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## **Do Young Students Save Well? Evidence from an Indonesian College**

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*The purpose of this study is to investigate the influence of individual modernity, financial literacy, and financial inclusion on students' savings practices, with self-control acting as a moderating variable. We used all the students who participated in this study as samples. All participants are young students, and they are the best generation to adopt financial education, as they are change agents who are expected to bring about positive improvements. We gathered data for this study using observation and questionnaires. This study utilizes quantitative methods, specifically Structural Equation Modeling (SEM) and SMART-PLS 4 analysis tools. This study employs the Theory of Planned Behavior, and the findings indicate that individual modernity, financial literacy, and financial inclusion have a major impact on saving behaviors. Self-control does not moderate individual modernity, financial knowledge, or saving behavior. However, this study revealed a novel finding: self-control has the ability to regulate the relationship between financial inclusion and saving behavior. Through this study, it is hoped that young pupils would grasp the significance of learning saving habits, as early saving practices can help prevent debt and consumerism.*

*Keywords: theory of planned behavior; individual modernity; financial literacy; financial inclusion; self-control.*

### **INTRODUCTION**

Saving literally means allocating a portion of today's income to anticipate future needs. However, for most young Indonesians, saving is not yet a habit. Although they are aware of the positive benefits of saving, many young Indonesians still struggle to adopt this economic behavior. Although everyone should have savings, saving remains a challenging act for many students (Rikayanti & Listiadi, 2020). Students' understanding of saving is still low, and saving behavior is still limited to cases when there is excess money that can be received after consumption. Saving behavior is also a combination of awareness of future needs, decisions to save, and actions to save (Thung et al., 2012). Saving is an action taken by someone wishing to secure part of their income for the future. Low interest and enthusiasm for saving pose obstacles for students. Meanwhile, students generally do not

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have a fixed monthly income and are motivated to save only for short-term benefits (Wahana, 2014). Student life and financial needs are currently a top priority. Students, mostly young people, are constantly striving to acquire the necessary skills to face the challenges outside the campus. Students who live away from their parents must be able to manage their finances independently. Therefore, it is critical for college students to take proper care of their finances. Jambunathan et al. (2024) encourage instilling saving behavior early on to meet future needs. This calls for the early provision of lessons on financial management. Students must be guided to manage money wisely, including by limiting spending and consumption.

In accordance with the opinions that have been expressed, not all students can save money monthly because they have a high consumptive attitude and are targets of product advertising, like most students, including students in Indonesia. Based on previous observations by the author, it was found that students at the Institute of Technology and Business Tuban exhibited suboptimal saving behavior. Although most students had savings accounts, they lacked good saving habits. For most students, studying at university is their first experience of financial independence without parental supervision. It is important for students to learn saving behavior, as it can have a long-term positive impact on their financial stability, economic independence, and ability to face future financial challenges. Saving from a young age helps form positive financial habits, such as discipline in managing money, avoiding unnecessary debt, and planning for the future (Ameriks et al., 2003). Saving allows students to meet future financial needs, including completing their education, purchasing a home, and preparing for retirement (Lusardi et al., 2010). By having savings, young students can reduce the stress associated with financial uncertainty, such as job loss or emergencies (Garman et al., 1996). The process of saving also encourages young people to learn more about financial products, investments, and financial planning, ultimately improving their financial literacy (Hastings et al., 2013). Saving also helps students become more financially independent, reduces dependence on parents or others, and enables them to make better financial decisions (Sherraden, 2013). Parents are the primary source of financial support for students, but some also generate supplementary income through part-time employment. According to Putri (2018), various factors might affect an individual's saving habits, including financial literacy, financial inclusion, and self-control. Research conducted by Ratna (2018) indicates that financial literacy, self-control, parental socialization, peer influence, saving goals, and income all impact students' saving behavior. However, some other students possess the capability to manage their finances proficiently and allocate their income for savings or investments. Consequently, implementing financial literacy, fostering positive financial attitudes, and building confidence are essential because they lead to more responsible financial behavior, which in turn influences financial well-being (Sajid et al., 2024).

Some of the factors that influence saving behavior include individual modernity, financial literacy, financial inclusion, and self-control. The first aspect that needs to be considered is individual modernity. Modernity is an effort to keep pace with the ever-changing times. Duaja (2017) states that one of the characteristics of individuals who have experienced modernization is that they are open to new experiences and readily embrace new ideas. Every student is a real example of modernization, as evidenced by their

possession of an internet-connected gadget. The Internet has evolved into a tool that not only helps students with their activities but can also assist them in managing their finances. The subsequent factor that affects saving behavior is financial literacy. Financial literacy involves understanding financial products, institutions, and services, which enables individuals to make informed decisions about managing their finances (Margaretha & Pambudhi, 2015; Widyawati, 2012). The insights gained through financial literacy classes will enable students to analyze and manage their finances effectively. We anticipate that students will achieve financial security in the future by cultivating a robust comprehension of finance from a young age. Students' understanding of financial management reflects their financial literacy and shapes their saving behaviors. A high level of financial literacy enables individuals to make informed financial decisions, whereas a low level complicates financial management, hindering savings and potentially leading to future financial difficulties. Financial inclusion is an important factor that influences saving behavior. There is a need to enhance students' understanding of financial inclusion, as financial institutions are expected to offer more inclusive products and services, which in turn could increase students' interest in saving (Atkinson & Messy, 2013).

