [4], while social

interactions, such as peer influence, can create pressure to follow group spending habits [5]. All these factors interact to shape how young adults make financial decisions.

However, extant studies have mainly examined these factors in isolation, with very scanty empirical studies integrating personality traits, peer influence, and financial literacy within a unified framework. Specifically, there is little evidence on how these factors jointly predict students' spending behaviour in Saudi universities, especially at Imam Abdulrahman bin Faisal University (IAU). This study addresses this gap by exploring the combined effect of personality traits, peer influence, and financial literacy on students' spending behaviour. Understanding these relationships is critical for developing effective strategies to improve students' financial literacy and promote responsible spending, in alignment with Saudi Arabia's Vision 2030 objectives.

Accordingly, this study examines the extent to which financial literacy mediates the effects of personality traits and peer influence on the spending behavior of business administration students at IAU. The findings aim to inform policy initiatives and educational programs designed to foster sound financial practices among university students.

2. LITERATURE REVIEW AND HYPOTHESES

This section discusses the theoretical frameworks and empirical evidence on students' spending behavior and the key determinants.

2.1. Theoretical Background

To explain university students' spending behavior, this study integrates the Theory of Planned Behavior (TPB) and Social Learning Theory (SLT).

TPB extends the Theory of Reasoned Action by incorporating perceived behavioral control, which captures external influences on behavior [6-8]. In the context of spending, students' intentions are determined by attitudes toward consumption, social patterns, and perceived control over financial resources. These factors interact with situational variables, such as access to financial aid and social participation, to influence spending choices [9, 10].

SLT, proposed by Muro and Jeffrey [11], Bandura [12], and Fryling et al. [13]. They posit that individuals learn behaviors by observing and imitating others. Within university settings, peers serve as powerful reference groups that influence financial attitudes and habits. Students tend to emulate the spending patterns of those they admire or identify with, especially when such behavior results in perceived social approval or status.

Personality traits, as described by the Five-Factor Model, including extraversion, agreeableness, openness, conscientiousness, and neuroticism, represent enduring psychological tendencies that influence how individuals think and behave [12-15]. Conscientious individuals tend to exhibit controlled and planned spending, while extroverts often spend more in social contexts [16, 17].

Overall, these theories interact to explain student spending behavior. Personality traits shape attitudes and perceived control (as in TPB), while peer influence (as in SLT) determines subjective norms. Financial literacy enhances perceived control, enabling more informed financial decision-making. Integrating these perspectives provides a comprehensive model for examining students' spending behavior.

2.2. Hypotheses Development

2.2.1. Personality Traits and Spending Behaviour

Empirical studies have repeatedly explored the role of personality traits in spending behavior. They have found a strong relationship between certain personality traits and financial behavior. For example, materialism is associated with a desire for possessions and status, which tends to increase spending. Likewise, impulsivity, being a precursor to unplanned expenditure, can also lead to an increased level of spending [18-21]. In contrast, other personality dimensions are linked to more prudent financial behavior. Conscientiousness, marked by planning and self-control, is

often associated with reduced spending and better financial management [22]. These individuals tend to exhibit greater restraint in their purchasing decisions and prioritize long-term financial stability.

Individuals vary in their approaches to managing money, including planning, adopting, conserving, and expenditure, all of which are influenced by their dispositional characteristics [18]. Several studies have investigated personality traits in relation to spending behavior, suggesting that there is a subtle connection between personal attributes and consumption patterns. For example, Bhanu and Raj [23] found that personality significantly influences consumer purchasing decisions. Similarly, Ebert et al. [24] demonstrated that both individual phenomena and regional differences in personality impact consumption behavior, with higher levels of collective personality associated with higher spending in corresponding categories.

Furthermore, Tovanich et al. [25] suggested that personality characteristics, such as materialism and self-control, can be inferred from expenditures, indicating that spending habits may reflect fundamental psychological characteristics. Research has also emphasized Big Five personality factors as significant determinants of financial choices. Conscientiousness is consistently linked to positive financial management behaviors, including budgeting and saving [26]. Conversely, extraversion is correlated with increased spending, particularly in social contexts, which may be driven by a desire for social validation through purchases Burhan et al. [27]. Khan [28] further emphasizes the role of extraversion and neuroticism in impulsive purchasing, while neuroticism has been linked to compulsive buying and difficulties with self-regulation.

