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Determinants of Investment Awareness: A Moderating Structural Equation Modeling-Based Model in the Saudi Arabian Context

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Abstract: In line with today's economy, investment and financial awareness are necessary for success and an individual's well-being, specifically for the younger generations. Therefore, this study aims to examine the relationships between financial literacy, saving behavior, a lack of self-control, family financial socialization, and investment awareness. Further, it investigates the moderating role of both family financial socialization and the lack of self-control in these relationships. Employing a quantitative study technique and partial least squares structural equation modeling (PLS-SEM), we analyzed a sample of 409 students representing young adults at King Faisal University, specifically in the School of Business. Our results indicate that financial literacy, saving behavior, and family financial socialization are significantly and positively related to investment awareness. Interestingly and as expected, a lack of self-control negatively and significantly affects investment awareness. For the moderating impact, it was found that the connection between financial literacy, saving behavior, and investment awareness is positively and strongly moderated by family financial socialization. Likewise, a lack of self-control significantly and negatively moderated the association between financial literacy, saving behavior, and investment awareness. The results of this study provide substantial implications for regulators, educational organizations, individuals, and their families.

Keywords: family financial socialization; financial literacy; investment awareness; lack of self-control; saving behavior; Saudi Arabia

MSC: 91C99

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1. Introduction

The financial position and well-being of individuals depend on their actions. Even though these actions can be affected by outside factors, such as economic policies implemented by private sectors or governments, individuals eventually make financial decisions. Further, there is a growing diversification in financial services and products, which increases the complications for individuals in making investment decisions [1]. In effect, these diversified services and products involve many choices and tools for individual investors to decide where and how to invest. In such financial circumstances, a lack of investment awareness could substantially affect an individual's financial outcomes [2].

Nowadays, the concept of investment awareness has received great importance as a financial concern [3]. Hastings and Mitchell [4] revealed that constant growth in the level of investment awareness had been witnessed globally for different age groups. Financial and investment awareness are two vital factors for the sound improvement of the financial market. Communities categorized with a high degree of financial awareness are more inclined to have individuals with strong skills in making sound investment decisions [5]. Investors with deficient appropriate financial awareness may make unreasonable financial decisions [6]. Further, the decisions of investors are considerably impacted by their behavior and commonly, individual investors display illogical and ineffective behavior in the market [7].

The existence of poor financial awareness in Saudi Arabia as reported by Alshebami and Aldhyani [8,9], emphasizes the necessity for recognizing the crucial elements influencing investment awareness. Saving signifies an essential foundation for an individual's investments that will lead to the growth and development of the country's economy [10]. Agarwalla et al. [2] advocated that the participation of families in businesses leads to their children being more aware of the fundamentals of personal finances. Indeed, children and adults obtain financial abilities inside the family via different socialization practices such as noticing the financial behavior of their parents. A fundamental emotion, a lack of self-control, is the individual thinking concerning the accomplishment of one's investment decisions [11]. To this end, understanding the link between the factors, i.e., financial literacy, saving behavior, family financial socialization, a lack of self-control, and an individual's investment awareness, is increasingly recognized as a critical financial issue.

Social influence, i.e., family, can form the principles and behaviors of an individual and thus could influence the individual's decisions [12]. Saving behavior can be one of the behaviors shaped by family socialization. Parents are important in guiding and instructing their children toward being financially literate [13], that is, families represent a vital source of inspiration and education for their children about financial knowledge and behaviors such as spending and saving. For children to live well without bad financial problems, their families must educate them about financial matters and investments [14]. Thus, examining the moderating role of family financial socialization in the association between financial literacy, saving behavior, and investment awareness is desired. Further, when investigating the link between financial literacy, saving behavior, and investment awareness, it is imperative to consider the impact of a lack of self-control on these links. It has been reported that an individual's self-control can moderate the connection between financial literacy and saving behavior [15]. A lack of self-control can affect the individual's capability to monitor his/her requirements, thoughts, and actions to accomplish precise goals, i.e., saving, spending, investing, and a suitable retirement plan [16]. Similarly, preceding work by Romal and Kaplan [17] has also linked self-control to savings, financial management, and credit problems. It was reported by [8] that exercising a substantial degree of self-control is needed to increase the numerous benefits of financial literacy. To this end, examining the moderating role of a lack of self-control on the relationships between financial literacy, saving behavior, and investment awareness is important.

Financial knowledge and investment awareness are receiving great interest in Saudi Arabia. For example, the Ministry of Education in Saudi Arabia is about to integrate a financial literacy course into the curriculum of the secondary stage for the current academic year 2022–2023. The General Authority for Statistics in Saudi Arabia [18] revealed that young Saudi people aged 15 to 34 years represent 36.7% of the whole population. Young individuals lack financial awareness regarding financial planning, services, and products [19]. Regardless of the critical modifications and reforms that happened to the Saudi economy, a low level of financial awareness still exists [20]. It is evident from Sedais and Al Shahab [21] that the degree of financial awareness among Saudi youth (below 37 years) is low. According to the Organization for Economic Cooperation and Development (OECD), Saudi young individuals' financial literacy represents only 9.6 out of 21, signifying a weak degree of financial literacy compared to other countries [22]. The OECD also mentioned that this degree is the lowest among the G20 countries. Alyahya [23] pointed out that most university students in Saudi Arabia are financially illiterate. Furthermore, the Saudi Vision 2030 is considering the importance of the financial sector as it works to increase the awareness and culture of investment in the Saudi market via the Capital Market Authority (CMA) and other bodies. The Saudi Vision 2030 also aims to increase the level of saving among Saudi families to 10%. To conclude, certain awareness and capabilities are required for young individuals to make sound investment decisions. Thus, prior discussions draw attention to the existence of a gap in the investment awareness level in Saudi Arabia, which our study aims to investigate.