Numerous researchers have proposed various hypotheses regarding the specific determinants that influence saving behavior. Importantly, research by Peiris (2021) shown that people with higher financial literacy are better at organizing their finances, which helps them save more. Conversely, García and Vila, (2020) revealed that financial literacy does not have a significant effect on saving behavior. This study identifies a gap in previous research, noting that individual modernity variables are infrequently utilized. Additionally, studies employing self-control variables as moderating factors remain uncommon. Research shows that individual modernity has a positive influence on saving behavior (Oktafiani & Haryono, 2019). Perangin-angin et al. (2022) found that financial inclusion has a positive impact on saving behavior. Meanwhile, several studies indicate no significant effect (Kumari et al., 2020; Muneer, 2019; Sekarwati, 2020). However, Sarma and Pais (2011) assert that financial inclusion does positively influence saving behavior, particularly in developing nations. Access to formal financial institutions promotes increased savings and diminishes reliance on the informal financial system. Allen et al. (2016) asserted that ownership of bank accounts and access to formal financial services enhance individuals' awareness and capacity to save. Financial literacy and financial inclusion are connected factors that enhance saving behavior (Grohmann et al., 2018). Individuals are more inclined to save when they have access to formal financial services and comprehend the advantages of saving.

## LITERATURE REVIEW

### Theory of Planned Behavior

Researchers extensively employ the Theory of Planned Behavior (TPB) in the investigation of human behavior. TPB provides an exceptional conceptual foundation for research on the intricacies of human social behavior (Ajzen, 2002). Furthermore, Xiao and Wu (2008) also employ TPB to elucidate behavioral patterns and provide a more comprehensive understanding of the process by which individuals make behavioral

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decisions. Zocchi (2013) stated that TPB was employed to investigate the more profound opinions that influenced individual financial behavior. Additionally, TPB has been frequently applied in the field of social psychology and has been utilized in experiments related to personal finance, credit counseling, and personal money management. The Theory of Planned Behavior (TPB) is predicated on three distinct factors: attitude (AT), subjective norms (SN), and perceived behavioral control (PBC) (Ajzen, 1991). The intention to act is generated by these factors, which in turn initiate specific behaviors. Attitude toward conduct refers to an individual's perspective on action, which may be either advantageous or detrimental. It also denotes a specific manner of contemplating or experiencing an object (Mahlanza, 2015). According to Satsios and Hadjidakis (2018), it is imperative to collaborate to establish a connection and incorporate an austerity attitude into education and lifestyle. Yusof et al. (2018) found that most individuals maintain an optimistic perspective regarding saving. Conversely, the TPB acknowledges the impulse to conform to the opinions of others as a subjective norm, which is a significant determinant of human behavior (SN) (Ajzen, 1991). In other words, the intentions and behavior of an individual can be influenced by the opinions of colleagues, family members, neighbors, or other significant individuals in their life. Concurrently, perceived behavioral control (PBC) refers to an individual's perception of the ease or difficulty of executing specific behaviors (Ajzen, 1991). This result suggests that an individual with a stronger PBC is more likely to describe the positive hypothesized behavior (Ajzen, 2002). Intention is also the fundamental foundation of TPB and directly influences a specific activity, as it measures the individual's willingness to commit to the action (Armitage & Conner, 2001). Additionally, Widyastuti et al. (2016) asserted that saving intent is a stage that can result in action. They discovered that saving intention is significantly influenced by actual saving behavior, which validates the TPB as a foundation for elucidating human behavior. Consequently, numerous researchers employ the TPB to evaluate the relationship between financial literacy and individual saving behaviors.

### **Saving Behavior**

Saratian et al. (2022) and Sirens and Utami (2016) describe savings as a portion of income that remains unconsumed over time. Outcault (2012) states that saving is setting aside a portion of income for future needs. Everyone should have savings (Putra, 2018). People use savings for emergency funds, retirement, education, and long-term needs (Dew & Xiao, 2013). The ability to manage personal finances is essential for today's college students. They must know how to avoid overspending. According to Samuelson and Nordhaus (2009), saving behavior is a form of postponed consumption or postponing current consumption for future use. Individual preferences may lead them to prioritize future consumption over current consumption. In terms of saving behavior, the higher a person's financial literacy level, the better their saving habits (Ubaidillah & Asandimitra, 2019). Amilia et al. (2018) state that the determinants of saving behavior among college students are financial literacy, parental socialization, peer influence, and self-control. Wardani and Utami (2020) assert that self-control, religiosity, financial literacy, and financial inclusion can influence saving behavior. This research contends that several factors, including individual modernity, financial literacy, attitudes, and self-control, influence saving behavior.

### **Individual Modernity**

Modernity is a phenomenon that inevitably occurs among university students. The use of technology, dynamic lifestyles, and progressive mindsets are examples of behaviors, values, and attitudes that individuals consider modern. People can use the TPB to analyze their modern behavior choices. TPB can be used to predict and understand various modern behaviors, such as the adoption of new technologies (e.g., smartphones, the internet, or artificial intelligence) and lifestyle changes (e.g., changes in consumption patterns, working styles, or social interactions). Students are adopting contemporary principles, including diversity, gender equality, and individualism. Every student's possession of an internet-connected gadget serves as a tangible example of their modernization. The internet helps students with their activities and enables them to compare their needs and manage their finances. Students today no longer use bracelets to save their savings but prefer to save them at financial institutions because it is safer and more practical. The evidence suggests that students already possess a spirit of modernity, so they prefer modern facilities to save money. Based on research conducted by Oktafiani and Haryono (2019) regarding the influence of individual modernity on student saving behavior, they found that individual modernity has a positive influence on saving behavior. This implies that students with a high level of modernity save more, which benefits them in the future. Additionally, modern students demonstrate rationality in their consumption. Research by Fiqriyah and Wahyono (2016) found that the more modern a person is, the higher the level of discernment they exhibit among factors such as quality, price, advantages, and disadvantages, leading to better decisions and increased saving behavior.