Whereas the evidence largely supports a link between personality traits and spending, some research challenges the simplicity of this relationship [29]. While acknowledging the importance of personality in marketing, prior research has found only weak correlations between personality and spending behaviour. This suggests that the relationship may be more complex than some studies propose. Additionally, other research emphasises the influence of external factors, such as family and financial literacy, in shaping financial behaviour [30].

2.2.2. Peer Influence and Spending Behaviour

Peer influence plays a substantial role in shaping the financial decisions of university students, presenting both advantages and disadvantages. Adolescents and young adults are particularly susceptible to peer influence in their financial behaviors, which sometimes entails financially unwise decisions [20, 31]. Research suggests that young people often attempt to match or even surpass their peers' lifestyles, possessions, and social status. This can lead to increased consumption of durable goods, especially when individuals perceive their peers as having higher incomes [32]. Strong emotional bonds with peers can further catalyze impulsive purchasing as individuals strive to conform to group norms [33].

Several studies demonstrate the link between peer pressure and consumptive behaviour, particularly among university students. Mavale and Soni [4] explored the complex relationship between spending behaviour and peer influence, noting both positive and negative aspects and offering strategies to mitigate negative peer pressure. Kumar et al. [34] further support the relevance of this line of inquiry by providing analyses and recommendations for addressing excessive spending among college students, influenced in part by social pressures. Status-driven consumerism, influenced by materialism and social comparison, is prevalent among students, often leading to financial strain and debt [35, 36]. These factors further highlight the influence of social and peer dynamics on student purchasing behaviour within e-commerce environments.

Although peer influence can contribute to negative financial behaviors, it is important to acknowledge its potential benefits. Peer groups can motivate us to do good things and boost our sense of self-worth, showing the complexity of peer relations. Moreover, peers can promote positive financial behavior, such as healthy lifestyles and efficient energy consumption [37, 38]. Therefore, peer influence should not be viewed as negative; it may be used to promote responsible financial behavior. The relationship between peer influence and negative behaviors, such as impulsive consumption and substance abuse, is recognized by Basuki et al. [39]. However, the study also

acknowledges the possible ‘positive’ functions that peer influence may serve. This suggests that the relationship between group ‘pressure’ and individual ‘consumer’ autonomy is not always negative and that social dynamics may, in some cases, have a positive influence on an individual’s spending behavior.

2.2.3. Financial Literacy and Spending Behaviour

There is considerable research suggesting that financial literacy has an important impact on consumer spending behavior. For example, Jumena et al. [40] conducted a meta-analysis of 124 studies across 185 countries and ten regions, finding a significant association between financial literacy and spending behavior. Riaz et al. [41] focused on Pakistani university students, providing evidence of a positive correlation between financial literacy and spending habits. The study further emphasized the particular challenges that students with lower financial literacy encounter in managing their finances.

Greater financial literacy means one can competently budget, strategically consume, and evade certain financial traps [21], so a more developed grasp of financial concepts indeed empowers solid decision-making. Participation and completion of financial education programs contribute further towards positive shifts in spending behaviour and an increase in financial literacy [42]. The essence of financial literacy remains constant, though the theoretical ways in which one may examine it, especially within a systematic review analysis, have increased in importance. Furthermore, the positive link between emerging digital financial literacy and financial behavior is noteworthy [43].

While acknowledging the significance of financial literacy, several factors influence its direct effect on spending behavior. For example, personality traits could significantly impact one’s financial management skills regardless of the level of financial knowledge. Moreover, cognitive biases such as overconfidence could affect one’s financial decisions even if one has expertise in finances [44]. This implies that having financial knowledge alone is inadequate for making rational financial decisions.

Also, demographic characteristics, such as gender, may affect consumer behaviors. Studies show that female shoppers, on average, tend to be more careful with their money, while males tend to be more extravagant [45, 46]. Such results demonstrate the need to take gender-related variables into account when studying the financial literacy-spending behavior nexus. There is a need for additional studies to analyze, in a more comprehensive way, the nuances of these relationships to design better interventions aimed at improving financial wellness, especially given the contradictory results present in the literature.