This study proposes to contribute to and progress the existing literature in some ways. First, it enlarges and deepens the current literature on the link between investors' awareness and financial literacy, behaviors (saving, self-control), and family financial socialization in an emergent country, Saudi Arabia. This link has been mostly overlooked, especially in Saudi Arabia and other developing countries [24]. Second, this study is unique as it examines the impact of both cognitive factors, i.e., financial literacy, and non-cognitive variables, such as a lack of self-control and saving behavior, on investment awareness. The prior works focused mainly on exploring cognitive factors [25,26]. Third, so far, there are no documented works relating to the moderating impact of both family financial socialization and a lack of self-control on the relationship between financial literacy, saving behavior, and investment awareness. Consequently, this study is pioneering in providing a distinctive perception of such moderating impacts and filling the gaps in the existing literature on a developing country, Saudi Arabia. Finally, this study has important implications for policymakers, regulators, universities, families, and individuals by considering financial and investment awareness at an early age.

The remaining parts of our study are structured as follows. The Section 2 discusses the related literature and hypotheses building. The Section 3 discusses the study's methodology involving the procedures and measurements. The Section 4 shows the data analysis and results. The discussion is presented in Section 5. Finally, in conclusion, the implications in addition to the limitations and guidelines for future works are presented in Section 6.

2. Literature Review and Hypotheses Development

2.1. Financial Literacy and Investment Awareness

Financial literacy is becoming even more crucial. As a result, it is now essential to have a deeper understanding of financial concepts and goods to acquire the ability to make wise financial decisions and increase financial well-being [27]. Financial literacy is defined by The Organization for Economic Co-operation and Development (OECD) as "A combination of awareness, knowledge, skill, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being" [28]. Mitchell and Lusardi [29] defined financial literacy as the capacity of an individual to obtain, comprehend, and use financial data to make effective and complete financial judgments regarding financial matters (i.e., planning, investment, and liabilities management), that is, if people or families want to be financially successful, they must have the necessary level of financial literacy.

The growth in bankruptcy and social issues among the younger generation are said to be caused by financial instability and a lack of financial literacy [30]. An individual's attitudes about various topics such as investment can be changed by gaining financial management knowledge. Azhar et al. [26] discovered that respondents' financial literacy in information gathering, investment types, and investment methods substantially impacted their investment awareness. Likewise, Heniawan and Dewi [25] indicated that respondents' financial literacy considerably influenced investing awareness. These results are consistent with Azizah et al. [31], who emphasized the value of financial knowledge when it comes to investing money. According to Lusardi and Mitchell [32], financial literacy enables investors to succeed with their investments and earn greater returns. In addition, Abreu, and Mendes [33] confirmed that people with good financial understanding might diversify their assets to reduce risk. Financially literate people are also seen to borrow and save money sensibly and invest and spend money prudently [34,35]. Chen and Volpe [36] supposed that students with more advanced financial education were more driven to make the right financial decisions than students with a less developed financial education. Aren and Zengin [37] revealed a strong correlation between financial literacy and investing choices. They added that less financially confident investors are more likely to invest in deposits. Conversely, investors with higher financial literacy prefer to invest in equities. These results align with Mazumdar [38], who stated that financially literate investors often put more money into hazardous ventures.

The fundamental argument for financial literacy is that better financial management stems from greater financial knowledge, which improves investment awareness, that is, individuals with higher financial literacy will have better investment awareness. Based on the above discussion, we suggest the following hypothesis:

Hypothesis 1 (H1). *Financial literacy has a positive impact on the investment awareness of the young Saudi generation.*

2.2. Saving Behavior and Investment Awareness

Saving behaviors are crucial to both economic development and growth. Every person must understand how to manage their finances in terms of investing and saving [39]. In line with Denton [40], saving behavior reflects potential requirements, saving decisions, and wealth-creating behaviors. Mpaata et al. [15] claimed that saving money is a basic human need that enables people to handle difficult financial choices in their life. Controlling one's consumption and being knowledgeable about how to spend money wisely are two benefits of saving money [41]. In their study, Mohamad et al. [42] indicated that young Malaysian persons, particularly students, could not use educational loans for saving because they lacked financial knowledge. The ability to do calculations and develop a saving strategy are two crucial skills required for saving behavior [43].

According to Bandura's theory [44] of social cognition, knowledge acquisition and learning are processes that occur in a social environment. It explains how environmental factors have an impact on people throughout their lives. According to the theory, the settings might influence how people behave. This affirms the necessity for understanding financial management, which will improve saving behaviors, investing knowledge, and abilities. Therefore, saving is a behavior that can significantly affect the choices made about investments. We, therefore, propose the following hypothesis:

Hypothesis 2 (H2). *Saving behavior has a positive impact on the investment awareness of the young Saudi generation.*

2.3. Family Financial Socialization and Investment Awareness

Parental financial practices can be transmitted to their offspring through the use of financial socialization. Financial socialization is the acquiring and developing of knowledge, skills, norms, standards, and attitudes related to money and money management, including understanding the fundamental terms and concepts of investing, saving, banking, insurance, using credit cards, and other financial matters [45]. Children acquire financial knowledge within their families at an early age via various socialization methods such as seeing their parents' financial activities or conversing with them about money and investments [46]. In this way, young adults enhance their financial capacities and competencies, increasing their financial independence and awareness. Despite this, only a handful of research has examined family financial socialization techniques [47]. In order to fill this gap, we evaluate the function of family financial socialization in increasing the investment knowledge of youngsters in the present research.