### **Financial Literacy**

Financial literacy encompasses the knowledge, skills, and beliefs that shape an individual's financial behavior. Financial literacy is a unique and essential element for each individual. Acquiring financial knowledge can aid individuals in managing their finances, allowing them to maximize their resources. Financial literacy encompasses the understanding of financial management, enabling individuals to cultivate a more successful future (OECD, 2023). Yushita (2017) asserts that financial literacy is essential for educating the public on financial issues, empowering individuals to manage their funds judiciously and intelligently. Lusardi and Mitchell (2014) suggest that financial literacy is an essential instrument for enhancing one's standard of living through effective understanding and management of financial planning and allocation. According to Huston (2010), financial literacy is the ability to manage income effectively to enhance financial well-being, while Wahyuni et al. (2022) describe it as an individual's ability (skills) to make educated financial decisions. Financial literacy is a fundamental concept that every individual must comprehend and acquire, as it significantly influences one's financial status and facilitates informed and judicious economic decision-making (Wardani & Utami, 2020). Financial literacy includes concepts such as awareness and comprehension of financial products, institutions, and capacities (Xu & Zia, 2016). Financial literacy encompasses an individual's ability to comprehend and manage various financial products, enabling them to make informed decisions for a fulfilling life and optimal capital utilization (Al-Ichwani & Rahayu, 2025). Financial literacy can help a person avoid financial problems, especially those caused by financial mismanagement (Katnic et al., 2024; Nguyen & Doan, 2020; Sabri & Macdonald, 2010).

## **Financial Inclusion**

Society widely recognizes the concept of financial inclusion as a financial contribution to sustainable development, yet many people still lack a thorough understanding of it. In our daily lives, often unconsciously, we participate in numerous acts that promote financial inclusion. According to World Bank (2014), financial inclusion is the capacity of individuals or groups to obtain financial products and services. These services are formal, cost-effective, and capable of meeting their requirements, including transactions, payments, savings, credit, and insurance, in a responsible and sustainable manner. Financial inclusion is described by Otoritas Jasa Keuangan (OJK, 2016) as the provision of access to various financial institutions, products, and services that are tailored to the requirements and capabilities of the community to enhance the well-being of individuals. Presidential Regulation No. 82/2016 on the National Strategy for Financial Inclusion (SNFI) explain financial inclusion as the condition where everyone has access to quality, affordable financial services, enabling them to improve their welfare and that of the community. Financial inclusion has the potential to significantly impact individuals' financial behavior, particularly saving habits (Zins & Weill, 2016). Farah et al. (2023) demonstrated a positive correlation between higher levels of financial inclusion and improved savings behavior among millennials in DKI Jakarta. Research has found that financial inclusion, especially through bank account ownership, significantly increases the tendency of individuals to save (Morgan & Long, 2020; Putra, 2018; Sekarwati, 2020; Takyi et al., 2022). Demirgüç-Kunt et al. (2015) stated that financial inclusion, especially through bank account ownership, significantly increases the tendency of individuals to save. Access to formal financial services allows people to save money in a more secure and planned manner.

## **Self-Control**

According to Ghufron (2010), self-control is an individual's ability to regulate their behavior based on various situations and conditions, which includes controlling oneself, adapting behavior to the environment, adjusting to others, and effectively masking emotions. Zulaika and Listiadi (2020) assert that an individual's self-control is essential in decision-making. The psychological characteristics of an individual are essential for self-regulation and effective financial management, particularly in curbing impulsive expenditures before making financial decisions (Mawardi et al., 2022). Kholilah and Iramani (2013) argue that a person's financial behavior indicates their proficiency in financial management, encompassing planning, estimation, auditing, organization, control, and savings for everyday necessities. Financial literacy is essential for effectively managing personal finances and making informed investment decisions (Putri, 2018). Students possessing strong self-discipline and advanced financial literacy typically prioritize and contemplate their future, and are inclined to engage in financial planning through judicious expenditures, demonstrating responsibility and consistency in their conduct (Sabrina et al., 2024). Studies demonstrate that self-control influences the effect of financial literacy on saving behavior (Mpaata et al., 2025). Perangin-angin et al. (2022) discovered that financial inclusion influences saving behavior, with self-control serving as a moderating factor. According to Argyle and Furnham (2013), self-control is a crucial element in financial management, particularly in relation to saving behavior. Individuals with elevated self-control tend to be

more diligent in their saving habits and refrain from impulsive expenditures. Tangney et al. (2004) has shown that those with elevated self-control possess superior skills in managing their finances, including persistent saving practices. Moffitt et al. (2011) found that self-control cultivated from childhood can predict saving behaviors and financial stability in maturity. Strömbäck et al. (2017), suggested that self-control is a crucial predictor of favorable financial behavior, encompassing saving and debt avoidance.