2.2.4. Financial Literacy as a Mediator of Spending Behaviour

Previous studies on financial literacy, personality traits, peer influence, and spending behavior often overlook the mediating role and direct effects of financial literacy. Some research indicates a full mediating effect on factors such as COVID-19 awareness and personal health [47], while others demonstrate a mediating influence between psychological factors and money management skills, but not on economic and social factors [48]. Partial mediation has also been observed, with social influence directly impacting saving behavior while also exerting an indirect effect through financial literacy and self-control [49]. Conversely, some research finds that financial literacy does not mediate the relationship between personality traits and impulsive purchasing behaviors [50].

Further studies highlight digital financial literacy as a direct and mediating predictor of financial decision-making [51]. Research also suggests that financial literacy has a mediating effect between financial inclusion and sustainable development [52].

However, a significant gap remains in understanding the mediating impact of financial literacy on the correlation between peer influence, personality traits, and spending behavior. This study addresses this lacuna using primary data. The study integrates the Theory of Planned Behaviour (TPB) and Social Learning Theory (SLT) to explain university students’ spending behavior. The conceptual model of the study is shown in Figure 1.

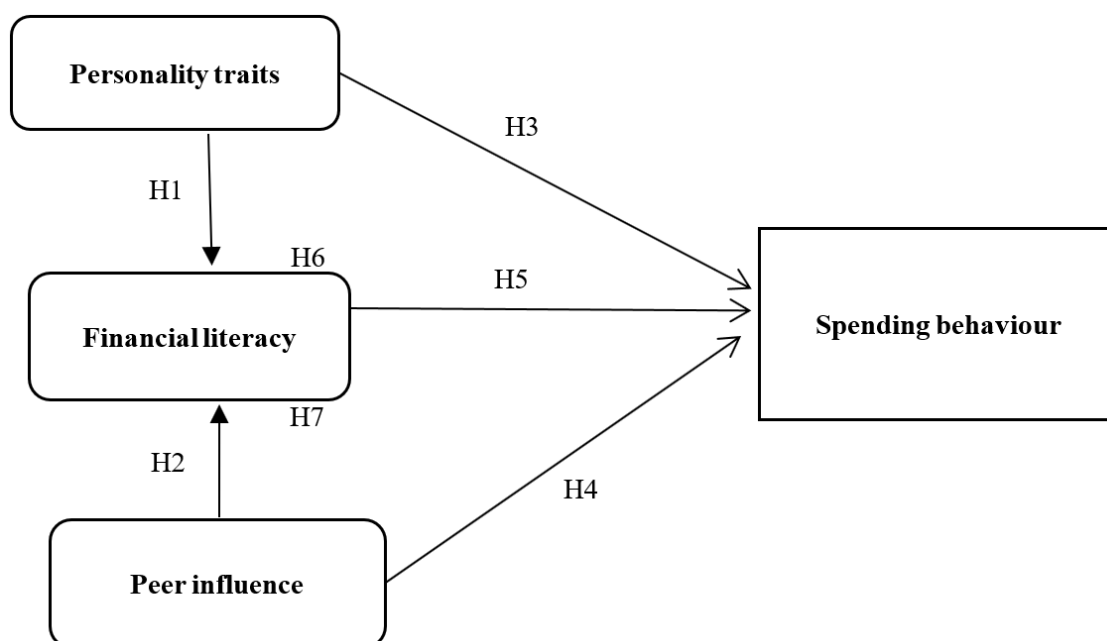


Figure 1. Structural framework of the study.

Existing literature emphasizes that psychological, social, and educational factors jointly shape financial decision-making and spending behavior [18, 19]. Personality traits influence individuals' self-control and financial discipline, peer influence reflects social norms and pressures, and financial literacy provides the foundation for informed decision-making. Synthesising these relationships, the current study proposes the conceptual framework in Figure 1, integrating personality traits, peer influence, financial literacy, and spending behaviour. Based on this framework, the following hypotheses are proposed.

H₁: Personality traits affect students' financial literacy.