Teens need to obtain financial knowledge through the family environment during their youth, where they can acquire and retain good money attitudes throughout their lives [48,49]. Moreover, family socialization is essential in informing and guiding students to move from illiteracy to financial literacy [41,50]. In their research on the association between financial socialization experiences and favorable financial practices in early life, Kim and Chatterjee [51] demonstrated that holding a savings account during infancy is favorably associated with possessing financial assets as an adult. The investment awareness of a person and the investment decisions he/she makes can be influenced by the positive financial habits they exhibited during their childhood. Mpaata et al. [12] argued that social factors influence financial literacy.

Financial Socialization Theory [52] proposes that child–parent interactions and observations regarding money primarily predict financial success as a young adult during the formative years. In addition, the theory of social learning demonstrates how young individuals' financial decisions are influenced by their social surroundings including their families. This theory has shown that young adults obtain expertise in financial matters via their parents' deliberate guidance and observation [53]. Thus, financial education gained from families throughout infancy could favorably affect future financial choices such as investing. Specifically, we hypothesize that family financial socialization can positively contribute to improving investment awareness. Therefore, we propose the following hypothesis:

Hypothesis 3 (H3). *Family financial socialization has a positive impact on the investment awareness of the young Saudi generation.*

2.4. Lack of Self-Control and Investment Awareness

Bernheim et al. [54] defined self-control as "Controlling one's behavior in situations when there is a simple trade-off between long-term goals and immediate enjoyment". Mpaata et al. [12] argued that people who lack self-control need plenty of financial literacy to have a favorable impact on their savings behavior. To increase our understanding of how people make financial choices such as investment decisions, it is necessary to investigate the psychological factors that influence their financial behavior and welfare [55]. Thus, it is necessary to investigate the relationship between self-control and investment awareness.

In their research, Stromback et al. [55] found that those with more self-control are more likely to have better financial behavior, save more money, and feel financially secure in the present and future. This conclusion was confirmed by the findings of Younas et al. [56], who found that those with stronger self-control exhibit improved financial conduct and capacity to manage their finances. Thus, families with difficulties in self-control accumulate less wealth [57]. Evidence indicates that an individual's self-control may predict their future intellectual and self-regulatory skills and well-being [58], as well as their investment awareness. Miotto and Parente [59] discovered that those with established self-control and future-planning tendencies might handle their assets more effectively.

Under the behavioral life-cycle theory articulated by Shefrin and Thaler [60], the financial conduct of people throughout their lives is determined by their capacity to regulate urges and the costs involved in exercising such self-discipline. It is proposed that young people with more self-control should have established financial behavior and a greater capacity to manage their assets and money, hence enhancing their investment knowledge. Following the above discussion, the following hypothesis is formulated:

Hypothesis 4 (H4). *A lack of Self-control is positively related to the investment awareness of the Saudi young generation.*

2.5. The Moderating Role of Family Financial Socialization in the Young Saudi Generation's Investment Awareness

Financial literacy refers to the skills of managing money and financial affairs, i.e., investments, with the intention of making operative financial decisions to achieve the goals of individuals and families [61]. It is a critical problem when the young generations are characterized by low financial knowledge, which may lead to poor investment decisions. Parents are inclined to positively impact their children's financial attitudes and knowledge [14]. Indeed, parents do this to guarantee the successful financial lives of their children.

Social exchange theory hypothesizes that social relations, i.e., family, could impact individuals, particularly during financial decision making [3]. Gallery et al. [62] indicated that individuals count on others and strive for guidance from relatives and friends before making financial and investment decisions due to their lack of financial literacy in analyzing financial plans. Concerning financial decisions, the central aim of exchange behavior is to increase profits and reduce losses [3]. The social exchange theory adds that actions based on social interactions are greatly determined by the strength of the association between the consultant and the customer. Thus, family is considered one of the key variables that affect an individual's financial decisions [63].

On the empirical front, Alshebami and Aldhyani [8] showed that parents influence the financial literacy of Saudi youth. Hellström et al. [64] reported that family members' investment portfolios encouraged other family members to participate in the investments. Likewise, other evidence recognized parents' impacts on their children's financial behavior [65]. In the same vein, students coming from families that do not practice so-called family budgets are likely to have less financial awareness [2].

Based on the social exchange theory and previous studies, we thus theorize that family financial socialization can enhance the relationship between an individual's financial literacy and their investment awareness. Thus, we articulate the following hypothesis:

Hypothesis 5 (H5). *The financial literacy–investment awareness relationship is positively moderated by family financial socialization.*

2.6. The Moderating Role of Family Financial Socialization in the Saving Behavior–Investment Awareness Relationship

The perception of financial socialization has been developed based on the socialization theory [66]. Financial socialization displays the learning of various financial abilities, such as savings and investments, to increase an individual's financial well-being. Parents can provide opportunities for financial socialization by educating their children on how to save and spend money [20]. The role of parents is dominant among all other financial socialization agents, i.e., teachers and friends. This is in line with the findings of Pinto et al. [67], which showed that parents' financial interactions are negatively related to the financial difficulties of their children.