### **Hypotheses**

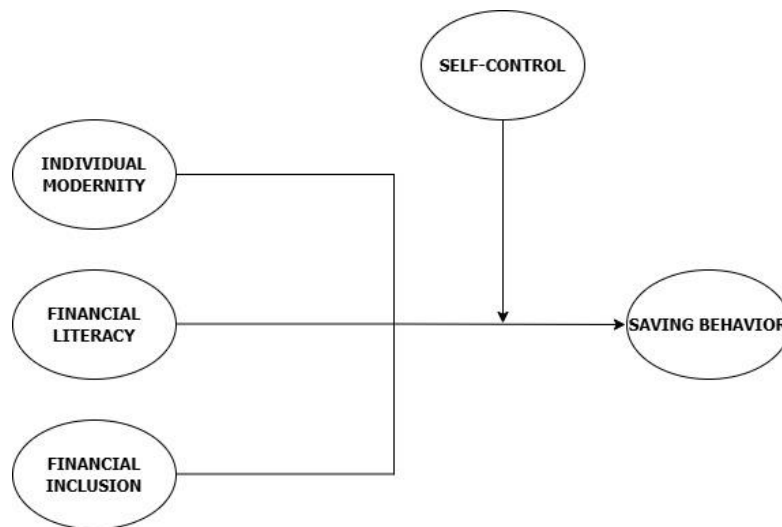
Based on the literature review previously described, this study proposes the following hypothesis:

- H1.** Individual modernity is positively and significantly related to saving behavior.
- H2.** Financial literacy is positively and significantly related to saving behavior.
- H3.** Financial inclusion is positively and significantly related to saving behavior.
- H4.** Individual modernity is positively and significantly related to saving behavior, with self-control as a moderator.
- H5.** Financial literacy is positively and significantly related to savings behavior, with self-control as a moderator.
- H6.** Financial inclusion is positively and significantly related to savings behavior, with self-control as a moderator.

**Figure 1.**

*Research Model.*

This study examines the relationship between financial literacy, individual modernity, financial inclusion, and saving behavior, with self-control serving as a moderating variable. Figure 1 presents the variable relationship.



Source(s): Figure developed by authors

## **METHODOLOGY**

### **Data and Measurement**

This research uses an associative approach. The population in this study consists of young students aged between 18 to 22 years old. We collected the primary data for this study using a survey and questionnaire, which were distributed online through various social media groups. The study included 131 respondents, and the researchers chose to use all respondents as the sample (Sugiyono, 2017). We used convenience sampling due to time and cost constraints, but we have ensured that the participants involved in the study come from diverse backgrounds, such as GPA, parents' education level, parents' income, monthly spending income, financial problems they have experienced, and living status (living alone or with parents). However, we acknowledge that the sample might not accurately reflect the overall student population, and we interpret the findings accordingly. We don't include controlled variables such as age, gender, income, or socioeconomic status in the analysis model, so we don't discuss them in the results. Our analysis focuses entirely on the relationship between the main variables (individual modernity, financial literacy, financial inclusion, and self-control) and savings behavior without including other variables as controls. All tests of the relationship between variables are conducted directly on the main variables, without the use of additional control variables.

We collected the data from October to November 2023. This research employs Partial

Least Squares Structural Equation Modeling (PLS-SEM) with Smart-PLS 4 software for data processing and creating figures. This methodology encompasses two phases of assessment: the outer model and the inner model (Hair & Alamer, 2022). This form of quantitative research employs a questionnaire as the principal instrument for data collection. Each characteristic is assessed utilizing a Likert scale, comprising the subsequent options: The Likert scale includes the following options: (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, and (5) Strongly agree. We developed and disseminated questionnaires to assess individual modernity, financial literacy, financial inclusion, and self-regulation in saving behavior. We assured the participants that we would keep their information anonymous and use it solely for research purposes. Indicators of saving behavior are adopted from Amilia, et al. (2018), namely, saving regularly, comparing prices before making purchases, controlling expenses, maintaining reserves, saving for planning, and only buying the essentials. For the variable of individual modernity, we employ indicators established by Gitosaroso (2015), which are rationality, futurism, time orientation, open-mindedness, objectivity, life satisfaction, and alignment of life with the times. For the self-control variables, we utilize indicators developed by Goldfried and Merbaum, (1973), which encompass behavioral control, cognitive control, and decisional control. The financial literacy variable employs indicators established by Lusardi and Mitchell (2014), specifically, maintaining financial records, future planning, selecting financial products, and staying informed. Bank Indonesia (2016) presented the indicators of financial inclusion, encompassing availability/accessibility, utilization, quality, and welfare.

## RESULTS AND DISCUSSION

### Measurement Model Evaluation

To assess discriminant validity, this study uses cross-loadings and the Fornell-Larcker criterion. According to Hair et al., (2019), indicators of a variable can be said to be valid if the outer parameter value meets the specified threshold, with a value of  $> 0.6$ , and Average Variance Extracted (AVE)  $> 0.5$ . The study presents the outer loading values of each variable indicator in the following table. The test results indicate that all indicators relating to individual modernity, financial literacy, financial inclusion, self-control, and saving behavior are valid.