H₂: Peer influence affects students' financial literacy.

H₃: Personality traits affect students' spending behavior.

H₄: Peer influence affects students' spending behavior.

H₅: Financial literacy affects students' spending behavior.

H₆: Financial literacy mediates the relationship between personality traits and spending behavior.

H₇: Financial literacy mediates the relationship between peer influence and spending behavior.

3. RESEARCH METHOD

The study is conducted among College of Business Administration students at Imam Abdulrahman bin Faisal University (IAU) in Saudi Arabia. Ethical clearance (IRB-2024-01-537) was obtained from the Internal Review Board of IAU to ensure that the study is performed in accordance with fundamental principles of conducting research with the necessary research instrument. The study seeks to observe the relationship between financial literacy, peer influence, personality traits, and spending behavior among university students through a structured survey.

Due to the exploratory nature of the research, a research instrument (questionnaire) was used to obtain information directly from the students at the College of Business. These students were sampled because they are expected to have some level of independence in their spending and also to have been exposed to a certain level of literacy in financial management. The sampling techniques used included purposive sampling with a focus on the business college students. The questionnaire was randomly administered to students without having any specific students in mind.

The survey was distributed to the students through an online platform to capture the relevant variables of the research. The research instrument presented the background of the research, information about voluntary

participation, and confidentiality of data, which would be reported in aggregate form. Furthermore, there were four other sections, with each section having five questions to measure them. While Sections 1 and 2 related to the students' spending behavior and financial literacy, Sections 3 and 4 related to peer influence and personality traits. All questions asked in this study were on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5).

Based on the inclusion and exclusion criteria, this study considered both male and female students in the College of Business and excluded students younger than 18 or older than 30 to properly reflect the undergraduate students at the College.

According to Hair et al. [53], a sample size of over 100 can be considered appropriate for studies with only four main constructs under investigation. In another study, Hair et al. [54] emphasized that the minimum number of samples required for partial least squares analysis is 100 when the number of variables is less than or equal to 5, 150 if the variables are fewer than or equal to 7, and 300 if the variables exceed 7. This study obtained 279 correctly filled responses, which is deemed adequate considering the number of variables involved.

The Statistical Package for the Social Sciences (SPSS) 27.0 version was employed for data coding and processing, and the Partial Least Squares (PLS)-based structural equation model (Smart-PLS 4 version) was utilized to measure the relationships between each variable and its construct as well as to test the hypotheses. The PLS method has the power to examine the causal effect between variables, which could serve simultaneously as dependent and independent variables in a model [55, 56]. This is based on the covariance matrix of the variables under consideration [57].

Table 1. Constructs and items descriptions.

Constructs/Items	Items description
Financial literacy (FL)	
FL01	I am good at managing my money.
FL02	I maintain a record of my expenses.
FL03	I have a habit of saving regularly.
FL04	I set aside money in advance for the things I want to buy.
FL05	I constantly update myself with economic and financial news.
Peer influence (PI)	
PI01	I think peer pressure can affect my decisions to buy things.
PI02	In general, I buy things that my friends buy.
PI03	I always seek my friend's opinion before I buy a product.
PI04	My friends influence my purchases.
PI05	I always accept my friends' recommendations on what brand of product to buy.
Personality traits (PT)	
PT01	I see myself as someone sociable.
PT02	I seldom feel shy, inhibited.
PT03	I am someone who has a lot of enthusiasm.
PT04	I stay in the background.
PT05	I am creative, and I enjoy different fields.
Spending behaviour (SB)	
SB01	I maintain a record of my expenses.
SB02	I prefer to have meals in restaurants or cafés.
SB03	I compare prices of similar products with different brands before I purchase.
SB04	I prefer to buy branded goods rather than non-branded goods.
SB05	I do not spend on things that are not important.

Table 1 shows that there are four constructs comprising financial literacy (FL), peer influence (PI), personality traits (PT), and spending behavior (SB). While FL, PI, and PT have five items each, SB has only four items. The analysis of the items is presented in the results section.

4. RESULT ANALYSIS AND DISCUSSION

The results of the study are presented and discussed in this section.