Ariffin et al. [41] reported that parental socialization is considered an important indicator of saving behavior proficiency. They added that encouraging children to save and invest is the role of their guardians. The findings of Manfrè [68] showed that once children receive financial socialization early in life, their saving habits will be better. Indeed, by observing the financial behavior of their parents and talking with them about financial issues, children will have a better chance of obtaining financial skills [46]. Children can be obligated by their parents to save [69]. Cude et al. [70] reported a positive association between parents' and students' saving behavior. Further, parental socialization positively influences students' saving behavior in Bangladesh [71]. Similarly, the social variable of family members has been documented to influence investors' investment behavior [72]. Families can bring about substantial change in the attitudes and behaviors of their young members in terms of investment, saving, and borrowing [2]. To this end, in line with socialization theory and the outcomes of prior works, it is expected that family financial socialization can boost the link between saving behavior and investment awareness. Hence, we can state the following hypothesis:

Hypothesis 6 (H6). *Saving behavior–investment awareness relationship is positively moderated by family financial socialization.*

2.7. The Moderating Role of Lack of Self-Control in the Financial Literacy–Investment Awareness Relationship

Psychological factors such as self-control are expected to be better depending on the financial power of individuals [2]. When selecting investment opportunities, self-control is considered an important emotion in an individual's selections [11]. Younas et al. [56] revealed that the financial behavior of economic agents is related to this emotion. Iram et al. [73] investigated the financial awareness of women and reported that women could make better investment decisions when they are related to good self-control and high financial literacy.

How an individual manages and controls themselves in their current financial cases will influence their financial future [56]. Self-control is supposed to help an individual deal with personal money management issues [73]. However, if the individual lacks self-control, their investments and other financial affairs will be adversely impacted. This suggestion is supported by the findings reported by [8] that showed that the association between financial literacy and saving behavior was negatively moderated by self-control. They added that Saudi young adults (university students) have a lack of self-control. Building on these claims, it can be specified that a lack of self-control can adversely impact an individual's financial literacy and hence the ability to make good investment decisions. Thus, we hypothesize that:

Hypothesis 7 (H7). *The financial literacy–investment awareness relationship is negatively moderated by a lack of self-control.*

2.8. The Moderating Role of Lack of Self-Control in the Saving Behavior–Investment Awareness Relationship

Based on behavioral life cycle theory (BLCT), an individual's saving behavior can be enhanced by their self-control [15]. Self-control can improve an individual's determination, judgments, and practices concerning realizing their objectives such as constructing appropriate retirement plans, managing spending attitudes, and saving [15,16]. Agarwalla et al. [2] indicated that mainstream Indian students lack self-control. Alshebami and Seraj [10] reported that Saudi students with a high level of self-control can simply monitor their spending and expenses.

Individuals need to implement a specific degree of self-control to make investments; it is essential for individuals to implement a specific degree of self-control. However, when individuals suffer from a lack of self-control, they may spend more and save less and will ultimately encounter financial troubles [74]. These arguments are supported by prior evidence such as Alshebami and Seraj [10], who found that self-control is negatively and significantly related to saving behavior. In the same way, the difficulties of self-control, i.e., a lack of self-control, can delay saving through more spending [75]. Thus, individuals tend to save less since they lack the self-discipline and determination to do so. Accordingly, self-control difficulties lead to more expenditure and finally, less wealth [76].

Further, Gathergood [77] showed that clients who lack self-control are among those who highly utilize quick-access financial products. Ameriks et al. [76] showed that self-control difficulties are experienced less often by mature individuals than younger ones. Gathergood and Weber [77] advocated that individuals who lack self-control typically select investment tools that offer greater instant value due to their spending behaviors, which are determined by short-term and impulsive motivations. Based on the above discussions and prior evidence, we formulate the following hypothesis:

Hypothesis 8 (H8). *The saving behavior–investment awareness relationship is negatively moderated by a lack of self-control.*

3. Methodology

3.1. Participants and Procedures

To achieve the objectives of this study, we targeted a sample of students at King Faisal University. Specifically, an online questionnaire created via Google Forms was distributed to bachelor's, master's, and diploma students at the School of Business. For the diploma students, we targeted those who studied courses related to finance and accounting and could transfer to the School of Business to obtain their bachelor's degrees. The master's and bachelor's respondents have all studied accounting and finance courses, which is in line with [78]. Those respondents can better read and comprehend the questions regarding investment awareness and other variables. As the respondents were Arabic speakers, we translated the questionnaire into Arabic since all our measurements were adopted from English sources. Following some prior studies such as [8], we employed convenience sampling owing to its advantages concerning reaching respondents and saving time and costs. We sent the questionnaire link to all respondents via the Blackboard learning management system and standard electronic mail of the university in addition to WhatsApp groups. After leaving the link available to the respondents (students) during June 2022, 409 responses were received and collected. Since privacy is an important issue, we presented an introductory segment at the beginning of the survey to clarify the purpose of the survey and the confidentiality of the data collected.

3.2. Measurement

This study adopted the measurements of its variables from the common and key prior studies related to this study's issues. Table 1 represents the study's variables and the sources of their measurements.

Table 1. Study variables' measurement sources.