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**Table 1.**

*Cross Loading.*

	Individual Modernity	Financial Literacy	Financial Inclusion	Self- Control	Saving Behavior	Self- Control x Individual Modernity	Individual Modernity x Financial Literacy	Self-Control x Financial Inclusion
IM 1	0.714	0.525	0.400	0.497	0.489	0.192	0.197	0.226
IM 2	0.759	0.549	0.520	0.542	0.547	0.329	0.331	0.339
IM 3	0.713	0.496	0.504	0.516	0.557	0.312	0.307	0.348
IM 4	0.878	0.814	0.741	0.713	0.734	0.416	0.399	0.374
IM 5	0.701	0.556	0.620	0.552	0.607	0.358	0.338	0.414
IM 6	0.754	0.642	0.504	0.616	0.644	0.465	0.465	0.447
IM 7	0.732	0.608	0.517	0.455	0.614	0.265	0.275	0.296
FL 1	0.568	0.733	0.531	0.524	0.551	0.216	0.250	0.256
FL 2	0.595	0.656	0.488	0.514	0.495	0.251	0.273	0.239
FL 3	0.592	0.769	0.545	0.575	0.553	0.335	0.353	0.311
FL 4	0.579	0.738	0.571	0.525	0.541	0.309	0.348	0.316
FL 5	0.587	0.717	0.479	0.572	0.588	0.253	0.418	0.262
FI 1	0.560	0.539	0.763	0.615	0.573	0.360	0.339	0.355
FI 2	0.576	0.553	0.779	0.563	0.586	0.442	0.420	0.404
FI 3	0.582	0.568	0.729	0.429	0.556	0.239	0.279	0.295
FI 4	0.559	0.580	0.827	0.567	0.585	0.423	0.380	0.401
SC 1	0.625	0.666	0.533	0.842	0.642	0.533	0.576	0.517
SC 2	0.576	0.551	0.586	0.789	0.576	0.467	0.438	0.451
SC 3	0.661	0.653	0.637	0.868	0.682	0.529	0.513	0.499
SB 1	0.664	0.552	0.560	0.596	0.811	0.408	0.405	0.497
SB 2	0.610	0.583	0.549	0.602	0.797	0.309	0.375	0.399
SB 3	0.671	0.613	0.662	0.623	0.790	0.416	0.359	0.481
SB 4	0.560	0.562	0.551	0.547	0.748	0.362	0.364	0.324
SB 5	0.595	0.610	0.533	0.568	0.711	0.313	0.361	0.314
SC x IM	0.452	0.377	0.474	0.612	0.470	1.000	0.859	0.845

SC x FL	0.447	0.457	0.459	0.613	0.482	0.859	1.000	0.828
SC x FI	0.469	0.383	0.470	0.587	0.526	0.845	0.828	1.000

Table 2 shows the results of the Fornell-Larcker Criterion test for evaluating discriminants. Note that the total of all model constructs should not exceed their respective variances. As a result, this study indicates that the value found does not exceed 0.90, indicating that the research constructs have adequate discriminant validity (Henseler et al. 2015).

**Table 2.**

*Fornell-Larcker Criterion.*

	Financial Literacy	Financial Inclusion	Individual Modernity	Saving Behavior	Self-Control
Financial Literacy	0.723				
Financial Inclusion	0.722	0.776			
Individual Modernity	0.807	0.734	0.752		
Saving Behavior	0.756	0.742	0.805	0.772	
Self-Control	0.750	0.702	0.746	0.762	0.834

Furthermore, this study evaluates the measurement model related to convergent validity, using AVE as a parameter. The results of evaluating the measurement model, as indicated by the AVE, demonstrate the validity of all variables in this study. This finding aligns with the theory put forward by Hair et al. (2019), which states that a variable is considered valid if its AVE value is greater than 0.5. This study also conducted a reliability test, examining Cronbach's alpha and composite reliability values. To ensure the reliability of the instrument in this study, the value must be greater than 0.6 for each parameter (J. F. Hair et al., 2019). Reliability testing is conducted to assess internal consistency and indicator accuracy. The following table presents the test results of Cronbach's Alpha, CR, and AVE scores.

**Table 3.**

*Code, Construct, Factor Loadings, Cronbach's Alpha, CR, and AVE Scores.*

Code	Construct	Factor Loadings (>0.6)	$\alpha$ (>0.7)	CR (>0.7)	AVE (>0.5)
<b>Individual Modernity</b>					
IM 1	I frequently shop at minimarkets to meet my daily needs.	0.714	0.871	0.901	0.566
IM 2	I often hang out with friends at cafes to fill my spare time.	0.759			

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IM 3	Family is a factor influencing my lifestyle.	0.713			
IM 4	I always follow the latest trends so that my style is not inferior to other students.	0.878			
IM 5	I can restrain myself from branded goods even though I want them.	0.701			
IM 6	My friends in college always compliment me, which makes me pleased and confident.	0.754			
IM 7	I am always embarrassed when my lifestyle is not like my friends.	0.732			
<b>Financial Literacy</b>					
FL 1	I maintain meticulous records of all my financial transactions, both inward and outward.	0.733	0.771	0.846	0.523
FL 2	For now, I have not focused on planning my future finances because I am still focused on pursuing my bachelor's degree as quickly as possible.	0.656			
FL 3	I don't really think about financial products that exist today.	0.769			
FL 4	As a student majoring in management, of course I constantly search for information from the media about the development of current financial news.	0.738			
<b>Financial Inclusion</b>					
FI 1	Financial services are simple to access.	0.763	0.778	0.858	0.601
FI 1	Transactions at the bank are easy to do.	0.779			
FI 3	The financial institution provides services quickly.	0.729			
FI 4	I feel helped by financial services.	0.827			
<b>Self-Control</b>					
SC 1	I always control my behavior when I want to buy something.	0.842	0.780	0.872	0.695
SC 2	I always restrain my appetite for the goods I want to buy if my finances are insufficient.	0.789			
SC 3	I always compare the price of the item I want to buy first with the price at other stores.	0.866			
<b>Saving Behavior</b>					
SB 1	Saving behavior is a positive attitude that promotes honesty and discipline in managing finances in the future.	0.811	0.830	0.881	0.596
SB 2	By saving money, it can help parents prepare for the costs of continuing education in college.	0.797			
SB 3	Austerity measures are widely regarded as a wise approach to managing finances.	0.790			
SB 4	Managing finances wisely will benefit the future.	0.748			
SB 5	I am diligent in saving money because it can reflect the personality of discipline and frugal living within myself.	0.711			

*Note.* (1)  $\alpha$  = Cronbach's alpha, CR = composite reliability, AVE (Average Variance Extracted); (2) All factor loadings are significant at the 0.05 level. IM=individual modernity; FL=financial literacy;

FI=financial inclusion; SC=self-control; and SB=saving behavior.  
Source: Primary data processed using Smart-PLS, 2024.