4.1. Result Analysis

Out of the 292 responses received, 279 were found useful for analysis. Table 2 shows the demographic data, indicating that 52% of the respondents are male while 48% are female. Also, the majority of the respondents (44%) are between the ages of 22 and 25 years; 28% of the students are between 20 and 22 years; 25% of the students are between 18 and 20 years; and the least of them are above 25 years.

Table 2. Demographic data.

Respondents' characteristics	Description	Frequency	%
Age (in years)	Between 18 and 20	70	25.1
	Between 20 and 22	79	28.3
	Between 22 and 25	122	43.7
	Above 25	8	2.9
	Total	279	100
Gender	Female	133	48
	Male	146	52
	Total	279	100

Table 3 presents the descriptive analysis of the data using mean rankings (1–5). The main factors are spending behavior (SB), financial literacy (FL), peer influence (PI), and personality traits (PT), each measured with five items. For spending behavior, most students agreed that they compare prices of similar products with different brands before purchase (mean = 4.06). This was followed by a mean of 3.66, indicating that many students claimed to buy branded products over non-branded ones. The lowest mean (3.31) reflected willingness to buy the latest fashion items such as clothes, shoes, and accessories. Table 3 also reflects the items of financial literacy among the students, and most students reported that they set aside money in advance for intended purchases (mean = 3.82). This was followed by self-reported money management (mean = 3.62) and regular saving habits (mean = 3.51). However, fewer students reported keeping a record of expenses (mean = 3.04).

Table 3. Mean ranking of the constructs and items in the study.

Items	Spending behaviour (SB)	Financial literacy (FL)	Peer influence (PI)	Personality traits (PT)
1	3.31	3.62	3.41	3.54
2	3.45	3.04	2.44	3.28
3	4.06	3.51	3.29	3.79
4	3.66	3.82	2.93	4.01
5	3.34	3.10	3.74	3.40
Average of mean ranking	3.56	3.42	3.16	3.61

Regarding peer influence, the highest mean (3.74) indicated that students often accepted friends' recommendations on product brands. Many also agreed that peer pressure affected their purchasing decisions (mean = 3.41). For personality traits, the highest mean (4.01) indicated creativity, followed by enthusiasm (3.79), while shyness scored lower (3.28). The table also shows the average mean rank across constructs, with personal traits having the highest mean rank of 3.61, spending behavior 3.56, financial literacy 3.42, and peer influence 3.16.

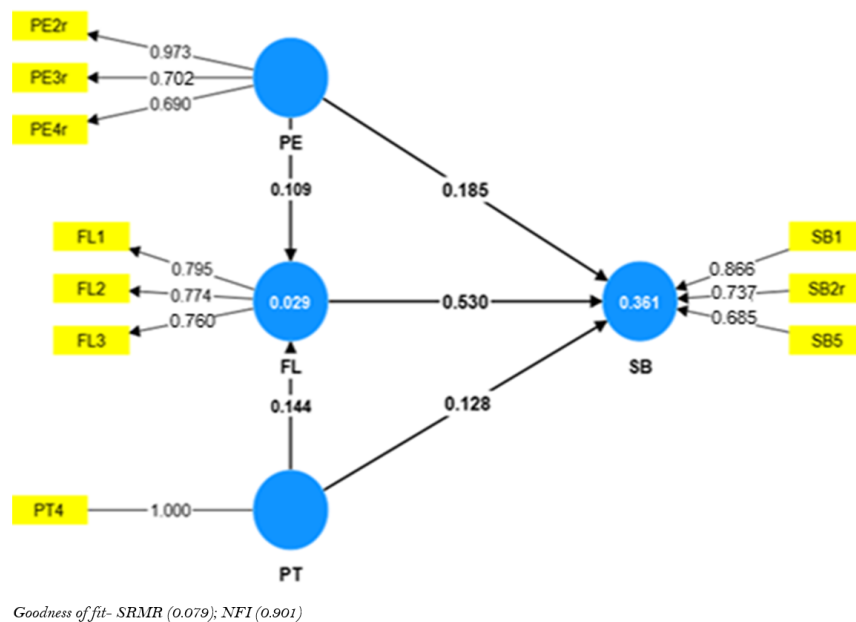
Table 4 presents the correlation results. Spending behavior (SB) was positively correlated with FL (0.453), PI (0.247), and PT (0.432), all significant at the 1% level. This suggests that SB and the three other factors move in the same direction.