Construct	Source of Measurement
Investment Awareness (IA)	Azhar et al. [26]
Financial literacy (FL)	Azhar et al. [26]
Saving Behavior (SB)	Agarwalla et al. [2]
Family Financial Socialization (FFS)	Ariffin et al. [41]
Lack of Self-Control (LSC)	Ariffin et al. [41]

3.3. Data Analysis Techniques

The technique that was selected to test the proposed relationships and the impacts of their inter-relationships (direct and moderating) was the PLS-SEM. PLS-SEM is considered the most appropriate data analysis technique for our study as it requires a small sample size than the CB-SEM and the data do not need to have a normal distribution [79]. Furthermore, PLS-SEM enables the retention of a greater number of variables per factor. In the model, the connections between the latent and observed variables were categorized as reflective. This is due to the fact that changes in the latent variables affect the measurement of the observed variables [80]. The present study employed "Structural Equation Modeling" (SEM) via "Partial least squares" (PLS) to test the study hypotheses with the SmartPLS-4.0 program. Following Leguina [79]'s two-step approach, the proposed theoretical model was evaluated after evaluating the outer measurement model. Several criteria were employed to evaluate the outer measurement model and the inner structure model recommended by Hair et al. [80], as shown in Table 2.

Table 2. Recommended threshold values for the outer and inner models.

Inner Measurement Model					**Outer Model**			
Criteria	SFL	*a*	CR	AVE	R^2	Q^2	SRMR	NFI
threshold value	>0.70	>0.60	>0.70	>0.50	≥0.10	>0.0	<0.08	>0.90

SFL: Standardized Factor Loading; *a*: Cronbach's alpha value; CR: Composite reliability; AVE: Average Variance Extracted; R^2: Coefficient of determination; Q^2: Stone–Geisser Q2; SRMR: Standardized root mean square error; NFI: Normed Fit Index.

4. Data Analysis Results

4.1. Evaluation of the Outer Measurement Model

To assess the reliability and validity of the outer model, composite reliability (CR), internal consistency reliability (Cronbach's alpha), convergent validity, and discriminant validity were all evaluated. Cronbach's alpha (α) values ranged from 0.944 to 0.974, and the CR values from 0.949 to 0.975, as shown in Table 3, indicating that the scale had satisfactory internal reliability.

Table 3. Evaluation of the Outer Measurement Model.

Abbreviation	**SFL**	α	**CR**	**AVE**
Family Financial Socialization		0.974	0.975	0.904
FFS1: "My family is good example for me when it comes to financial management".	0.952			
FFS2: "I always talk about financial management with my family".	0.985			
FFS3: "I appreciate it when my family gives me advice about what to do with my money".	0.911			
FFS4: "Saving is something I do regularly because my family wanted me to save when I was little".	0.953			
Financial Literacy		0.952	0.954	0.869
FL1: "I know the different type of investments".	0.939			
FL2: "I know investment has good and bad effects".	0.969			
FL3: "I know where to get the information regarding investment".	0.887			
Investment Awareness		0.950	0.954	0.793
IA1: "I am aware of different investment avenues".	0.826			
IA2: "I am aware that investment is important for the future".	0.862			
IA3: "I am aware that investments are good for financial planning".	0.838			
IA4: "I am aware that investment can give more income".	0.972			
IA5: "I am aware that investment has high risk".	0.944			
Lack of Self Control		0.944	0.949	0.768
LSC1: "When I get money, I always spend it immediately (within 1 or 2 days)".	0.927			
LSC1: "I don't save, because I think it's too hard".	0.819			
LSC1: "(I see it, I like it, I buy it') describe me".	0.755			
LSC1: "I always failed to control myself from spending money".	0.884			
LSC1: "When I set saving goals for myself, I rarely achieve them".	0.981			
Saving Behavior		0.951	0.958	0.752
SB1: "I save for living expenses".	0.742			
SB2: "I save for my dependents".	0.871			

Table 3. *Cont.*

Abbreviation	SFL	α	CR	AVE
SB3: "I save for future sources of income".	0.912			
SB4: "I save for future obligations".	0.920			
SB5: "I save in order to meet the expected high rates of inflation (high prices)".	0.920			
SB6: "In order to save, I always follow a careful monthly budget".	0.910			
SB7: "I save for living expenses".	0.777			

Second, all of the utilized dimensions had "Standardized Factor Loading" (SFL) scores greater than 0.70, indicating that the factors had adequate reliability. Third, convergent validity was supported as the AVE values for all the employed dimensions were greater than 0.50 [80]. The discriminant validity of the constructs was then evaluated using three criteria, as suggested by Leguina [79]. These methods included "cross-loading", the "Fornell-Larcker criterion", and the "heterotrait-monotrait" ratio (HTMT). First, for each latent variable, the outer-loading (in bold) was greater than the cross-loading (with other measurements), as shown in Table 4.

Table 4. Factors' Cross-loading.

	FFS	FL	IA	LSC	SB
FFS1	0.952	0.401	0.301	0.031	0.200
FFS2	0.985	0.408	0.312	0.038	0.230
FFS3	0.911	0.361	0.288	0.010	0.226
FFS4	0.953	0.339	0.302	0.047	0.224
FL1	0.363	0.939	0.440	−0.002	0.234
FL2	0.389	0.969	0.454	−0.006	0.231
FL3	0.358	0.887	0.415	−0.004	0.177
IA1	0.228	0.387	0.826	−0.135	0.267
IA2	0.284	0.390	0.862	−0.082	0.292
IA3	0.289	0.371	0.838	−0.103	0.284
IA4	0.289	0.466	0.972	−0.079	0.304
IA5	0.317	0.464	0.944	−0.065	0.251
LSC1	−0.016	−0.030	−0.095	0.927	−0.266
LSC2	0.003	−0.037	−0.084	0.819	−0.235
LSC3	0.053	0.035	−0.077	0.755	−0.195
LSC4	0.070	0.006	−0.090	0.884	−0.177
LSC5	0.038	0.011	−0.100	0.981	−0.198
SB1	0.225	0.225	0.233	−0.314	0.742
SB2	0.189	0.216	0.273	−0.217	0.871
SB3	0.198	0.219	0.286	−0.216	0.912
SB4	0.196	0.177	0.288	−0.217	0.920
SB5	0.210	0.210	0.288	−0.209	0.920
SB6	0.211	0.206	0.285	−0.206	0.910
SB7	0.179	0.146	0.244	−0.110	0.777