Table 3 shows that the Cronbach's Alpha values for individual modernity, financial literacy, financial inclusion, self-control, and saving behavior are all higher than 0.7. All values range from 0.771 to 0.871, which is above the acceptable value of 0.70. Thus, the result implies that the item has a relatively high internal consistency. Composite reliability values indicate a high level of internal consistency for all constructions: 0.879 (individual modernity), 0.774 (financial literacy), 0.779 (financial inclusion), 0.787 (self-control), and 0.832 (saving behavior). All Cronbach's Alpha and Composite Reliability values of 0.774 indicate that all the scales used in this study are reliable. Subsequently, the results of the average variance extracted (AVE) for each variable are individual modernity (0.566), financial literacy (0.523), financial inclusion (0.601), self-control (0.695), and saving behavior (0.596). All AVE values on every variable in this study exceed 0.50. According to Hair et al. (2017), an AVE value of 0.50 or higher indicates that, on average, the variable explains more than half of the variation in the indicator.

Table 4 reports the structural model results from the Smart-PLS bootstrapping output, including path coefficients and hypothesis tests. At a 5% error rate,  $t > 1.96$  and  $p < .05$  (Hair et al., 2017). All hypotheses, including the moderating effect of self-control, were tested simultaneously within a single structural equation modeling (SEM) framework (see Figure 1) using the Smart PLS bootstrapping procedure.

**Table 4.**

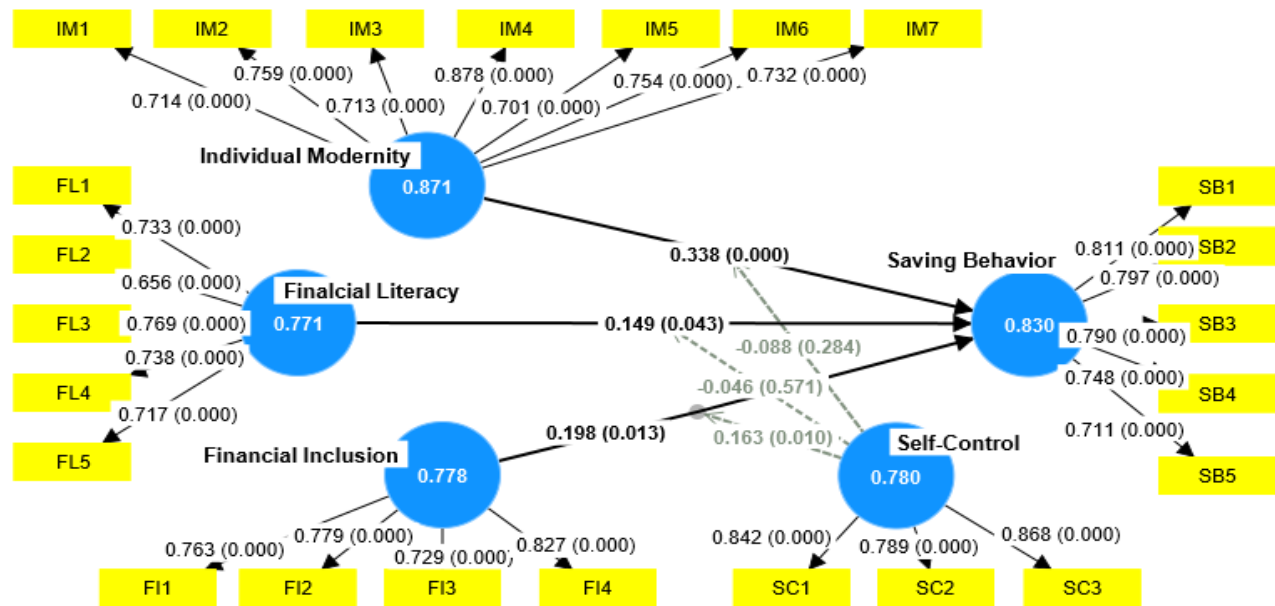
*Bootstrapping Results.*

Path Coefficients and Moderating Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation	t-Statistic	p-Value	Decision
Results of direct effects						
Individual Modernity → Saving Behavior (H1)	0.338	0.343	0.090	3.775	0.000*	Accepted
Financial Literacy → Saving Behavior (H2)	0.149	0.147	0.074	2.020	0.043*	Accepted
Financial Inclusion → Saving Behavior (H3)	0.198	0.197	0.080	2.492	0.013*	Accepted
Results of moderating effects						
Self-Control x Individual Modernity → Saving Behavior (H4)	-0.088	-0.087	0.082	1.070	0.284	Rejected
Self-Control x Financial Literacy → Saving Behavior (H5)	-0.046	-0.037	0.082	0.567	0.571	Rejected
Self-Control x Financial Inclusion → Saving Behavior (H6)	0.163	0.157	0.063	2.577	0.010*	Accepted

*Note:* Asterisks indicate significance at  $P < 0.05$  and T statistic  $> 1.96$ .

**Figure 1.**

*Analysis Results.*



*Note.* Result of the structural model. Dashed lines represent the moderating effect.