Table 4. Correlation matrix.

S. No.	Variables	1	2	3	4
1	Spending behavior	1	-	-	-
2	Financial literacy	0.453**	1	-	-
3	Peer influence	0.247**	0.173**	1	-
4	Personality traits	0.432**	0.280**	0.226**	1

Note: **Significant at 0.01.

The PLS-SEM results are presented in Figure 2 and Table 5. Only 10 out of 20 items were retained after low loadings and insignificant items were removed. The items removed are *FL04*, *FL05*, *PI01*, *PI05*, *PT01*, *PT02*, *PT03*, *PT05*, *SB03* and *SB04*. Cronbach's Alpha values for all constructs were above 0.7, meeting reliability thresholds [53]. Convergent validity was also satisfied, with AVE values exceeding 0.5. VIF values ranged from 1.00 to 1.647, far below the maximum threshold of 10, confirming the absence of multicollinearity [54]. The values of the SRMR and NFI are 0.079 and 0.901, respectively, which reflect that the model passed the model fit test that required less than 0.08 of SRMR and more than 0.90 of NFI. The R^2 for overall spending behavior (0.36) could be considered substantial as it is above 0.26, as stated in some literature, while that of financial literacy (0.029) is weak. However, since the model passed the majority of the model fit tests, the variables are considered to be suitable for the model.

**Figure 2.** Output of the PLS model.**Table 5.** Reliability and convergent validity.

Constructs/Items	Loadings	Cronbach's alpha	VIF	AVE
Financial literacy (FL)		0.716		0.846
FL01	0.795		1.281	
FL02	0.774		1.155	
FL03	0.760		1.273	
Peer influence (PI)		0.723		0.850
PI02_r	0.973		1.386	
PI03_r	0.702		1.388	
PI04_r	0.699		1.647	
Personality traits (PT)		1.00		1.000
PT04	1		1.000	
Spending behaviour (SB)		0.745		0.863
SB01	0.866		1.068	
SB02_r	0.737		1.049	
SB05	0.685		1.094	

The outcome of discriminant validity is presented in Table 6, using the Heterotrait-Monotrait (HTMT) criterion. The result indicates that all values are far below the maximum threshold of 0.85. This also shows that the model meets the discriminant validity requirement and that each of the constructs measures an idea distinct from the others.

Table 6. HTMT analysis.

Constructs	FL	PI	PT	SB
Financial literacy (<i>FL</i>)				
Peer influence (<i>PI</i>)	0.133			
Personal trait (<i>PT</i>)	0.171	0.190		
Spending behaviour (<i>SB</i>)	0.124	0.115	0.216	

The structural model results are summarized in Table 7. Personality traits had a positive and significant impact on FL ($\beta = 0.144$, $p < 0.01$). Peer influence, while positive ($\beta = 0.109$), was not significant. Personality traits ($\beta = 0.128$), peer influence ($\beta = 0.185$), and financial literacy ($\beta = 0.530$) all significantly influenced SB. Hence, hypotheses H1, H3, H4, and H5 were supported, while H2 was rejected.

Table 7. Results of direct effect hypotheses.

Hypotheses	Path weight	P-value	Path Direction	Decision
H1	0.144	0.0000	PT \rightarrow FL	Supported
H2	0.109	0.1570	PI \rightarrow FL	Not Supported
H3	0.128	0.0071	PT \rightarrow SB	Supported
H4	0.185	0.0263	PI \rightarrow SB	Supported
H5	0.530	0.0271	FL \rightarrow SB	Supported

Indirect effects are shown in Table 8. FL mediated the relationship between PT and SB ($\beta = 0.076$, $p < 0.05$), supporting H6. However, FL did not mediate the effect of PI on SB ($\beta = 0.053$, $p > 0.05$), resulting in the rejection of H7.

Table 8. Results of indirect effect hypotheses.