Second, Table 5 shows that the diagonal AVE values in bold were higher than the inter-variable correlation coefficient, indicating high discriminant validity [80]. Third, the HTMT values should be less than 0.90, as stated by Leguina [79]. In the study, the HTMT levels were significantly lower than 0.90 (see Table 5). The findings support and confirm the measurement model's reliability and discriminant and convergent validity. Consequently, the outer measurement model's results were considered adequate to move forward with the structural model's assessment for hypotheses testing.

Table 5. Inter-construct correlations, the square root of AVE, and the HTMT results.

	AVEs Values					HTMT Results				
	FFS	**Fl**	**IA**	**LSC**	**SB**	**FFS**	**Fl**	**IA**	**LSC**	**SB**
1−FFS	0.951									
2−FL	0.397	0.932				0.397				
3−IA	0.317	0.468	0.891			0.316	0.467			
4−LSC	−0.233	−0.204	−0.102	0.876		0.243	0.229	0.103		
5−SB	0.231	0.230	0.314	−0.244	0.867	0.235	0.232	0.317	0.248	

4.2. Assessment of the Structural Model

Then, a structural equation analysis was used to test the hypotheses. In particular, we looked at the model's ability to predict and explain the variation in the exogenous variables and the endogenous variables [80]. The VIF values of the observed variables ranged from 2.554 to −4.751, all of which were less than 5, confirming that the structural model lacked multicollinearity. In addition, [81] recommended an R2 value of at least 0.10 to ensure a satisfactory model fit. As a result, the endogenous variable investment awareness had an R2 value of 0.51, indicating that the study model adequately represented the data (Table 6). Moreover, The Stone–Geisser Q2 assessment showed a value (0.537) of more than zero (Table 6), demonstrating the adequate predictive power of the model [82].

Table 6. Coefficient of determination (R2) and (Q2) and model fit (SRMR-NFI).

Endogenous Latent Construct	**(R2)**	**(Q2)**
Investment awareness	0.51	0.537
Model Fit	SRMR	NFI
	0.061	0.912

Finally, a bootstrapping method was used in smart PLS4 to examine the path coefficient and t-value of the direct and moderating relationships. The current study proposes four direct hypotheses and four moderating hypotheses. The smart PLS output showed that financial literacy had a positive and significant impact on investment awareness ($\beta = 0.31$, t-value = 0.569, $p < 0.001$), supporting hypothesis H1, as shown in Figure 1 and Table 7. Similarly, saving behavior was found to have a positive and significant impact ($\beta = 0.29$, t-value = 0.387, $p < 0.01$) on investment awareness, and hypothesis H2 was supported. The Smart PLS findings showed a positive and significant impact of family financial socialization on investment awareness ($\beta = 0.39$, t-value = 0.246, $p < 0.001$), which supports hypothesis H3. On the other hand, a lack of self-control was found to have a significant negative impact on investment awareness ($\beta = -0.41$, t-value = −0.855, $p < 0.001$), supporting hypothesis H4. The findings also provided data about the moderating effects, where family financial socialization strengthened the impact of financial literacy and investment behavior ($\beta = 0.24$, t-value = 0.264, $p < 0.01$), as well as the impact of saving behavior, on investment awareness ($\beta = 0.29$, t-value= 0.265, $p < 0.01$); hence, H6 and H6 were supported. Conversely, a lack of self-control as a moderating variable was found to dampen the impact of financial literacy on investment awareness (β = −0.38, *t*-value= −6.56, $p < 0.01$) and the impact of saving behavior on investment awareness (β = −0.32, *t*-value = −4.76, $p < 0.01$), therefore supporting hypotheses H7 and H8.