With a t-statistic of 3.775 > 1.96 and a p-value of 0.000 < 0.05, Table 4 shows that the research hypothesis was tested. The results indicate a significant relationship between an individual's level of modernity and the amount of savings they have. The original sample estimate value is 0.338, which suggests a positive relationship. There is a positive relationship between individual modernity and saving behavior. We can conclude that the first hypothesis (H1) in this study holds true: We can accept that individual modernity has a positive and significant influence on saving behavior. This study found that individual modernity has a positive and significant influence on saving behavior. Individual modernity is an attempt to transform a person's attitudes, ways of thinking, and actions from those of a less evolved society to those of a more evolved one, in accordance with the evolution of the times. Based on the results of an individual modernity questionnaire, most students in this study can be categorized as a group of rational individuals who think futuristically, value time, are open-minded, operate objectively, and experience high life satisfaction. Students in this university demonstrate rationality by prioritizing their minds over their emotional opinions. Modern students who exhibit rational consumer behavior demonstrate this modernity by prioritizing product quality when making purchases. Students must not only consider their immediate needs but also strategize for future needs. The evidence suggests that the growth of science, technology, and the Internet makes it easier for students to make informed decisions about managing their finances. The increasing availability of technology, such as modern financial facilities, encourages students to utilize them, making it easier for them to save money. Due to their individual modernity, students favor modern banking services that cater to their lifestyle, including saving. This suggests that the higher the level of individual modernity among students, the lower the level of conservative behavior will be,

indicating that individual modernity influences conservative behavior in students. The results of this study are also supported by Oktafiani and Haryono (2019), who suggest that modernity in individuals influences saving behavior.

Additionally, the t-statistic of  $2.020 > 1.96$  and the p-value of  $0.043 < 0.05$  indicate a substantial relationship between financial literacy and saving behavior. The original sample estimate value is 0.149, which is positive. This value suggests that the relationship between financial literacy and saving behavior is increasing. Consequently, we can adopt the second hypothesis (H2) of this study, which posits that financial literacy has a substantial and beneficial impact on saving behavior. Furthermore, financial literacy has a significant and positive influence on saving behavior. An individual who possesses a high level of financial literacy is capable of effectively managing their finances, which includes saving, making future plans, choosing the right financial products for their current needs as a student, staying informed about the latest financial developments, and making informed financial decisions for their necessities. This relationship reflects the good financial behavior that students exhibit, as well as their ability to prioritize needs over individual desires. The theory of planned behavior posits that an individual's attitude toward a behavior influences their intention; hence, financial literacy can be regarded as a factor in an individual's intention to manage their own finances efficiently. According to numerous studies, financial literacy has a positive and significant impact on students' saving behavior (Alshebami & Aldhyani, 2022; Choden et al., 2021; Delafrooz & Paim, 2011; Gilenko & Chernova, 2021; Peiris, 2021; Thung et al., 2012).

The relationship between financial inclusion and saving behavior (H3) is significant, as evidenced by a t-statistic of 2.492, which exceeds 1.96, and a p-value of 0.013, which is less than 0.05. The original sample estimate value is 0.198, indicating a positive result. This score signifies a positive relationship between financial inclusion and saving behavior. Moreover, financial inclusion is a process that ensures accessible financial goods and services from institutions at a reasonable cost, promoting welfare, the appropriateness of savings products required by students, and the delivery of prompt services. Access to banking services, including advisory support, enhances students' interest in utilizing financial goods and services, such as savings accounts, ATMs, mobile banking, and digital wallets. Students with a high degree of financial inclusion will have their saving behavior influenced. Effective financial inclusion requires the support of financial literacy, enabling students to access, understand, and utilize financial products optimally. Understanding financial inclusion needs to improve, especially for students at this university, because the access provided by financial institutions is expected to increase student participation in saving with these institutions (Ardiana, 2016; Putri, 2018).

This study uses self-control as a moderating variable that can influence the relationship between the independent variable and saving behavior. This study aligns with prior research indicating that a high level of individual financial literacy can positively impact saving behavior (Mpaata et al., 2023). The results of the first moderation effect test show a relationship between self-control, individual modernity, and saving behavior. The relationship between individual modernity and saving behavior is not significant, with a t-statistic of  $1.070 < 1.96$  and a p-value =  $0.284 > 0.05$ . The original sample estimate value is -

## Do Young Students Save Well?

0.088, indicating a negative relationship. This value indicates that the tendency of the relationship between individual modernity and saving behavior is negative. Thus, this study's fourth hypothesis (H4) rejects the idea that self-control can moderate the relationship between individual modernity and saving behavior. This conclusion indicates that the higher the self-control, the weaker the influence of individual modernity on saving behavior, and conversely, the lower the self-control, the stronger the influence of individual modernity on students' saving behavior in this study. Individual modernity has a direct influence on students' saving behavior, regardless of their level of self-control. This implies that an individual's level of modernity can either positively or negatively influence their saving behavior. Self-control in this study does not function as a factor that strengthens the relationship between modernity and saving behavior. This finding could be due to the fact that self-control may not be strong enough to counter the influence of modernity or other factors that are more dominant in determining saving behavior. The implication of these findings is that efforts to improve students' saving behavior need to focus on factors beyond self-control, such as financial education, social environment, or institutional policies that support saving habits. This research provides important insights indicating that, although self-control is often viewed as a key factor in financial decision-making, it may not be significant enough to influence that relationship when considering the context of individual modernity, which is an unavoidable aspect of students' lives. One concrete example of students at this university who have experienced modernization is that each student has a device connected to the internet. The internet assists students in their activities and decision-making by allowing them to compare their needs and choices when managing finances.