Hypotheses	Path weight	P-value	Path direction	Decision
H6	0.076	0.0321	PT \rightarrow FL \rightarrow SB	Supported
H7	0.053	0.1592	PI \rightarrow FL \rightarrow SB	Not supported

4.2. Discussion

Personal finance, encompassing saving, investing, borrowing, and spending, is becoming an increasingly contentious topic in relation to economic growth and development. The consumption preferences of university students are particularly significant, as they influence market demand and inform firm production choices. However, unguided spending habits may lead to long-term debt burdens after graduation. This study found that PT, SB, FL, and PI all scored above 3 on the mean scale, indicating their relevance in shaping students' behavior. Correlation analysis confirmed positive associations among the constructs, with FL and PT showing stronger correlations with SB, consistent with previous findings [40, 52].

The structural equation model indicated that PT positively influenced FL, consistent with other studies demonstrating that critical thinking enhances financial management skills [23, 26]. Conversely, PI did not significantly influence FL, contrasting with research suggesting that peer environments shape financial knowledge [4, 37]. SB was directly affected by PT, PI, and FL, with FL exerting the strongest influence. This supports prior findings that financial literacy enhances informed decision-making and protects against financial pitfalls [28, 41, 44]. Personality-driven traits, such as materialism and self-control, also played a significant role in shaping SB [18, 23]. Additionally, peer influence reinforced spending behavior, aligning with research emphasizing social pressure in consumerism [33]. Finally, FL was found to mediate the relationship between PT and SB, suggesting that personality

traits such as conscientiousness improve SB when students are financially literate. This is supported by studies linking self-control and planning to prudent spending [26]. However, FL did not mediate the PI-SB relationship, contradicting findings that peer influence affects spending via financial knowledge [30-32].

5. CONCLUSION

This study investigated the impact of personality traits and peer influence on students' spending behavior, with financial literacy serving as a mediating variable. Drawing on the Theory of Planned Behavior (TPB) and Social Learning Theory (SLT), the study developed and tested seven hypotheses (H1-H7) using data collected from business administration students at Imam Abdulrahman bin Faisal University and PLS-SEM for hypothesis testing.

The results of this study show that H1, H3, H4, H5, and H6 were supported, while H2 and H7 were not. In other words, personality traits significantly affect students' financial literacy (supporting H1), and personality traits and peer influence directly affect spending behavior (supporting H3 and H4). Financial literacy was observed to have a strong positive influence on spending behavior (supporting H5) and mediates the effect of personality traits on spending behavior (supporting H6). However, peer influence did not significantly influence financial literacy (H2), and financial literacy did not mediate the association between peer influence and spending (H7), though peer influence does exert a direct effect on spending.

6. POLICY SUGGESTIONS

The policy and social implications of this study are multifaceted. First, universities should continue and expand curricular and co-curricular financial literacy programs, including workshops, short credit-bearing modules, and budgeting labs, because financial knowledge both reduces risky spending and mediates the effect of personality on behavior. Second, because peer influence acts directly on spending, institutions of higher learning should deploy social-norm and peer-led strategies such as student finance ambassadors, peer mentoring, social campaigns that normalize prudent spending, and structured peer-group activities that model and reward budgeting and saving. Third, combine literacy training with behavioral supports like budgeting tools, goal-setting exercises, commitment devices, and digital nudges that translate knowledge into everyday choices. Finally, program design should be evaluated to determine which combinations of literacy and peer-norm interventions most effectively reduce harmful spending patterns.

By explicitly linking individual traits, social influence, and financial knowledge, this study contributes evidence-based guidance for university policymakers and educators seeking to foster financially responsible graduates in line with Saudi Arabia's Vision 2030.

7. LIMITATIONS AND FURTHER RESEARCH

The study is limited to a university in the Eastern Province of Saudi Arabia, so there is a need for further studies that consider universities across the Kingdom. Additionally, further studies could consider longitudinal data, which captures more than one period, allowing for comparisons across different periods.

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Institutional Review Board Statement: The Institutional Review Board of Imam Abdulrahman bin Faisal University, Saudi Arabia, approved this research under protocol number [IRB No. 2024-01-537], dated [17 July 2024] and written consents were obtained from all the participants.

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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