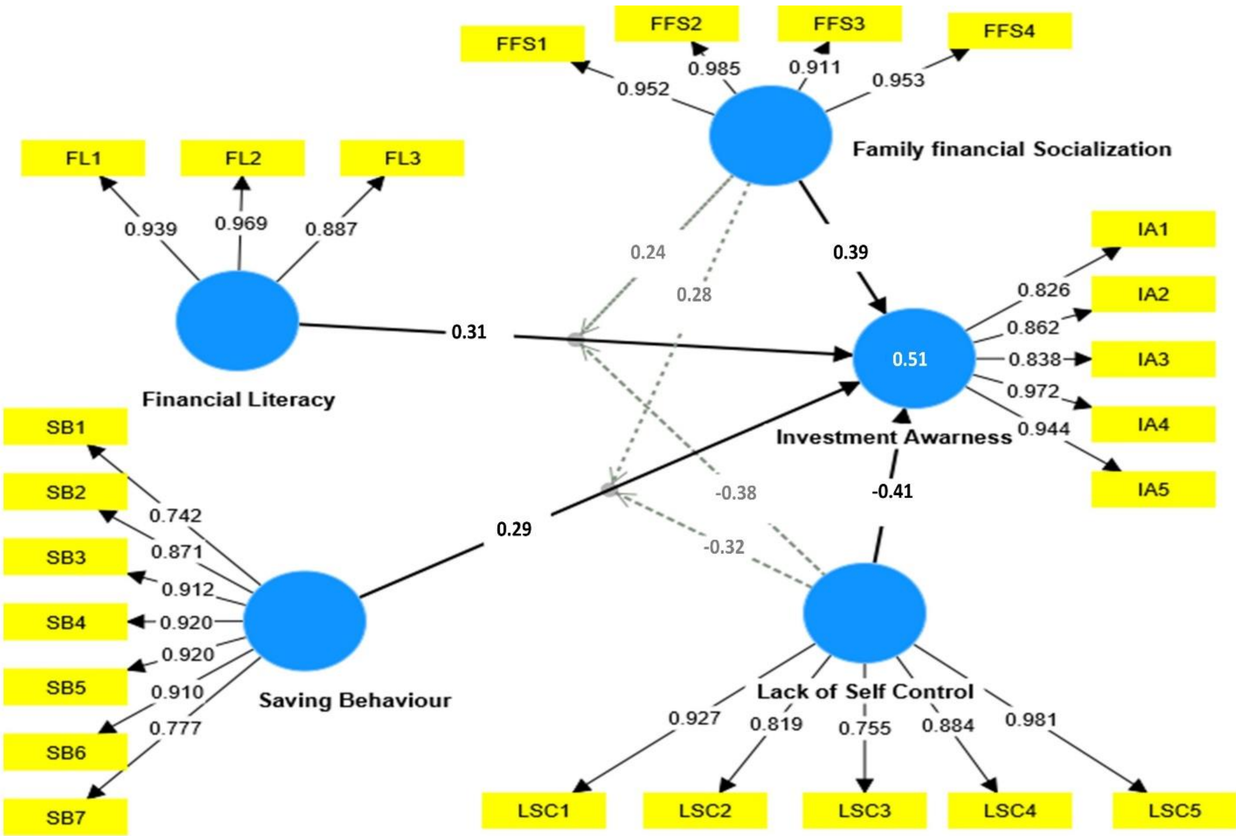

Figure 1. The study's structural and measurement model.

Table 7. The structural model's results.

	Hypothesis	Beta (β)	(*t*-Value)	*p* Value	Result
H1	Financial Literacy -> Investment Awareness	0.31	5.69	0.000	Accepted
H2	Saving Behaviour -> Investment Awareness	0.29	3.87	0.003	Accepted
H3	Family financial Socialization -> Investment Awareness	0.39	2.46	0.000	Accepted
H4	Lack of Self-Control -> Investment Awareness	−0.41	−8.55	0.000	Accepted
H5	Family financial Socialization × Financial Literacy -> Investment Awareness	0.24	2.64	0.001	Accepted
H6	Family financial Socialization × Saving Behaviour -> Investment Awareness	0.29	2.65	0.009	Accepted
H7	Lack of Self Control × Financial Literacy -> Investment Awareness	−0.38	−6.56	0.000	Accepted
H8	Lack of Self Control × Saving Behaviour -> Investment Awareness	−0.32	−4.76	0.000	Accepted

5. Discussion

We conducted this study in Saudi Arabia, a state experiencing interest in developing its economy. In addition, young individuals represent the mainstream of the population. In line with Vision 2030, the Saudi government is enhancing its financial sector, financial awareness, investment culture, and savings rates. Therefore, Saudi students are expected to experience a considerable enhancement relating to financial and investment awareness and saving to support their well-being. Thus, the study provides noteworthy insights into the body of knowledge and practical implications by examining the direct impact of financial literacy, saving behavior, family financial socialization, and a lack of self-control on investment awareness. Further, it examines the moderating impact of family financial socialization and a lack of self-control on the links between financial literacy, saving behavior, and investment awareness.

The results of this study indicate that financial literacy is positively and significantly related to investment awareness, thus confirming our first hypothesis (H1). The findings are in line with the argument that financial literacy is a key factor in managing and dealing with money, resulting in higher financial well-being and more efficient investment decisions. A certain degree of financial knowledge is needed for better investment awareness. The results are in line with those of Azhar et al. [26] and Azizah et al. [31], who showed that investment awareness is positively and significantly influenced by financial literacy; Aren and Zengin [37], who showed that financial literacy is related to preferences in investment; and Lusardi and Mitchell [43], who showed that financial literacy enables investors to attain greater returns. In the Saudi context, our results support Saber [3], who reported that Saudi individuals' financial awareness has an impact on their investment choices. Concerning saving behavior, the results provide support for the hypothesis (H2) that saving behavior is positively related to students' investment awareness. The results show that Saudi students tend to save more money. This good saving behavior will allow students to make investments in the future and solve financial problems. Based on this, the theory of social cognition is supported. Our students deal with savings as a financial source that can be reinvested in the future [72]. Likewise, Mugo [83] exposed that to conduct investment decisions, saving practices are needed.

Regarding family financial socialization, our theoretical hypothesis (H4) was found to be significantly supported in that the family positively impacts a student's investment awareness. These results support the theory of social learning, which posits that the financial actions of young adults are influenced by their social surroundings including their families. Our results are also in accordance with prior studies, for example, Mpaata et al. [15], who found that social surroundings can impact financial awareness, and Ariffin et al. [41], who revealed that family socialization changed children's situations from financial illiteracy into great literacy, that is, individuals are better at investing their money when their financial awareness is enhanced by their families [15]. For a lack of self-control, our results indicate that when students are characterized by problems with self-control, this negatively impacts their investment awareness and decisions. Hence, our hypothesis (H4) is strongly supported. Liu et al. [84] mentioned that mental accounting is a self-control tool that avoids unnecessary consumption. Hence, when individuals lack this tool, they spend more and then no more money can be saved for investments. Our results support those of Chia et al. [85] and Esenvalde [86], which showed that students with a lack of self-control are found to be related to more spending and less control concerning their desires. In contrast, our results are inconsistent with Mpaata et al. [15] and Griesdorn et al. [87] in that individuals with robust self-control have the needed skills to succeed in their financial matters.