The results of the subsequent moderation effect test indicate that self-control interacts with financial literacy to influence saving behavior. The relationship, moderated by self-control, between financial literacy and saving behavior is not significant, with a t-value of  $0.567 < 1.96$  and a p-value =  $0.571 > 0.05$ . The original sample estimate value is  $-0.046$ , indicating a negative relationship between financial literacy and saving behavior. Thus, the fifth hypothesis (H5) is rejected. This means that weak self-control strengthens the relationship between illogical financial literacy. These findings align with research by Alshebami and Aldhyani (2022) that suggests self-control is unable to moderate the relationship between financial literacy and saving behavior. The results of this study are also supported by several statements obtained from students who often struggle to control their behavior when it comes to purchasing, as they are unable to resist the temptation of goods they desire, despite having limited financial resources. Not comparing the price of the item to be purchased with the price of the same product in different places. The students who are the subjects of this research are also only a small portion who seek information about the products they need. The results of this study align with research by Alshebami and Aldhyani (2022) and Mardiana (2020) who found that self-control negatively moderates the relationship between financial literacy and saving behavior. Self-control was found to reduce the relationship between financial literacy and the saving behavior of young people in Saudi Arabia. However, because they are still young, they may be less mature and have less control over their actions and decisions, which makes them feel they have less control over their savings.

The results of the last moderation effect test indicate that self-control interacts with financial inclusion to influence saving behavior. The relationship between financial inclusion and saving behavior with self-control as a moderating variable is significant with a t-value of  $2.577 > 1.96$  and a p-value =  $0.010 < 0.05$ . The original sample estimate value is 0.163, which is positive. This value indicates that the relationship between financial inclusion and saving behavior with self-control as a moderating variable is positive. Thus, the sixth hypothesis (H6) in this study, which states that financial inclusion has a positive and significant effect on saving behavior with self-control as a moderating variable, is accepted. The results of this study differ from those of Perangin-angin et al., (2022), who argue that self-control is unable to moderate the relationship between financial inclusion and saving behavior. Access to financial institutions does not become an obstacle for individuals to set aside their money for savings.

In this study, self-control is capable of influencing the degree to which students utilize access to financial institutions for saving. The research results indicate that financial inclusion alone may not be sufficient to improve saving behavior if students lack adequate self-control. Students with a high level of self-control tend to be more capable of utilizing financial access to save consistently. Conversely, students with low self-control may struggle to save even though they have access to financial services. Self-control, then, acts as a moderator that either reinforces or detracts from the association between saving behavior and financial inclusion. The implication is that programs or policies aimed at increasing financial inclusion among students should also consider efforts to enhance self-control, such as through financial literacy education or personal financial management training.

### Evaluation R-square

The R-squared value measures how much outside factors influence inside factors, or checks if independent hidden variables have a significant effect on dependent hidden variables. According to (Hair et al., 2019), a low value shows that independent factors have a limited ability to explain changes in dependent variables. A value around one indicates that the independent variable conveys nearly all the information required to forecast the change of the dependent variable. A higher value of the coefficient of determination indicates that the independent factors are more effective at explaining the differences in their dependent variables. The subsequent table displays the R-square values.

**Table 5.**

*R-square.*

	R-square	R-square Adjusted	Information
Saving Behavior	0.746	0.731	74.6% (High Moderate)

Source: Data processed using Smart-PLS, 2024

According to Table 5, the R-squared value for the saving behavior variable is 0.746. Individual modernity, financial literacy, and financial inclusion account for 74.6% of the variance in saving behavior, whereas 25.4% is attributed to external variables not included

in the model (Hair et al., 2019). This indicates that individual modernity, financial literacy, and financial inclusion collectively provide nearly all the information necessary to predict changes in saving behavior. A larger R-squared indicates the superior capacity of the independent factors to elucidate the variance of the dependent variable. A model with an R-squared value over 0.70 indicates a high to moderate level of explanatory power.

## **CONCLUSION**

This study examines the impact of financial literacy, financial inclusion, and individual modernity on saving behavior, with self-control serving as a moderating variable. The investigation's findings indicate that individual modernity, financial literacy, and financial inclusion have a significant and positive influence on saving behavior. Self-control cannot moderate the relationship between individual modernity, financial literacy, and saving behavior. In addition, the findings of this study provide confirmation of a novel discovery: the ability of self-control to moderate the relationship between financial inclusion and saving behavior, which contrasts with previous findings. This evidence suggests that a thorough understanding of the financial system is a significant factor in developing sound saving habits and, more importantly, in motivating individuals to save more. Thus, to ensure the welfare of people and the economy, it is vital to boost savings, which will spur rapid growth. Enhancing financial literacy among students is an effective approach, as it fosters savings behavior and intentions. Therefore, we anticipate that institutions or universities will provide students with an understanding of the importance of financial literacy, financial inclusion, and individual modernity. Furthermore, financial institutions can prioritize promoting saving intentions among the populace by offering educational resources on investment alternatives and savings products. Encouragement of saving behavior and intentions, particularly among students, would be a beneficial approach, as it would enhance financial literacy among individuals.

We acknowledge that the results of this study are not fully generalizable to all students in Indonesia, but they present new findings compared to previous research. This research is limited to one university and involves a small sample size. Additionally, due to the small sample size, it is challenging for the authors to generalize the findings. Moreover, this study only considers one moderating variable, whereas there may be several other factors that could influence the saving behavior of students in Indonesia. Purposive sampling can be used in the future to obtain a sample that aligns with the research goals and provides information on mediating and moderating variables that will strengthen the relationships in the research model. Future research can focus on comparing the saving behavior of students living in rural areas with that of students living in urban areas.

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