For the moderating impact of family financial socialization on the association between financial literacy and investment awareness, our results show that family financial socialization can positively and significantly moderate this association. Thus, our hypothesis (H5) is confirmed. The reported moderating impact is in agreement with social exchange theory. This finding is in line with [14], in that families have a better tendency to favorably influence their children's financial awareness and attitudes. Further, Hellström et al. [64] advocated that financial literacy and the decisions of individuals are affected by the trusted information they obtain from social relationships. In the Saudi context, Saudi students' financial awareness is influenced by their parents [8], which supports our results.

Regarding the other moderating impact of family financial socialization on the connection between saving behavior and investment awareness, we found that family financial socialization can strongly and positively enhance this connection. Thus, our hypothesis (H6) is accepted. Based on these results, we claim that the socialization theory is supported. The results are in accordance with prior works, for instance, Kaur and Vohra [72], who showed that a social family variable influences investors' investment behavior. Similar findings were found in a study on students in Bangladesh by Khatun [71], which showed that parental socialization and saving behavior are positively related.

Finally, in terms of the moderating influence of a lack of self-control on the financial literacy–investment awareness relationship, the results signify that a lack of self-control negatively and significantly impacts this relationship. Hence, hypothesis (H7) is supported, that is, a student's investments and financial activities are negatively affected if they are associated with a lack of self-control. In the Saudi context, our results are in line with those of [8], which showed that the association between financial literacy and saving behavior was negatively moderated by self-control. In the same way, a lack of self-control was reported to negatively and significantly moderate the association between saving behavior and investment awareness. These results are in line with those of prior works, for example, Ameriks et al. [76], who advocated that more spending and less wealth are related to a lack of self-control; Gathergood [77], who stated that quick access to financial products is related to customers with a lack of self-control, and finally, Ameriks et al. [76], who mentioned that a mature individual is associated with fewer problems with self-control than a young adult.

6. Implications and Conclusions

This study was motivated by witnessing a dearth of studies on the factors affecting financial and investment awareness, in addition to the occurrence of deprived financial awareness, specifically in Saudi Arabia. The absence or lack of financial awareness can lead young individuals to select inappropriate financial products and services and save less than they should. An awareness of finance and investment issues forms accountable attitudes and behaviors concerning managing financial matters, leading to a successful young adult life. Thus, our study proposed to examine this important issue and aimed to investigate, in the Saudi context, financial literacy, saving behavior, family financial socialization, and a lack of self-control as the determinants of investment awareness among university students (young generation). The reported results indicate that all the determinants were found to be strongly related to investment awareness with a positive relationship in the case of financial literacy, saving behavior, and family financial socialization and a negative relationship in relation to a lack of self-control.

Further, our study provided unique insights by examining the moderating role of both family financial socialization and a lack of self-control in the relationships between financial literacy and investment awareness and saving behavior and investment awareness. The results were as expected: family financial socialization has a significant and positive impact on these relationships. In contrast, a lack of self-control negatively and significantly influences these relationships.

This study builds on the prevailing studies by providing distinctive evidence of the determinants of investment awareness. It is one of the limited works available for the Saudi Arabian context. It fills existing gaps in the literature since there is insufficient work on investment awareness in emerging countries, principally Saudi Arabia. The results provide robust evidence of the significant impact of financial literacy, saving behavior, family financial socialization, and a lack of self-control on investment awareness levels. The further theoretical contribution is that the results support the social learning theory. Moreover, this study adds to the body of knowledge by considering the moderating role of both family financial socialization and a lack of self-control in the study's theoretical framework.

In terms of the practical implications, first, the results are important for policymakers as they discuss the importance of the factors that can enhance the country's economic growth such as increasing financial and investment awareness. Further, the low level of investment awareness among the young generation will result in the appropriate involvement of policymakers through rules, initiatives, and recommendations that can enhance this level among the adults who represent the highest percentage of the population in Saudi Arabia. Additionally, the findings will inform regulators of the effectiveness of the Saudi Vision 2030 programs that aim to enhance investment culture and saving. Concerning educational institutions (schools and universities), training programs, workshops, and courses in financial and investment awareness are needed to improve the financial knowledge of students. Finally, parents and families are advised to discuss and educate their children on financial concerns and good behaviors regarding saving and investing.

7. Limitations and Directions for Future Research

There are some limitations related to this study. Since this study examined investment awareness among Saudi university students, it does not represent all fields in the country. Hence, future works could focus on sectors other than the academic sector for a better generalization of the study findings. In the same vein, the generalization of the results to other countries should be made with caution due to differences in culture, systems, and economic situations. Further, to increase the generalization of the results, future works could conduct a longer study rather than a cross-sectional one. We conducted our study on one group (students). Thus, future studies could consider the comparison of various groups in the community in terms of levels of financial awareness and the fundamental determinants. It is also important for future works to examine the role of financial policies, i.e., introducing financial knowledge courses concerning financial awareness. A valuable opportunity for future studies could be to examine and compare financial awareness and behaviors among males and females to explore the impact of gender.

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